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NATURE OF ANNOUNCEMENTS. Announcements contained in this publication are subject to change without notice and may not be regarded in the nature of binding obligations to the University. The University reserves the right to change any provisions or requirements. Only the Provost or designee can approve changes to the Catalog except where otherwise stated within.

When students matriculate with Old Dominion University, they come under the academic requirements of the edition of the Catalog at that time. Students may graduate under these academic requirements within a period of six years even though subsequent Catalogs may change. Academic requirements include competency requirements, general education requirements, grade point average requirements, major and minor course requirements, foreign language requirements, overall unit requirements and related curriculum matters. Grading practices, tuition, fees and other matters are not considered to be “academic requirements” and are subject to change at the discretion of the University.

Should new changes be to their advantage, undergraduate students may graduate under the conditions of the newer catalog. However, because academic programs are subject to requirements imposed by outside accrediting or certifying agencies, the Commonwealth of Virginia, and the United States of America, such outside requirements take precedence.

Old Dominion University is committed to policies that assure that there is no discrimination on the basis of age, sex, race, color, religion, national origin, veteran status, political affiliation, handicap, or sexual orientation. Old Dominion University complies with the Family Rights and Privacy Act of 1974 (as amended).

The University is an Affirmative Action Equal Opportunity employer.

STUDENT RESPONSIBILITY FOR CATALOG INFORMATION. Students are held individually responsible for the information contained in the University Catalog. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur.

II   OLD DOMINION UNIVERSITY
# Academic Calendar

## First Semester 2006-07

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<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>August 26 (Saturday)</td>
<td>Classes begin</td>
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<tr>
<td>September 4 (Monday)</td>
<td>Labor Day Holiday</td>
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<tr>
<td>October 7-10 (Sat-Tue)</td>
<td>Fall Holiday</td>
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<tr>
<td>October 24 (Tuesday)</td>
<td>Last day to withdraw from classes</td>
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<tr>
<td>November 22-26 (Wed-Sun)</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>December 8 (Friday)</td>
<td>Classes end</td>
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<td>December 9 (Saturday)</td>
<td>Exams begin</td>
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<td>December 16 (Saturday)</td>
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<td>December 17 (Sunday)</td>
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<td>October 24 (Tuesday)</td>
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## Second Semester 2006-07

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<tr>
<td>March 5-10 (Mon-Sat)</td>
<td>Spring Holiday</td>
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<td>March 13 (Tuesday)</td>
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## Summer 2007

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<td>Session 4 classes begin</td>
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<td>June 24 (Sunday)</td>
<td>Session 1, 2, &amp; 4 classes end</td>
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<tr>
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<tr>
<td>July 4 (Wednesday)</td>
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Old Dominion University

History

Old Dominion University began its tradition of excellence when it was founded in 1930 by the College of William and Mary, the second oldest university in the United States. Established originally as an extension of William and Mary in Williamsburg, Virginia and Virginia Polytechnic Institute in Blacksburg, Virginia, Old Dominion began educating teachers and engineers. The two-year school rapidly evolved into a full four-year college, and was granted independence in 1962 as Old Dominion College.

Considerable growth in enrollment, the expansion of research facilities and preparation for the addition of graduate programs led the Board to approve the name change to Old Dominion University. Now Old Dominion is a powerhouse for higher education with six colleges: College of Arts and Letters, College of Business and Public Administration, Darden College of Education, Batten College of Engineering and Technology, College of Health Sciences and College of Sciences. Old Dominion has been offering master’s degrees since 1964 and Ph.D.s since 1971. Students currently choose from 68 baccalaureate programs, 60 master’s programs, two education specialist programs and 35 doctoral programs.* The University has achieved designation as a Research University (high research activity) from the Carnegie Foundation for the Advancement of Teaching.

Proud of its past, Old Dominion constantly looks to the future and prides itself on its constantly expanding research and teaching programs. A constantly evolving university, Old Dominion is an agent of change for its students, for the region and the nation it serves. Old Dominion’s motto, Portal to New Worlds, is particularly apt in describing a university which opens doors of discovery to new knowledge, ancient wisdom, the most modern science and cutting-edge technology, and the civic and cultural understanding needed by the leaders of tomorrow.

*As of Fall 2006 semester

Students

The students at Old Dominion share a special sense of excitement derived in part from the rich tapestry of backgrounds, cultures and ages represented here. Our students hail from all 50 states and more than 100 countries. Studying in this multicultural, international environment, and taking advantage of our guaranteed internship program, offers students a true edge after they graduate as they compete for jobs in the “real world.”

Among ODU’s outstanding students in recent years are a Rhodes Scholar, Truman Scholar and three USA Today Academic All-Americans, as well as the first undergraduate in the commonwealth of Virginia to earn a patent. The University’s alumni ranks include an Emmy Award-winning television producer, a United States Air Force astronaut, the Vice Chief of Naval Operations, the commander of the U.S. Pacific Command, the chief of surgery at Walter Reed Army Medical Center, award-winning authors, engineers and scientists, and professional coaches and athletes.

More than 15,000 undergraduates and 6,000 graduate students comprise the Old Dominion student body. Residence halls and apartments on campus house 3,500 students, while more than 6,000 live nearby within walking distance of the campus. Another 5,000 are distance learners located throughout Virginia and other states - even on ships at sea - who rarely ever set foot on the campus. A significant percentage of students are in some way connected to the military.

Students in search of extracurricular activities don’t have far to look. The University boasts more than 200 student clubs and organizations. The Office of Student Activities and Leadership (OSAL) sponsors a wide variety of programs which complement academic excellence, offer a supportive environment, engage students in various learning experiences and provide them with opportunities to interact with a diversity of groups and individuals. OSAL is primarily responsible for computer services, clubs and organizations, Greek-letter organizations, leadership programs, service and volunteerism, and weekend activities.

The Norfolk Campus and Region

Situated on 188 acres near downtown Norfolk, ODU’s main campus stretches from the Elizabeth River to the Lafayette River, and watching sunsets on the water is a natural pastime for our students. With its garden areas, reflecting pools and spacious green lawns bordered by tree-lined walkways, it’s a campus that offers the best of both worlds – a beautiful setting and just minutes away from the center of Hampton Roads’ largest cities.

One of the most exciting developments on the campus today is the University Village, with its impressive centerpiece, the Tetra-Constant Convocation Center, which opened its doors in fall 2002 and hosts everything from basketball games to concerts to commencements. This 75-acre development at the east end of campus is home to 960 modern student apartments, and the first of a variety of restaurants and shops, with more to be open by fall 2006. Also planned are a hotel, grocery store/shopping center, academic and research facilities, additional retail stores, and the University Gallery.

On the main campus, at the west end of the grassy, five-acre Kaufman Mall, lies Webb University Center, a spacious facility that dazzles with its two-story glass facade, creating an outdoor ambience and providing a sunny home - in any season - for student life. A stroll along the brick sidewalks of the Williamsburg Lawn, with its towering willow oak trees, offers students and visitors a trip back in time to the beginnings of the University.

The University’s 75th Anniversary in 2005 found an impressive array of current-edge facilities that’s ideal for the pursuit of a diverse number of majors. Among these are the fully automated Perry Library, with more than 2.8 million items, state-of-the-art laboratories in the sciences and engineering, and the new Engineering and Computational Sciences Building. The campus is also home to Prolight Planetarium, the Lions Child Study Center, superior facilities for clinical work in the health sciences, a modern Oceanography and Physical Sciences Building; the Gorton TELETECHNET Center and the Diehn Fine and Performing Arts Center. By fall 2007, an addition to the Physical Sciences Building, an Orchid Conservatory, a larger Performing Arts Center and the completion of renovations to the Technology Building and the Batten Arts and Letters Building will further provide expanded opportunities for our students in the arts, sciences, health sciences and engineering. The campus boasts a variety of indoor and outdoor sports facilities all supported by completely new Student Recreation Center planned for construction beginning in 2006, with a special emphasis on taking advantage of ODU’s location on the Elizabeth and Lafayette Rivers.

Further enhancing ODU’s on-campus engineering and science curricula, the University operates the NASA Wallops Island Spaceport on Virginia’s Eastern Shore and the NASA Langley Wind Tunnels in Hampton; has a significant presence in the Applied Research Center at the Department of Energy’s Jefferson Laboratories in Newport News; continues to expand its Reddy Research Center for Bioelectrics in Norfolk and the Virginia Modeling, Analysis, and Simulation Center in Suffolk; and owns and manages the Blackwater Ecological Preserve in Zuni.

Only 20 miles from the sand and surf of Virginia Beach and just 40 miles from historic Williamsburg, ODU’s Norfolk campus, in one of the nation’s oldest seaports and one of today’s busiest international seaports on the east coast, offers an attractive location for study and leisure. Prospective students and families are welcomed on campus Monday through Saturday throughout the year.

Faculty

Approximately 640 full-time and 500 part-time faculty bring a wealth of talent to our classrooms each day. Their lively, provocative teaching, research and applied experience, along with their commitment to academic excellence, combine to make the Old Dominion experience a rewarding one for students.

Many of our faculty have been recognized on the state and national levels with awards for teaching, research and service. Since 1990, Old Dominion University faculty have won three professor of the year awards from the Carnegie Institute for the Advancement of Teaching, one Humboldt Award, three Virginia Outstanding Scientist awards sponsored by the Science Museum of Virginia, and 19 Virginia Outstanding Faculty Awards that are sponsored by the State Council of Higher Education for Virginia. Among our faculty ranks you will find nationally and internationally recognized scientists, engineers, educators and authors.

Faculty also serve as the primary academic advisers to our students, beginning in the freshman year. These relationships offer a special opportunity for new students to understand their chosen majors from the perspective of extensive experience and insight that only a professor can offer.
Because of our location and our relationship with dozens of corporations, federal facilities, the armed services, health care services and the tourist industry, faculty at Old Dominion bring a real-world, problem-solving focus to the classroom that makes learning come to life.

**A Global Vision**

Old Dominion University has made an extraordinary commitment to be recognized as a globally focused institution. This commitment is reflected in a series of recent innovations including:

- Presidential Global Scholarships, a unique scholarship program of four-year support for global opportunities
- International Student Leadership Awards, providing awards for outstanding leadership and academic achievement to Old Dominion’s diverse international student community
- Provost Award for Leadership in International Education, recognizing faculty leadership in program innovation
- Global Forum, an annual focus on a country or region featuring global policy makers and world-class scholars
- Dean’s Education Abroad Awards, expanding financial support to bring study abroad within reach for more undergraduates
- ICAP, adding a global dimension to the University’s innovative Career Advantage Program
- The Office of International Programs, a comprehensive support office that facilitates continued global exploration and innovation

For more information visit [www.odu.edu/oduhome/international.shtml](http://www.odu.edu/oduhome/international.shtml).

**Outside the Classroom**

Clubs for nearly every interest—more than 200 in all—thrive at Old Dominion, nurturing the personal and social development that is essential to the University experience. Clubs for every college and most majors, sororities and fraternities, an Honor Council, Student Government, Student Activities Council, and numerous recreational sports teams and athletic clubs make it easy to get involved at Old Dominion. In addition, ROTC programs are available for the Navy, Army and Marine Corps.

The benefits and rewards of joining one or more student organizations vary depending on you! Some of the best reasons for getting involved are making new friends, leadership development, exploring careers and gaining that Monarch Pride!

Sixteen NCAA Division I sports bring pride and spirit to campus life each year, and Old Dominion Monarchs have won 32 team and individual national titles, including four in basketball, nine in field hockey and 15 in sailing. Sailing won the 2004 women’s singlehanded championship.

**The Mission of the University**

**BACKGROUND**

Old Dominion University is located in Hampton Roads, one of the world’s major seaports. Since the early seventeenth century, Hampton Roads has been the nation’s gateway to the rest of the world and the world’s gateway to Virginia in commerce and industry, in recreation and culture, and in national security. Now a complex of seven major cities, it is a microcosm of the opportunities and challenges of contemporary urban America. It is also a major center for research and development and a home for extensive scientific and technological activities in marine science, aerospace, ship design and construction, advanced electronics, and nuclear physics.

The University takes its unique character from Hampton Roads as it provides leadership to the state and nation in teaching, research, and service. Thus the University has a special mission for the Commonwealth in commerce, and in international affairs and cultures. It has a significant commitment in science, engineering and technology, particularly in fields of major importance to the region. As a metropolitan institution, the University places particular emphasis upon urban issues, including education and health care, and upon fine and performing arts.

As one of America’s major ports, Hampton Roads is the locus of national and international military commands, and the home of a culturally diverse population. The University therefore has natural strengths in activities having international outreach. Faculty members in such fields as business, economics, international studies, geography and the sciences strive to design curricula, teach courses, and encourage foreign exchanges that enhance the University’s role as Virginia’s international institution.

The Hampton Roads scientific environment provides special opportunities for science and engineering faculty to emphasize research and graduate programs in such fields as marine science, aerospace, and advanced electronics. Global ocean studies and cooperative research at NASA receive particular attention, as University researchers collaborate with U.S. and foreign engineers and scientists.

Urban issues are addressed by programs in public administration, education, the social sciences, and the health professions. The richness of Hampton Roads’ artistic life gives great vitality to the University’s programs in the visual arts, music, theatre, and dance.

**MISSION**

Old Dominion University promotes the advancement of knowledge and the pursuit of truth locally, nationally, and internationally. It develops in students a respect for the dignity and worth of the individual, a capacity for critical reasoning and a genuine desire for learning. It fosters the extension of the boundaries of knowledge through research and scholarship and is committed to the preservation and dissemination of a rich cultural heritage. Old Dominion University is old enough to value tradition yet young enough to facilitate change. In a spirit of creative experimentation, innovation, research, and technology, the University is ready to meet the challenges of the twenty-first century.

**MISSION SUPPORT**

Old Dominion University serves the needs of several internal and external constituents with its resources. These include: current and prospective students seeking undergraduate, graduate, and continuing education programs; business and industry; governmental agencies at all levels; the military; research organizations; and the community at large regionally statewide, nationally, and internationally. These constituencies are discussed in greater detail in the following paragraphs.

Old Dominion University offers a wide array of undergraduate programs, all of which meet national standards of excellence. Every Old Dominion undergraduate student follows a general education program that is designed to develop the intellectual skills of critical thinking and problem solving and to encompass the breadth of understanding needed for personal growth and achievement and for responsible citizenship. This general education program places special emphasis upon appreciation of the arts and upon understanding the perspectives of women, minorities, and non-Western cultures. Each undergraduate chooses a major program in the liberal arts or sciences or in a technological or professional field.

Old Dominion University’s graduate offerings are focused on society’s need for advanced professional education and on specialized programs at the master’s and doctoral levels for which the institution is prepared through unusual strength of faculty or special geographic advantages. All graduate programs meet national standards of excellence.

As a national leader in the field of technology-delivered distance learning, the University strives to enhance the quality of the educational experience, wherever education is delivered, by applying emerging technologies. It also supports research to explore the impact of these technologies on the teaching-learning process. By utilizing these technologies and by partnering with institutions of higher education, corporations, and governmental entities, the University is able to provide undergraduate and graduate degree programs to students across time and geographic boundaries.

Because of its commitment to Hampton Roads and its emphasis on creative innovation, Old Dominion University offers life-long learning opportunities through credit and noncredit courses and brings educational services and programs to the people of Hampton Roads at several off-campus centers. The University has a responsibility to serve the many members of the military services and their families. The military forms a unique combination of national and international constituents because they are from other locales in the United States and are looking to become, among other things, internationally capable and internationally versed.

As a center of learning, Old Dominion University is committed to the principle of free inquiry. The University faculty of distinguished teacher-scholars seek to pass on the best in academic tradition while establishing themselves at the forefront of discovery and creativity. As partners in the development of the University’s future, the faculty enjoy full academic freedom and have a recognized role in the decision-making process of the University. Mindful of present and future needs for a multicultural academic climate, the University seeks and welcomes the participation of women, minorities and non-Western cultures. Each faculty member and staff member contribute to the principle of free inquiry.

The University is committed to providing the highest quality instruction to all of its students. Teaching excellence is encouraged through faculty development programs and appropriate recognition of superior instruction. The discovery of new knowledge through research and creative endeavor is a central function of Old Dominion University, which values and supports faculty participation in the discovery, synthesis, application and creation of new
knowledge and art forms. The institution shall promote and preserve excellence
in basic and applied research as a Carnegie Foundation Doctoral Research-
Extensive University which is a key production and coordination force in
technology development.

The University encourages the involvement of its faculty and staff in
community service. The enrichment of the lives of students and residents of
Hampton Roads is fostered through University sponsored cultural activities,
financing and performing arts events, and intercollegiate athletics. In addition,
through applied research, consulting, and other activities, the University plays a
prominent role in the development of local business and industry and serves as
a resource of government agencies and both public and private educational
institutions.

The University seeks in its student body a diversity of age, gender, ethnic,
religious, social, and national backgrounds. It actively recruits American
minority students from other countries worldwide in such
numbers as to have their presence make a discernible impact upon the
University’s educational processes. Old Dominion recognizes its mandate to
serve the academically gifted and those who have the potential for
academic success despite educational, social, or economic disadvantages.

Extracurricular activities and experiences are offered that challenge students
to develop a personal system of values, to think and act autonomously, to
achieve physical competence, and to establish a sense of their own identity.
Other services help students meet educational, personal, and health needs.
Old Dominion University depends on its alumni for advice, leadership, and
support. In close collaboration with the University, the Alumni Association
provides to former students opportunities to continue their participation in
various aspects of university life, to advance their personal and professional
development, and to sustain communication and strengthen bonds with their
alma mater and fellow alumni.

To evaluate its accomplishments against its goals, a continuing process of
systematic assessment is given high priority by the University. Information
gathered from such efforts is utilized to ensure the highest possible quality for all
University programs. The Board of Visitors will conduct a periodic review of
the University’s mission and major goals in conjunction with representatives of
the major University constituencies. The review will ensure that the mission
clearly identifies the University’s unique role in Virginia’s public higher
education system and assures that the University is focusing its resources to be
the best that it can be in that role to achieve its mission and accomplish the
major goals.

   Adopted by the Board of Visitors
   June 10, 1971
   Revised January 17, 1989
   Revised April 15, 1999
   Revised June 14, 2002

Major Goals of the University

1. Students.
   Old Dominion University is a selective admission institution. The
   University strives to serve those students in the immediate
   geographical area as well as attract students from the national and
   international communities. Additionally, the University seeks to
   attract and serve a culturally and ethnically diverse student body.
   The University pays particular attention to identifying and admitting
   students who are academically gifted. As a major metropolitan
   university, Old Dominion University has a special commitment to
   serve those students who have been academically, socially, or
   economically disadvantaged, but who have the potential for
   academic success.

2. Faculty.
   Old Dominion University seeks to attract and retain a distinguished
   faculty of teacher-scholars. Its faculty enjoy academic freedom and
   have a recognized role in the decision-making process of the
   University. The University is committed to strengthening its faculty
   through the recruitment and retention of minorities and women.

3. Academic Programs.
   UNDERGRADUATE PROGRAMS. As a comprehensive
   university, Old Dominion University offers and develops quality
   liberal arts, science, technology and professional programs. Old
   Dominion University undergraduate students follow a general
   education program that emphasizes intellectual skills and the
   breadth of intercultural understanding necessary for personal growth
   and achievement and responsible citizenship. All Old Dominion
   University degree programs meet national standards of excellence.

   GRADUATE PROGRAMS. Old Dominion University’s graduate
   offerings are focused on society’s need for advanced professional
   education and on specialized programs at the master’s and doctoral
   levels for which the institution is prepared through unusual strength
   of faculty or special geographic advantages. In selected graduate
   programs, the University aspires to international leadership.

   SPECIAL EMPHASIS AREAS. Because Hampton Roads is a
   major international region and community, Old Dominion’s
   window to the nation and the world, the University has a special
   mission for the Commonwealth in commerce, and in international
   affairs and cultures. With the principal marine and aerospace
   activities of the Commonwealth concentrated in Hampton Roads,
   the University has a significant commitment to science, engineering
   and technology, specifically in marine science, aerospace and other
   fields of major regional importance. Due to its location in a
   large metropolitan area, Old Dominion University places particular
   emphasis on urban issues, including education and health care, and
   on fine and performing arts.

4. Teaching.
   Old Dominion University is committed to providing the highest
   quality instruction to all of its students. Teaching excellence is
   encouraged through faculty development programs and appropriate
   recognition of superior instruction.

5. Research, Scholarship and Creativity.
   Old Dominion University is a center of learning committed to the
   principle of free inquiry. The University seeks to participate in the
   acquisition, discovery, synthesis, application, and creation of new
   knowledge and art forms through research, scholarly endeavor and
   creative undertakings by faculty and students. In selected areas of
   research, scholarship and creativity, the University strives for
   international recognition.

6. Distance Learning.
   As a national leader in the field of technology-delivered distance
   learning, Old Dominion University is committed to providing aca-
   demic programs to a diverse national and international population.
   The University seeks partnerships and alliances that will facilitate
   delivering those programs to place-bound students.

7. Life-long Learning.
   Old Dominion University is committed to the concept of life-long
   learning, and offers credit and noncredit courses throughout the
   region. The University seeks to develop off-campus centers to bring
   educational services and programs to the citizens of the region.
   Because of the major Armed Forces presence in Hampton Roads,
   the University is particularly cognizant of its responsibility to serve
   members of the military services and their families.

8. Community Service.
   Community service is an important part of the University’s mission.
   Particular importance is attached to the enrichment of the lives of
   students and residents of Hampton Roads through University
   cultural activities, fine and performing arts events, and recreational,
   intramural and intercollegiate athletics. The University acts as a
   resource to business, industrial, health care and educational
   organizations, as well as to the agencies of local, state and federal
   government. The University is committed through applied research,
   consulting and other activities to playing a major role in advancing
   the overall development of Hampton Roads.

9. Student Life.
   The University provides opportunities for student development
   outside of the classroom. Programs are offered to enhance personal
   and social growth of individual students, to provide an exciting and
   stimulating collegiate environment and to enable students to cope
   with educational, career, and health needs. Students choosing to live
   in on-campus housing benefit from programs especially designed to
   promote student educational and personal development.

10. Alumni.
   Alumni are an important part of the University community. Through
   outreach programs, participation on advisory committees, and a
   variety of professional and social activities, the University maintains
   a close relationship with its alumni and seeks alumni involvement
   and support for planning and development purposes.
General Statement of Policy

Within the limits of the University’s facilities as to numbers that can be accommodated, admission to Old Dominion University is open to all qualified students without regard to race, color, religion, national origin, sex, age, veteran status, handicap, political affiliation, or sexual orientation; the facilities and services of the University are open to all enrolled students on those same bases, and all policies and standards of the University, including those governing employment, are applied accordingly. Students having concerns of this nature should contact the assistant to the president for affirmative action.

Accreditations

Old Dominion University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, master’s, education specialist, and doctoral degrees.

Numerous programs of study at the University are accredited by specialized accrediting agencies which are recognized by the Council on Higher Education Accreditation (CHEA).

The baccalaureate degrees in civil engineering, computer engineering, electrical engineering, environmental engineering, and mechanical engineering are accredited as engineering programs by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The engineering technology programs in civil engineering technology, electrical engineering technology, and mechanical engineering technology are accredited as engineering technology programs by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The graduate and undergraduate teacher education degree programs in the Colleges of Arts and Letters, Education and Sciences are accredited by the National Council for Accreditation of Teacher Education.

The recreation and tourism studies curriculum is accredited by the National Recreation and Park Association/American Association for Leisure and Recreation Accreditation Council. Both the undergraduate and graduate program emphasis areas in sport management have received program approval through the North American Society for Sport Management (NASSM) and the National Association for Sport and Physical Education (NASPE). The graduate program emphasis area in athletic training is accredited by the National Athletic Trainers Association (NATA). The graduate program in speech-language pathology is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. The master’s program in counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs.

The doctoral program in clinical psychology is accredited by the American Psychological Association. The undergraduate program in chemistry is accredited by the American Chemical Society.

The undergraduate and graduate business programs of the College of Business and Public Administration are accredited by The Association to Advance Collegiate Schools of Business (AACSB)-International. The master’s degree in public administration is accredited by the National Association of Schools of Public Affairs and Administration.

The program in dental hygiene is accredited by the American Dental Association Commission on Dental Accreditation. The nursing program is accredited by the Commission on Collegiate Nursing Education and approved by the Virginia Board of Nursing. Graduate nursing programs are approved by the Pediatric Nursing Certification Board, the National Nurses Certification Corporation, American Nurses Certification Corporation, and the American College of Nurse Practitioners. The certified registered nurse anesthetist specialty is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. The medical technology program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 8410 W. Bryn Mawr Avenue Suite 670, Chicago, IL 60631-3415, 773 714-8880. The physical therapy program is accredited by the American Physical Therapy Association, Commission on Accreditation in Physical Therapy Education (CAPTE). The environmental health program has been awarded accreditation from the National Environmental Health Science and Protection Accreditation Council. The nuclear medicine technology program is accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. The Master of Public Health has received accreditation from the Council on Accreditation of Allied Health Education Programs (CAAHEP).

The Department of Music is a full member of the National Association of Schools of Music. The Department of Art is an associate member of the National Association of Schools of Art and Design. The theatre program is accredited by the National Association of Schools of Theater.

Affiliations

The University is a member of the Southern Association of Colleges and Schools, the American Council on Education, the National Commission on Accrediting, the Council of Graduate Schools in the United States, the American Association of State Colleges and Universities, the American Association for Higher Education, the Association of American Colleges and Universities, the Association of Governing Boards of Universities and Colleges, the Association of Urban Universities, the Council for the Advancement and Support of Education, the National Association of State Universities and Land Grant Colleges, the National Commission for Co-op Education, the Southeastern University Research Association, the American Association of University Women, the University Extension Association, the National Society for Experiential Education, the Universities Space Research Association, the American Association of Collegiate Schools of Business, the National Council for Accreditation of Teacher Education, the Association of University Evening Colleges, the National Association of College and University Summer Sessions, the Association of Virginia Colleges, the Association of Schools of Allied Health Professions, the American Association of Dental Schools, the American Society for Engineering Education, the Consortium for Oceanographic Research and Education, and the Conference of Southern Graduate Schools. The University is also a Division I member of the Collegiate Athletic Association (NCAA) and the Colonial Athletic Association (CAA).

Old Dominion University is authorized by the Washington Higher Education Coordination Board (HECB) and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree Authorization Act. This authorization is valid until June 30, 2008, and authorizes Old Dominion University to offer the following programs: Bachelor of Science in Business Administration: Accounting, Finance, Information Systems and Technology, Management, and Marketing; Bachelor of Science in Communication (Professional Communication); Bachelor of Science in Computer Science; Bachelor of Science in Criminal Justice; Bachelor of Science in Engineering Technology; Bachelor of Science in Nursing (RN to BSN); Bachelor of Science in Occupational and Technical Studies; Master of Engineering Management; Master of Science in Community Health; Master of Science in Education; Pre-K through Grade 6, Middle School Education (Grades 6-8), Secondary Education (Grades 6-12), Secondary Education – Field Based, Special Education; Master of Science in Nursing: Nurse Educator, Nurse Leader; Master of Science in Occupational and Technical Studies; and Doctor of Philosophy in Community College Leadership. Any person desiring information about the requirements of the Act or the applicability of those requirements to the institution may contact the HECB office at P.O. Box 43430, Olympia, WA 98504-3430.

Prospective Washington state students are advised to contact the Office of the Superintendent of Public Instruction at 360-725-6320 or profed@ospi.wednet.edu to determine whether this education program is approved for teacher certification or endorsements in Washington state. Additionally, teachers are advised to contact their individual school district as to whether this program may qualify for salary advancement.

Distinguished Faculty Chairs and Professorships

In 1964, Virginia became the first state in the nation to establish an Eminent Scholars Program. Virginia encourages donors to create endowments to attract and retain outstanding faculty members by matching the income from these endowments, thus doubling the impact of the donors’ gifts.
The generosity of several individuals and groups has made it possible for the University to establish chairs and professorships to support faculty members and their scholarly activities through this program. Included in these gifts are the following:

The P. Stephen Barna Professorship Endowment. Mr. E. James Hayes, a 1989 alumnus of Old Dominion University, established a professorship for aerospace engineering in the Batten College of Engineering and Technology in 2003.

The Richard F. Barry, Jr., Chair. Established in 1997, this endowment provides support for a chair in the College of Sciences Department of Mathematics and Statistics. Richard F. Barry III, a former member of the University’s Board of Visitors and Vice Chairman of Landmark Communications, Inc., created the endowment in honor of his father who taught mathematics at the University.

The Batten Chairs. The Batten Chairs were established in 2003 by Frank and Jane Batten. Mr. Batten is the Chairman of the Executive Committee for Landmark Communications and was the first rector of the Board of Visitors. The Batten’s $32 million gift, the largest in Old Dominion’s history, will benefit all six of the University’s colleges with emphasis to the Batten College of Engineering and Technology and the College of Sciences. The Batten Chairs include:

- Batten Endowed Chair in Arts and Letters
- Batten Endowed Chair in Education
- Batten Endowed Chair in Computational Engineering
- Batten Endowed Chair in System of Systems Engineering
- Batten Endowed Chair in Bioelectronics Engineering
- Batten Endowed Chair in Micro- and Nano-electronics Engineering
- Batten Endowed Chair in Modeling and Simulation Engineering
- Batten Endowed Chair in Advanced Transportation Engineering
- Batten Endowed Chair in Science
- Batten Endowed Chair in Health Sciences

The Frederick Wharton Beazley Professorship. Created by an anonymous donor in 1989, the professorship in the College of Business and Public Administration was established to honor Portsmouth philanthropist, Mr. F. W. Beazley.

The Richard T. Cheng Chair in Computer Science. In 1998, former faculty member Dr. Richard Cheng endowed a chair in the department in which he helped establish accreditation. He is the Chairman and CEO of ECI Systems and Engineering.

The Commonwealth Professorships. Provided by an anonymous donor as a substantial endowment gift in 1967, the endowment supports professorships in any of the University’s six colleges.

The Jack Cunningham Distinguished Professorship in Reading. The Jack Cunningham Distinguished Professorship in Reading was established in 2003 by an anonymous donor.

The Constance F. and Colgate W. Darden Professorships. The Dardens endowed two professorships, one in education and one in history, in 1976. The Darden College of Education was named in honor of Mr. Darden, a U.S. Congressman, former Virginia Governor and President of the University of Virginia.

The Mina Hohenberg Darden Chair in Creative Writing. This endowed English department professorship was initiated in 1997 as a memorial to Mina Hohenberg Darden by her family and friends. Mrs. Darden received three M.A. degrees from Old Dominion and was working toward an M.F.A. in poetry.

The Diehn Chair in Music. The Diehn Fund, established by the estate of F. Ludwig Diehn, provided the funding in 1999 for a chair in music. The Diehn Fund also supports the Diehn Concert Series and the Diehn Fine and Performing Arts Center.

The Dragas Professorship in International Studies Endowment. This endowment was established in 1996 by the George and Grace Dragas Foundation to create a professorship in international studies. Mr. Dragas is an alumnus and former Rector of the University’s Board of Visitors.

The Ray Ferrari Endowed Professorship. A former student, E. James Hayes, instituted an engineering department professorship in 1997 to honor his mechanical engineering technology professor and mentor, Ray Ferrari.

The Mary Payne Hogan Endowed Professorship. Established in honor of Mary Payne Hogan, the endowment was created in 1997 by an anonymous donor. The professorship supports the College of Sciences, specifically in botany.

The Louis J. Jaffe Professorship. In 1968, an anonymous donor created a professorship in the College of Arts and Letters in memory of the Pulitzer Prize-winning editor of The Virginian-Pilot, Mr. Jaffe.

The George M. and Linda H. Kaufman Professorship. The Kaufmans endowed this professorship in 1985. A lectureship in public affairs also bears their name. Mrs. Kaufman is a former member of the Board of Visitors. Mr. Kaufmann led the effort to landscape the University’s mall which was named in honor of his parents.

The William E. Lobeck, Jr., Endowed Chair. Established in 2002 by the Lobeck-Taylor Foundation, this funding created an endowed chair in advanced engineering environments in the Batten College of Engineering and Technology. Mr. Lobeck is an alumnus and former president of the Auto Nation Rental Group of Republic Industries.

The Mitsubishi Kasei Professorship in Manufacturing Engineering. The Mitsubishi Kasei Corporation in 1990 established this professorship in manufacturing engineering in the Batten College of Engineering and Technology.

The A.D. and Annye Lewis Morgan Professorship. The Morgan Trust in 1986 established this professorship consistent with the wishes of the Morgans. He was a successful Norfolk physician who also created a scholarship fund to benefit Old Dominion students. The professorship is for a faculty member in either the Batten College of Engineering and Technology or the College of Sciences.

The Ruth M. & Perry M. Morgan Endowed Professorship. Mr. Perry Morgan, former Editor-in-Chief of The Virginian Pilot, established a professorship in the College of Arts & Letters in 1997 in honor of his wife, Ruth. The professorship supports a doctoral American literature position with an emphasis in Southern literature.

Oceanography Professorships. A challenge gift from the Norfolk Foundation in 1975 and gifts in response from corporations, friends, and alumni made possible an endowment to support several professorships in oceanography.

The Perry Endowed Chair. Patricia W. and J. Douglas Perry initiated an endowment in 1997 to support a chair in the Psychology Department within the College of Sciences. Mrs. Perry is a former member of the Board of Visitors and Mr. Perry served on the board of Old Dominion University’s Educational Foundation.

The Professor of Computer Science Networking. The Professor of Computer Science Networking endowment was established in 1992 within the College of Sciences by the Department of Computer Science.

The Samuel L. and Fay M. Slover Chairs. A 1967 bequest from Mrs. Slover established an endowed chair who supported three chairs in oceanography. Col. Slover was the owner of The Virginian-Pilot and The Ledger Star.

The Oscar F. Smith Chair. The Oscar F. Smith Foundation made a grant in 1968 to establish an endowed chair in oceanography. The late Mr. Smith was president of Norfolk Shipbuilding and Drydock, Co., now Norshipco.

The William B. Spong, Jr., Professorship. In 1988, The Landmark Charitable Foundation endowed a professorship on behalf of The Virginian-Pilot and The Ledger Star to honor the former U. S. Senator and President of Old Dominion University. The professorship is for a faculty member in the College of Business and Public Administration.

The Robert M. Stanton Chair in Real Estate and Economic Development. Mr. Robert M. Stanton, a 1961 alumnus of Old Dominion University, established a chair in real estate and economic development in the College of Business and Public Administration in 2003. The purpose of the chair is to help develop and enhance the Center for Real Estate and Economic Development into a nationally recognized institute.

The Robert Stiffler Distinguished Professorship in Botany. The Robert Stiffler Distinguished Professorship in Botany was created in 2003 by an anonymous donor. The professorship in the College of Sciences honors 28 years of Robert Stiffler’s service to The Virginian-Pilot and the community as a gardening columnist and expert. The chair will help Old Dominion University and the Norfolk Botanical Garden fulfill their research goals in the field of botany.

The Jesse and Loleta White Lectureship. Created in 1992 by the Aphasia Foundation of Virginia, this endowment supports a faculty position in the Child Study Center within the Darden College of Education.

E.V. Williams Endowed Chair in Marketing. Established in 2005 through a bequest of Mr. E. Virginius Williams, for the College of Business and Public Administration.

E.V. Williams Endowed Chair in Strategic Management. Established in 2005 through a bequest of Mr. E. Virginius Williams, for the College of Business and Public Administration.

Educational Foundation

The Old Dominion University Educational Foundation is a nonprofit 501(c)(3) corporation chartered in 1955 to receive and manage gifts that support the educational mission of the University. As of December 31, 2005, the Foundation was responsible for managing approximately $150 million of endowment assets, including $12 million of University endowments.
The Foundation is supported by the University’s Office of Development and is governed by a Board of Trustees consisting of alumni and friends of the University.

**Intercollegiate Foundation**

The Old Dominion University Intercollegiate Foundation was incorporated in 1964 to provide funds for the University to compete successfully in intercollegiate athletic programs. The Foundation is governed by a Board of Trustees comprising alumni and friends of the University. Its activities are coordinated through the Department of Athletics and the Office of Development. As of December 31, 2005, the Foundation’s assets were approximately $14.5 million, including, an $11.4 million endowment.

**Office of Research**

Old Dominion University is classified as a Research Institution having high research activity, according to the Carnegie Foundation. In FY 2005, its total research and development (R&D) including institutionally-financed expenditures amounted to $51.4 million. In an effort to sustain, enhance and grow its research enterprise, Old Dominion’s Office of Research serves the faculty, staff, and students by providing basic research administrative services. The office also provides interface with public and private members of the external community as well as federal and state agencies that have a vested interest in research. The Office is led by the institutional research officer and includes staff members who are able to leverage a breadth of experience and convey quality services related to development of research programs, regional economic development, compliance in the conduct of research, grant writing and development, intellectual property, technology transfer, and governance issues related to sponsored programs. Sponsored research administration services, encompassing the range of pre- and post-award grant and contract administration, in particular, are provided by the ODU Research Foundation.

While most of Old Dominion’s research enterprise centers and entities are housed within specific colleges, the ones that are the most diverse in terms of their research focus and/or scope are configured within the Office of Research. The Virginia Modeling, Analysis, and Simulation Center (VMASC), the Frank Reidy Research Center for Bioelectrics, and the Animal Facility are three such entities.

VMASC is a multi-disciplinary modeling, simulation and visualization collaborative research center that supports the University’s modeling and simulation graduate degree programs, offering multi-disciplinary master’s and Ph.D. degrees to students across the College of Engineering and Technology, Sciences, Education, and Business and Public Administration. With more than 100 industry, government, and academic members, VMASC furthers the development and application of modeling, simulation, and visualization as an enterprise decision-making tool and promotes economic development. Its core capabilities are: military modeling and simulation (primarily combat simulations), homeland security and homeland defense, medical simulations, transportation, serious gaming, and enterprise Incubator architecture. VMASC creates computer simulations and conducts program analyses to meet stakeholders’ needs. Computer simulations provide the capability to: quickly and economically test theories and ideas; help visualize and understand complex situations; prioritize labor and capital investment opportunities; and reduce the risk inherent in business decisions. The research interests and capabilities of VMASC include: simulation methodologies, mathematical modeling, verification and validation, distributed simulation, computer visualization, numerical and virtual environments, human-machine interfaces, human factors, performance analysis, intelligent systems, decision support and collaboration methodologies, and modeling and simulation systems integration.

The Frank Reidy Research Center for Bioelectrics exemplifies Old Dominion’s leadership role in the understanding of the interaction of electromagnetic fields and ionized gases with biological cells and the application of this knowledge to the development of medical diagnostics, therapeutics, and environmental decontamination. The center was developed as a research initiative with Eastern Virginia Medical School (EVMS). The objectives of the center are to perform leading edge interdisciplinary and multi-institutional research, recruit top faculty and exceptional graduate students, and support regional, national and international programs. Research conducted in bioelectrics has already attracted substantial federal agency support, including the award of a $5 million National更为 called "Multi-University Research Initiative grant from the Air Force Office of Scientific Research. As the first institutions to apply this technology in medicine and biology, Old Dominion and EVMS anticipate the potential for proprietary use of the technology, with both marketing and licensing opportunities. The Health Resources and Services Administration of the U.S. Department of Health and Human Services has provided funding for the construction of the new center.

**Research Foundation**

The Old Dominion University Research Foundation is a separate, private, not-for-profit corporation chartered under the laws of the Commonwealth of Virginia in 1965. The foundation serves as the fiscal and administrative agent to manage research and sponsored programs and aid in technology commercialization for Old Dominion University. The foundation’s purpose is to promote the education, research and public service objectives of Old Dominion University by encouraging, advancing, fostering, and conducting research and sponsored programs in engineering, the physical and life sciences, the humanities, education, and all other branches of learning.

The foundation is the contracting agent for University research grants and contracts with external funding agencies. In fiscal year 2005, the Research Foundation received $40.8 million in awards for research and sponsored programs. Research and sponsored program activity for fiscal year 2005, measured by amount of expenditures, totaled $38.4 million for projects sponsored by federal, state, and local government agencies and a variety of corporations and private foundations.

Technical direction of a sponsored program remains the responsibility of the principal investigator. The foundation supports the University and assists investigators by providing a broad range of administrative and technical support services. Among these services are: financial administration, budget preparation and monitoring, financial compliance guidance, proposal preparation and submission assistance, project payroll and human resources, financial reporting, technical reporting support, intellectual property administration, procurement and equipment inventory control.

**University Libraries**

The University Libraries consist of the Patricia W. and J. Douglas Perry Library, the Elise N. Hofheimer Art Library, and the F. Ludwing Diehn Composers Room. Together the collections of 2.8 million items in all fields of instruction include monographs, journals, government publications, maps, electronic resources, musical scores and recordings, and other media. Perry Library is also a repository for United States and Commonwealth of Virginia government publications. Special Collections houses manuscript collections, including the Tidewater Collections and the University Archives. Library services and resources are available from the University Libraries Web site located at http://www.lib.odu.edu. The Library belongs to several consortia which supplement the collection with more specialized materials. Through the Virginia Tidewater Consortium, students and faculty have reciprocal borrowing privileges from local academic libraries. Electronic indexes and abstracts, reference sources, and full text journals are available to users from the Virtual Library of Virginia (VIVA).

The **Elise N. Hofheimer Art Library** houses a fine and performing arts collection (Room 179; 683-4173). The Art Library contains books and journals related to the visual arts, a video collection with video monitors for viewing, and Internet stations for access to online research resources and to the library online catalog. Reserve materials for Art Department classes are available at the service desk. Visit the Art Library Web site at http://www.lib.odu.edu/artlib.

The **Diehn Composers Room**: Diehn Fine and Performing Arts Center, Room 189; 683-4173. The F. Ludwig Diehn Composers Room is comprised of three areas: the Listening Library, the Reading Room, and the Seminar Room. The Listening Library houses music special collections, scores, music videos, and sound recording collections as well as a full complement of audio equipment available for users. Additionally, MIDI, multi-media, DCD, VCR, and laser disc player stations are available. Reserve materials for Music Department classes are available at the service desk. The Reading Room offers space for the study of manuscripts and other special collections materials. The seminar Library is available for course level instruction, and is equipped with data connections and whiteboards for instructional activities. Data connections and electrical outlets are available for laptop computer use throughout the facility. A Steinway grand piano affords scholars and researchers the opportunity to play selections from the special collections as desired. Information on services and collections is located at http://www.lib.odu.edu/musiclib.

**Perry Library More Resources**

**Circulation and Reserve Services**: 1st Floor, 683-4154. Students with a valid University ID may borrow and renew books and other materials and obtain print reserves materials. Electronic reserves are available at http://www.lib.odu.edu/ereserves. Group study rooms, laptop computers, and graduate student study carrels are also available. Information on borrowing...
privileges, loan periods, and policies is available at http://www.lib.odu.edu/services/circulation.

Computer Lab: Room 164, 683-6097. The computer lab provides access to the Internet, word processing and spreadsheet applications, as well as to library resources. Computer Center personnel are available to assist students.

Digital Services Center: Room 341, 683-5953, 4184. The Digital Services Center provides assistance to University faculty, staff and students who need to scan images, text, and large texts or digitize audio and video; map and analyze data through Geographic Information Systems (GIS); and develop Web pages for university-related projects. Faculty can arrange for classes to receive training and assistance with Web publishing and other multimedia projects. Detailed information about services can be found at http://www.lib.odu.edu/dsc.

Interlibrary Loan Services: Room 109, 683-4710, 4171. Interlibrary Loan Services facilitates research by obtaining materials not available in the University Libraries’ collection from other libraries. As a member of the OCLC (Online Computer Library Center) bibliographic network, the University Libraries have access to the holdings of other libraries worldwide. A statewide interlibrary loan agreement among the Virtual Library of Virginia (VIVA) participants ensures that students and faculty may obtain items located in another Virginia library. Document delivery services provide copies of materials housed in the libraries, including collection to, from, and within the Commonwealth of Virginia. Interlibrary loan and document delivery requests can be submitted from any computer with Web access through ILLiad, the University Libraries’ interlibrary loan management system. Online ILLiad registration and request forms are available at http://www.lib.odu.edu/services/illiad/.

Library Services for students with disabilities: The University Libraries offer a variety of services for students with disabilities including a computer equipped with a scanner, voice synthesizer, and specialized programs that read scanned text aloud or enlarge the text on any screen. Circulation Services offers an “on-demand service” for patrons who may need special assistance retrieving library materials. Students may inquire about library services at the University’s Disabilities Center or at the Library’s Circulation and Reference Services departments.

Microform Services: Room 219, 683-5912. Microform Services is an open stacks area where users have access to the microform collection. Staff assist with locating materials, use of the equipment, referrals to other library services, and collections content. Printing is available and is fee based. Additionally, the Serials Service Desk is located on the second floor to provide assistance with the journal collection, general collection, and materials not held by the library.

Photocopy Services: Self-service copiers are available on the first and second floors of Perry Library. Assistance is available at Circulations Services, Microform Services, and Reference Services. Network printing is available from the public workstations located in Reference and Research Services. A bill changer machine is located on the first floor. Photocopying and network printing is fee based.

Reference and Research Services: 1st Floor, 683-4178. Reference and Research Services provides students and faculty members with services and materials to support classroom instruction, campus research programs, and student research for assignments, projects, papers and presentations. The department houses a significant collection of print and online reference materials such as dictionaries, encyclopedias, statistical directories, and guides to the disciplines taught on campus. In addition, the department also houses extensive collections of government documents, both print and electronic, on many subjects. Distance learning students may obtain assistance by calling the department or using the Ask A Librarian service, at http://www.lib.odu.edu.

User Instruction: Reference and Research Services offers classroom instruction, workshops, and tours to assist graduate and undergraduate students with library research throughout the academic year. In addition to a current schedule of library workshops, tutorials and other online research guides are also available. Additional information on instruction services can be found at the Library’s Web site, http://www.lib.odu.edu/research.

The Office of Computing and Communications Services

As technology continues to change the way faculty teach and students learn, the Office of Computing and Communications Services (OCCS) maintains a leadership role in Old Dominion University’s dedication to providing technology-intensive disciplines and innovative educational delivery processes. With responsibility for research, consultation, support, and maintenance for computing and communications technology for the University, OCCS is committed to delivering high-quality computer, information processing, and telecommunications services.

In addition to maintaining the University’s central computer system, OCCS provides/manages all computing accounts for faculty, staff, and students. The department also maintains Academic Computer labs, instructional labs, University-wide data and telecommunications networks, and the University telephone system, and provides audio/visual equipment in support of academic and University-related activities. Technology support services for faculty, staff and students include a Technical Support Center that is open over 75 hours per week, with 24-hour telephone and e-mail problem reporting, and a Student Technical Team that provides peer-to-peer, on-site, and walk-up technical support for students.

Detailed information about these services is provided in the following paragraphs. Additional information about all computer services at Old Dominion University can be found on the OCCS web site at www.occs.odu.edu.

Computer Accounts

In support of the University’s mission of teaching, research, and other educational pursuits, OCCS provides three types of accounts for all students – MIDAS account, University student e-mail account, and University student LAN account. All accounts are established electronically via the University web site.

MIDAS (Monarch Identification and Authorization System), released in January 2004, is gradually moving the University to “same sign on” for all technology access. The account is created from the MIDAS web site at http://midas.odu.edu. The establishment of a security profile allows the account holder to create a new password without knowing the current password. A MIDAS account is required to log in to the University Portal, a web site that can be customized by the individual with links to the web resources accessed most frequently (see section below on University Portal). The account provides a universal ID and password that is used to access Blackboard, on-line courses, faculty web pages and lecture notes, video streaming courses, Faculty/Student Communication System (FSCS) and many other important resources. Activation is immediate for mail purposes, but may require 24-48 hours for access to resources on other servers. (Blackboard is a web-based course management system that incorporates web pages, e-mail, discussion boards, chat rooms, online quizzes, virtual groups, and document sharing; FSCS is a web-based utility that allows course instructors and students enrolled in the course to add documents directly to a shared database.) The Student LAN Account is also required for students to access the Internet from University-supplied connections in the individual dorm rooms and common areas in the residence halls, and from wired jacks in several main campus buildings. Additionally, a University LAN account is required to access the University’s wireless network (see section on Wireless LAN).

University Student E-Mail Account provides a vital communication link between students and University administrators, departments and faculty members. This account will be activated on line as part of the MIDAS account creation process.

Student LAN Account is required for students to log in to computers in all University public computer labs, OCCS-supported departmental labs, and some department supported labs on the main campus and at the Virginia Beach, Peninsula, and Northern Virginia Higher Education Centers. This account will be activated on line as part of the MIDAS account creation process.

Computer Labs

OCCS maintains University public computer labs equipped with Windows XP and Windows 2000-based systems and various computer applications in support of class requirements. Laser printing is available in all labs. Students must have a University MIDAS account (see section on Accounts) to use the computers in the labs. Labs are located in: BAL, University Library, Webb Center, Virginia Beach Higher Education Center, Peninsula Higher Education Center, and Northern Virginia Higher Education Center. Lab schedules are posted on the OCCS web site at www.occs.odu.edu. Consultants are available in all labs to provide assistance with application and computer-related questions and problems.

Technical Support Center (TSC)

The Technical Support Center (TSC), located in Webb Center, is the central point of contact to the Office of Computing and Communications Services. The TSC may be reached by telephone at (757) 683-3192 or by e-mail to occheselp@odu.edu. OCCS personnel coordinate responses to computing problems and questions and, when necessary, forward inquiries to the appropriate support group. Students may also request technology information...
and report technology/telecommunications problems to the TSC on line at fp.odu.edu.

Internet Access

In partnership with Network Virginia, high-speed Internet connectivity is provided to allworkstations on the University network, including computer labs, offices, and wired dorm rooms. In the dormitories, sufficient Internet connections are provided to allow each resident an individual connection. Student assistants provide support with set up and connectivity issues.

MONARCHtechstore

Located in the University’s Webb Center, the MONARCHtechstore offers a lowest-price guarantee on computers, peripherals, hardware, software, and supplies. Updated information is available at www.odu.edu/techstore.

MONARCHvision

MONARCHvision is the University’s Campus Video/TV Network with service provided in all Residence Halls.

Software Download

Through the University’s software licensing program, some software is made available for students to download to their personal computers. This software includes Xwin 32 and the most current versions and upgrades of the McAfee VirusScan software. Downloadable software is available on the OC CS website at www.occs.odu.edu – Enter as Student, click on Software, and then click on University License Software available for download for all Students, Faculty, and Staff. When prompted for authentication, enter MIDAS ID and password.

University Portal

The Old Dominion University Portal, located at https://my.odu.edu, provides University faculty, staff, and students a single point of access to their University services. Individuals may customize their portal page with links to the resources they access most frequently, including Blackboard, Leo Online, University-wide announcements, and Internet-based University email, address book and calendar.

URL Locator

Many faculty members maintain course web pages from which students may access course information, lecture notes, assignments, etc. The University web page provides a tool called the URL Locator, an on-line list of faculty web page addresses. From the University home page at www.odu.edu, click on Current Students, and then select the Course Web Pages link from the Academic Resources menu.

Many faculty members secure their web pages to limit access only to students registered in their class. The required authentication information is the MIDAS ID.

Wireless Local Area Network (WLAN)

Available almost universally across the Norfolk campus and at the Higher Education Centers in Virginia Beach, Hampton, and Northern Virginia, the WLAN makes it possible for faculty, staff, and students to access the Internet from their laptop computers while enjoying a Starbucks coffee in Webb Center, conducting research in the University Library, or enjoying the sunshine in Tonelson Garden. A University MIDAS account (see section on Accounts) is required to access the wireless network.

Office of International Programs

To be named, Executive Director

The Office of International Programs (OIP) coordinates activities that focus on Old Dominion University’s strategic commitment to campus-wide internationalization. These activities fall into three general categories, all of which are designed to expand student understanding of our interdependent world: encouraging the incorporation of international issues and perspectives into undergraduate and graduate education; facilitating international exchange of students and faculty; and sharing international interests and expertise with the broader Hampton Roads community that Old Dominion University seeks to serve. For more detailed information, visit the OIP website at www.odu.edu/oip.

OIP facilitates the development of the University’s cooperative agreements and exchange programs with other institutions of higher learning around the world in order to encourage exchange of students and faculty as well as collaborative research. OIP staff provide advising support for international fellowships, such as the Fulbright, National Security Education Program and Freeman Foundation scholarships.

OIP sponsors and coordinates international programs that serve and involve the citizens of the region and the state. These may include appearances by foreign diplomats, scholars and artists, workshops for teachers and other professionals, and support for internationally-focused community organizations.

OIP includes the Office of Study Abroad (in the Dragas International Center) and the English Language Center (in Hughes Hall).

Office of Study Abroad (OSA). Increasing global awareness happens in not only the classroom and elsewhere on Old Dominion’s multicultural campus, but there is no substitute for traveling abroad to acquire a personal perspective on our increasingly interdependent world. Old Dominion students participate in a wide array of study abroad experiences as an integral part of their college education. Short-term programs of study in the summer and over the spring and winter breaks are available in a dozen subject areas (from Conflict Resolution in Northern Ireland to Geography Field Study in Costa Rica to French Studies in Tours to Business Studies in Korea and China). Semester and academic year study abroad programs and reciprocal student exchange programs offer long-term opportunities in virtually all areas of the world. Old Dominion has exchange partner relationships with over 100 universities overseas, and is a member of study abroad consortia that sponsor high quality programs around the globe. Regardless of their field of study, all Old Dominion students can study abroad. Practically all forms of student financial aid may be applied to an academic program abroad, travel grants are available for many programs, Dean’s English Abroad Awards provide special support for selected majors, and internships, volunteer and short-term work opportunities overseas are additional options. Old Dominion’s Presidential Global Scholarships provide unique four-year global opportunities, including study/internship abroad.

The Office of Study Abroad administers overseas academic programs and authorizes transfer credit from approved programs of study. OSA maintains a library of study abroad directories (print and electronic), catalogs, videotapes, CDs and other reference materials from Old Dominion partner universities abroad; study abroad program brochures organized by country and region; atlases and travel guides; and reference materials on scholarships, internships and work abroad opportunities. A Study Abroad Fair is held every semester, and pre-departure orientation programs and “re-entry” sessions when students return from abroad are also organized by the staff. The office issues the International Student Identity Card and the International Teacher Identity Card and takes photographs for passports and other ID requirements. Please visit the OSA’s web site at www.odu.edu/studyabroad.

English Language Center. The English Language Center (ELC) offers a program in English as a Second Language for international students and members of the local international community. The ELC offers intensive (six semester credits) and semi-intensive ("Bridge") courses in grammar, composition, reading/vocabulary, and speaking/listening ranging from beginning to advanced levels. Through these courses, the ELC helps prepare students for study at American colleges and universities or for using English in workplaces around the world. It administers the institutional TOEFL six times a year. Admission to ELC programs in no way implies admission to other academic programs at Old Dominion University. Visit the ELC website at www.odu.edu/ed.

International Student and Scholar Services (ISSS)

The Old Dominion University community includes more than 1,150 international students and 100 visiting scholars. More than 100 foreign countries are represented in the University community. Serving the cultural, legal and personal needs of these individuals is the main mission of the Office of International Student and Scholar Services. The office combines administrative support and documentation services with programs and activities to assist international students and scholars in obtaining the best educational experience possible. Among the specific offerings of the Office of International Student and Scholar Services are special orientation programs for all new students and scholars, a complete range of immigration and related legal advising, community outreach, and individual assistance with the many cultural aspects of studying in a foreign country. ISSS administers the International Student Leadership Award Program, which provides tuition support for
international students who demonstrate extraordinary leadership and academic involvement. Visit the ISSS website at www.odu.edu/issss.

Distance Learning and Extended Education

Old Dominion University’s TELETECHNET program delivers graduate and upper-division undergraduate courses to students at community college site locations across the Commonwealth of Virginia. Students are able to complete their entire degree program at local community college campuses. The participating community college provides course work required for the first two years of study and Old Dominion University, through an integrated system of video, audio signals and computer, provides the final two years of course work leading to a baccalaureate degree. Graduate programs are also available at these locations.

Old Dominion’s statewide network of site locations extends well beyond the community colleges with course offerings at four Higher Education Centers, various military bases and corporations. Out-of-state site locations are operating in Arizona, Georgia, Illinois, Maryland, and Washington state. At these sites students may register for classes, meet with advisors, and attend classes both on-site and using telecommunications technologies.

In addition, the University offers a variety of courses and degree programs using Internet technologies, such as videostreaming, that provide students the opportunity to take courses from any location.

Military Bases

The University offers several graduate and undergraduate programs on military installations to assist military personnel and their families in accomplishing their career development and career transition goals. Within Virginia, courses, programs and/or services are offered at Naval Air Station Oceana, Norfolk Naval Station, Fleet Combat Training Command Dam Neck, Langley Air Force Base, Naval Amphibious Base Little Creek, Naval Medical Center Portsmouth, Fort Eustis, Fort Monroe, Fort Belvoir, Marine Corps Base Quantico, Fort Lee, Fort Myer, the Pentagon, Dahlgren Naval Surface Warfare Center, and Aegis Command at Wallops Island.

Outside Virginia, educational services/programs are provided at the Naval Submarine Base, Bangor and Naval Station Everett in Washington state, and the Atlantic Undersea Test and Evaluation Center on Andros Island in the Bahamas. In addition, through the Navy College Program for Afloat College Education, Old Dominion provides graduate business courses to U.S. Navy ships deployed around the world, a master’s degree in engineering management, and undergraduate courses in engineering technology via asynchronous technologies. The University is a participant in the Navy College Program Distance Learning Partnership and a member of the Service Members Opportunity Colleges.

Higher Education Centers

Old Dominion University operates four higher education facilities in Hampton, Portsmouth, Virginia Beach (in partnership with Norfolk State) and Northern Virginia.

These full-service higher education centers offer a wide range of academic programming, including programs and courses at the graduate level and at the upper-division undergraduate level. Courses are conducted on-site and through telecommunications networks. Each facility also offers non-credit courses and provides meeting and training facilities for government agencies, corporations and industry, and nonprofit organizations. Capabilities include seminar/meeting rooms, teleconferencing, and administrative support. Students are provided on-site registration, advising, textbook acquisition, computer labs, and access to the University’s library and mainframe computer.

Tri-Cities Higher Education Center
7000 College Drive
Portsmouth, VA 23703
757-686-6220
757-686-6219 (fax)
tmtec@odu.edu
http://www.odu.edu/tmtec

Virginia Beach Higher Education Center
1881 University Drive
Virginia Beach, VA 23453
757-366-4100
757-368-4109 (fax)
vbhec@odu.edu
http://www.odu.edu/vbhec

National University Telecommunications Network (NUTN)

Old Dominion University is the host institution for the National University Telecommunications Network (NUTN). NUTN, a network of professionals advancing higher education through technology and distance learning, has been a leader in this field since 1982.

NUTN
134 Gornto Center
Old Dominion University
Norfolk, VA 23529
757-683-6402
757-683-6107 (fax)
nutn@odu.edu
http://www.odu.edu/nutn

Orientation

Upon admission to the University, undergraduate students and their parents and guests are invited to attend the University’s orientation program, PREVIEW. Students entering the University as new freshmen (including transfer students with less than 24 hours) are required to participate in the PREVIEW Orientation program. PREVIEW is scheduled throughout the summer in a series of one-day sessions for transfer students and two-day sessions for incoming freshmen. Housing in campus dormitories is provided for the latter. Additionally, a one-day Transfer Review is scheduled in the spring for transfer students who are admitted early for the fall semester. Fees for PREVIEW are determined each year. For more information, see the web site at www.odu.edu/PREVIEW.

At PREVIEW, students take required placement tests, meet with academic advisors to plan and register for fall semester classes, receive an orientation to campus facilities and services, and become acquainted with the University staff, upperclass students, and other new students through informational and social activities. A program for parents and guests is scheduled concurrently.

A PREVIEW is also scheduled in December and January for students enrolling in the spring semester. A program for parents and guests is scheduled concurrently.

Office of Multicultural Student Services

The Office of Multicultural Student Services was established in 1980 as an integral part of the Division of Student Affairs at Old Dominion University. The office is committed to enhancing the opportunities for educational growth, retention, and successful matriculation of students of diverse backgrounds including American Indian/Native Alaskan, African American, Asian American, Hispanic/Latino, and Gay, Lesbian, Bisexual and Transgender. The office also has the responsibility of heightening the sensitivity of the University community to the needs, interests, and culture of these students and other diverse populations.

Multicultural Student Services strives to fulfill its commitment to students of diverse backgrounds by undertaking the following responsibilities:

- Supporting multicultural recruitment and orientation programs;
- Sponsoring and supporting programs and activities which enhance the educational and cultural experience of multicultural students;
- Coordinating peer and faculty mentor programs and tutorial services to increase student retention;
- Developing and maintaining communication between the University administration and its multicultural population; and
Cocurricular and Extracurricular Activities

Office of Student Activities and Leadership. Involvement in student activities has a great potential for contributing to students’ overall development. By discovering and participating in cocurricular and extracurricular activities, students can develop their interpersonal and leadership skills and increase their career-related learning. The goal of the Office of Student Activities and Leadership is to personalize and broaden the educational experience of the University’s students. Toward this goal, the office works with students, faculty, and staff to create an atmosphere conducive to social, multicultural, and recreational nonacademic and cocurricular activities. The office’s involvement includes the following:

1. Sponsoring social and multicultural programs through the Student Activities Council (SAC). These programs include films, cultural events, dances, lectures, concerts, and trips.
2. Coordinating space allocations in Webb Center for meetings and events.
3. Supervising students in the organization of major concerts, programs, and other fund-raising activities.
4. Supervising fraternity and sorority activities and events.
5. Directing the organization and implementation of special events such as Main Street (the campus organizational fair), the Housing Fair, Who’s Who Among Colleges and Universities, the Student Affairs Leaders Award Ceremony, and Leadership Labs.
6. Coordinating the recognition and annual registration process for current student organizations and for new student groups, and coordination of student organizational budgets.
7. Providing continuing support for student organizations, including officer training, group development, and leadership education.
8. Coordinating commuter student activities and services.
9. Encouraging ethnic, cultural, gender, and other special interest groups to sponsor their own events in order to promote multiculturalism on campus.
10. Providing an outlet for volunteer services, allowing students, faculty and staff volunteers to link up with volunteer and community services throughout Hampton Roads.

Leadership Development Opportunities. To maximize and realize the potential of individual students and student organizations, the Student Activities and Leadership Office assists in the planning and implementation of students’ participation in leadership conferences, seminars, courses, and retreats throughout the academic year. These programs, available to any special interest group or student organization, focus on the identified purpose or needs of each group. Individual students interested in developing their leadership skills are urged to participate and make their needs known.

Student Organizations. The University recognizes a wide variety of clubs that promote student interests in a broad range of fields. The following is a comprehensive list of student-run organizations summarized by category.

DEPARTMENTAL INTEREST
Association of Information Technology Professionals
Association for Psychology Students
Biological Graduate Student Organization
Communication Club
English Graduate Student Organization
Health & Physical Education Majors Club
Human Services Association
Phi Mu Alpha Sinfonia
Physics Graduate Student Association
Recreation & Tourism Studies Majors Club

Organization of Exercise Science Club
Finance Club
German Scholars

HONOR SOCIETIES
Alpha Delta Omega
Beta Alpha Psi
Beta Beta Beta
Business Honors Student Society
Chi Epsilon
Golden Key International Honor Society
Omicron Delta Kappa
Order of Omega

POLITICAL
College Democrats
College Republicans
Dominion Liberty

PROFESSIONAL
Alpha Kappa Psi
American Chemical Society
American Institute of Aeronautics and Astronautics
American Marketing Association
American Society of Civil Engineers
American Society of Mechanical Engineers
Associated General Contractors
Association for Computing Machinery
Aviation Club
Council for Exceptional Children
Delta Epsilon Chi
Financial Management Association
Graduate Athletic Training Organization
Graduate Athletic Training Engineers
Graduate Sport Management Club
Institute of Electrical and Electronics Engineers
Managerial Auditing and Accounting Club Association

RELIGIOUS
Baptist Student Union
Campus Impact
Canterbury Center
Catholic Campus Ministry
Chi Alpha Christian Fellowship
Hillel
International Student Christian Fellowship
InterVarsity Christian Fellowship

SERVICE
Alpha Phi Omega
Circle K Order Science and Education Club
Community Service Council

SPECIAL GOVERNING BOARD (SGB)
Interfraternity Council
National Pan-Hellenic Council
Panhellenic Council

SPECIAL INTEREST
African Caribbean Association
Amnesty International
Anime Club Association
Asian Pacific American Student Union
Association for International Topics
Better Understanding Club
Black Student Alliance
Black and Gold Society

Society of Physics Students
Student Ambassadors
Phi Alpha Theta
Phi Kappa Phi
Pi Kappa Phi
Pi Sigma Alpha
Pre-Medical Honor Society
Psi Chi
Scabbard and Blade
Sigma Tau Delta
Tau Beta Pi
Tau Sigma National Honor Society

Organization for the Advancement of Colored People
ODU Out
Master of Business Administration Association
Minds About Progress
Minority Association of Pre-Medical Students
Music Educators National Conference
National Society of Black Engineers
National Student Speech Language and Hearing Association
Physical Therapy Club
Semper Fidelis Society
Society of Automotive Engineers
Society of Hispanic Professional Engineers
Society of Manufacturing Engineers
Society of Women Engineers
Sport Management Club
Student American Dental Hygiene Association
Student Nurse Association
Student Virginia Education Association
Technology Education Collegiate Association
Theta Tau

The Hampton Roads Church
Lambda Omicron Chi
Mu Omicron Gamma
Muslim Students’ Association
Sword of the Spirit
Wesley-Westminster Student Association

D.E.S.T.I.N.E.D. (Determined Educated Sisters Taking Initiative N Encouraging Dreams)
T.R.U.S.T. (To Respect, Unite, Support and Teach)

Student Government Association
Student TELETECHNET Activity Council

Monarch Dance Grooves
Monarch Dance Team
Monarch Swing Dance Association
Music and Arts Society
National Association of Blacks in Criminal Justice
Nichi-Bei Club
ODU Chicago Connection
Blue and Gold Society
B.U.D.D.I.E.S. (Building Unity by Displaying Determination, Integrity and Education in Society)
Chinese Student and Scholar Association
Commuter Student Group
Courtside Gaming Commission
Cultural Ambassadors of India
Dance Association
Delta Sigma Lambda
Earth and Ocean Sciences Club
Ebony Impact Gospel Choir
Education For Compassion
Element Entertainment
Feminist Majority Leadership Alliance
Filipino American Student Association
Graduate Association of International Studies
Hellenic Society
Hip Hop Summit Action
Network
Honor Council
Human Factors & Ergonomics Society
Indian Students Association
In Support of Children
International Balkan Society
Latino Student Alliance
Mace and Crown.com
Mediterraania Arabia
Model United Nations Society

Fraternities and Sororities. There are 12 international/national fraternities and 10 international/national sororities at Old Dominion University. The purpose of these organizations includes the maintenance of high standards of fraternal life and inter-Greek relations and cooperation with the University in achieving high social standards and sound scholarship. Service to the University and the community, encouragement for leadership and brother/sisterhood are also at the forefront of Greek activity. New member recruitment starts at the beginning of each semester and is a time of interaction with members of these groups. Greek membership is a lifetime commitment to ideals, goals and values as each chapter interprets them. The groups are coordinated through the National Pan-Hellenic Council (NPHC), Interfraternity Council (IFC), and Panhellenic Council (PHC) as well as through the Office of Student Activities and Leadership. Top Greek leaders and scholars are eligible for membership in the Order of Omega National Greek Honor Society.

Fraternities at the University include:
- Alpha Phi Alpha
- Kappa Delta Rho
- Lambda Chi Alpha
- Omega Psi Phi
- Phi Beta Sigma
- Phi Kappa Tau
- Pi Kappa Alpha
- Sigma Nu
- Sigma Phi Epsilon
- Sigma Pi
- Tau Kappa Epsilon
- Theta Chi

Sororities at the University include:
- Alpha Phi
- Alpha Xi Delta
- Delta Sigma Theta
- Delta Zeta
- Mu Sigma Upsilon
- Pi Beta Phi
- Sigma Gamma Rho
- Sigma Lambda Upsilon
- Zeta Phi Beta
- Zeta Tau Alpha

Student Activities Council. The Student Activities Council (SAC) is an entirely student-run organization with the goal of providing quality events for Old Dominion University. Films, special events, concerts and Homecoming are SAC committees that are open to all students. Committee members help in planning and organizing events in their area.

Student Honor Council. Student members of the Honor Council generate interest in and awareness of the Old Dominion University Honor System. In addition, the Council provides representatives to serve on student conduct committee appeals hearings.

Mace and Crown Newspaper. Students at Old Dominion University publish a weekly newspaper, The Mace and Crown. In addition to keeping the campus informed, the University newspaper provides students the opportunity to develop skills in writing, photography, advertising, and management. The office is located at 2101 Webb Center, 683-3452.

The National Honor Society of Phi Kappa Phi. The Old Dominion University Chapter of Phi Kappa Phi recognizes and honors superior scholarship in all academic disciplines. The Society hosts an initiation ceremony and provides scholarships for academic excellence. Membership in the Society is by invitation only, which requires both superior scholarship and good character as criteria.

Student Government Association. The Student Government Association is involved in many topical issues touching all areas of University life. Students may serve in University government as elected senators or as volunteers on Student Government Association committees. The Student Government Association is open to all students of Old Dominion University. Information about elective and volunteer positions is available from the Student Senate Office, 1050 Webb Center, 683-3438.

WODU Radio Station. WODU, the student-operated campus radio station, serves two main purposes: providing experience for students interested in broadcasting, and entertaining and sharing relevant information with the student population. WODU helps students develop their skills in all areas of broadcasting, including management, marketing, engineering, and news and sports reporting. The radio station is located at 2102 Webb Center, 683-3441.

Yearbook. The Laureate, Old Dominion University’s yearbook, allows students the opportunity to become involved in the promotion, planning, distribution, and production of a quality yearbook publication. The Laureate offers experience in areas such as photography, marketing/finance, copy/layout, and art design. Volunteer as well as paid positions are available in this organization and all students, whether experienced or new to yearbook production, are welcome as members. The office is located at 2105 Webb Center, 683-6019.

Athletics
Old Dominion University’s athletic program is among the most successful in the United States, boasting 32 team and individual national championships, including three in women’s basketball, nine in field hockey, 15 in sailing, a men’s basketball Division II title, three individual wrestling Division II national championships, and one women’s tennis clay court national crown.

The Department of Intercollegiate Athletics is the home for Old Dominion University’s 16 varsity programs for men and women. Old Dominion University offers competitive programs for student-athletes in the following sports: men’s and women’s soccer, field hockey, men’s and women’s sailing, men’s and women’s basketball, wrestling, men’s and women’s swimming and diving, women’s lacrosse, men’s and women’s golf, men’s and women’s tennis, and baseball.

Old Dominion University is a Division I member of the National Collegiate Athletic Association (NCAA) and the Colonial Athletic Association (CAA). The 12 teams in the Colonial Athletic Association include: The University of Delaware in Newark, DE, Drexel University in Philadelphia, PA, George Mason University in Fairfax, VA, Georgia State University in Atlanta, GA, Hofstra University in Hempstead, NY, James Madison University in Harrisonburg, VA, the University of North Carolina at Wilmington in Wilmington, NC, Northeastern University in Boston, MA, Towson University in Towson, MD, Virginia Commonwealth University in Richmond, VA, and the College of William and Mary in Williamsburg, VA.

All full-time enrolled students are invited to attend intercollegiate athletic events free of charge. Beginning two weeks in advance of a regular season men’s or women’s basketball game, an Old Dominion ID card may be used to pick up student general admission tickets at the Athletic Ticket Office in the Constant Convocation Center, Athletic Administration Building, or Webb Center. At each men’s and women’s basketball game, an Old Dominion ID and a ticket must be presented at the student gate entrance of the Constant Convocation Center. For soccer, baseball and other special athletic events, students are admitted at the gate by showing their current student ID card. For more information, call the Athletic Ticket Office at (757) 683-4444 for the Constant Center, (757) 683-5848 in the Athletic Administration Building, or check out the athletic website at www.odusports.com.

In addition, Old Dominion University provides students with a variety of recreational and intramural activities through its Recreational Sports Office. For more information on these activities contact the Recreational Sports Office at (757) 683-3384.

Housing
Living on campus provides opportunities to build friendships and develop a sense of group belonging. The Office of Student Housing staff members strive
to create a residential environment that encourages the exploration of new ideas, behaviors, responsibilities, and ways of interacting with other individuals while allowing students to remain fully engaged in their academic pursuits. Students are encouraged to explore independence and autonomy within the context of responsible citizenship and mutual respect.

To create a residential community, the Office of Student Housing offers a variety of living accommodations for Old Dominion University students such as single-sex wings, coed wings with single-sex suites, special option floors, and accommodation for disabled students. Three buildings (Whitehurst, Rogers and Gresham) favor the traditional residence hall concept with double rooms sharing a full bath in a suite arrangement. Each room at The Inn has a private bathroom. Additional options available to upper-class students include one- and two-bedroom apartments (Powhatan and Nusbaum) as well as single occupancy rooms in newly constructed residence halls (opening spring 2007). All bedrooms are furnished with an extra-long twin bed, desk and dresser for each resident. Living rooms are furnished with a sofa, side chair(s) and coffee table. All accommodations are air-conditioned, carpeted, and provided with local telephone access. With the exception of the Nusbaum apartments, cable TV and internet connections are provided in all residences. Two dining centers provide meals for on-campus residents. Residence hall rates include a meal plan. Residents of the apartments may purchase an optional meal plan.

For further information about living on campus and the variety of options available, please visit the Office of Student Housing web site at: www.odu.edu/housing. For answers to specific questions, contact: The Office of Student Housing, 4710 Powhatan Avenue, Suite G-1, Norfolk, Virginia 23508, call (757) 683-4283 or email: housing@odu.edu.

Off-Campus Housing, Student Services for Off-Campus Students is located in 1104 Webb Center and provides an off-campus housing information system free to all University students. Those desiring off-campus housing may use the system to locate apartments or other accommodations and to find roommates. The office serves as a clearinghouse for general information on off-campus life. The housing information system can also be accessed via the web at web.odu.edu/offcampushousing.

Student Health Services

Old Dominion University Student Health Services is accredited by the Accreditation Association for Ambulatory Health Care, Inc. The Health Center is located at 1007 South Webb Center, (757) 683-3132, Facsimile (757) 683-5930.

Student Health Services provides primary outpatient care and health education for Old Dominion University students. These services include medical care for acute illness and minor injury, routine health care, preventive health care and family planning. Student Health Services also provides referrals to health care providers in the local community for services beyond the scope of the campus health center. When necessary, bed care is available for brief daytime observation periods or until transfer to an acute facility can be arranged. Laboratory testing and x-rays or other diagnostic tests are done at the student’s or family’s expense. Full-time Norfolk campus students should complete the immunization requirements before coming to school. These immunizations are done at the student’s expense.

All entering full-time Norfolk campus students (undergraduate, graduate, transfer, and English Language Center students) are required to complete the Tuberculosis (TB) Risk Assessment on the health history form submitted to Student Health Services. Each student determined to be part of an at risk population for TB must present the results of a TB skin test (Mantoux PPD) to Student Health Services within two months prior to matriculation at Old Dominion University. Any student with symptoms of active TB will be required to be tested immediately. Students who are not in compliance with the University Policy 4002 for TB screening will be reported to the Dean of Students.

All entering full-time Norfolk campus students are required to have all their immunizations up to date, including the Meningitis and/or Hepatitis B vaccine. All students must present evidence of these vaccines. Students are required to complete the immunization requirements before coming to school. These immunizations are done at the student’s expense.

Career Management Center

The Career Management Center (CMC) offers a comprehensive array of career programs for students under the auspices of the Career Advantage Program (CAP). CAP is a series of career-related events and services designed to include a credit-bearing practical work experience related to a student’s major. This practical experience may take the form of an internship, cooperative education experience or a class containing a real-world, hands-on project.

CAP invites students to link with the Career Management Center and the available resources necessary for them to gain their career advantage early in their career planning process. Services are available from the time they first begin their studies at Old Dominion University. Recognizing that all students do not follow the same path, the program is designed to meet the needs of traditional, non-traditional, transfer, commuter, and distance students alike.

The Student Employment Program assists individuals in locating part-time and seasonal work on or off campus, including federal work-study positions for those who qualify. The Job Posting Unit advertises jobs of all types, including permanent full-time positions, electronically through eRecruiting. This powerful interactive web-based system available free to students and alumni, is a database of student and employer information, career information, a career event calendar and interview schedules, and the means to electronically apply for positions posted. It is also the primary tool used by the CMC to communicate with students.

Individual career consultations and electronic assessment tools as well as seminars on career exploration are available to assist in major and career path selection. Each college has experienced professional CMC staff assigned to offer career assistance to students at all levels. The Colleges of Business and Public Administration and Engineering and Technology maintain full service CMC Satellite Offices and part-time office hours are available in the Colleges of Arts & Letters, Education, and Sciences.

Cooperative education and internship experiences are available at the junior, senior and graduate levels. These programs allow students to gain valuable experience related to their major while earning college credits and earnings. All students are encouraged to participate in one or more practical experiences.

Professional seminars in resume writing, job search strategies, interview skills, salary negotiation and other career-related topics are offered throughout the year and are also available in video streamed and on-line versions. These are complemented by classroom and group presentations and other special career events, including employer information sessions, the employer sponsored seminar series “Career Advice and a Slice,” as well as employer and alumni career information panels and etiquette dinners.

General job fairs are held twice a year and are supplemented by specialized fairs for specific populations, including a teacher fair, a graduate recruitment fair, and a summer job fair. Graduating students can also take advantage of the On-campus Recruiting Program, which provides the opportunity to interview, on campus, with employers for entry-level positions.

Students seeking additional career guidance may select mentors through the Alumni Mentor Program, or create partnerships with the Alumni Association. Potential mentors in every discipline and from all over the nation and the world are available to students via eRecruiting.

Many of the programs and services available on campus are also offered on-line and via video streaming through the CMC website, eRecruiting, and the Cyber Career Center. The CMC has developed this exciting opportunity as part of the any-time, any-place virtual career center model for students and alumni who prefer or require assistance with their career transition through electronic means. The Cyber Career Center allows CMC staff to provide quality career assistance from a distance, replicating face-to-face services through interactive media and multiple electronic means of communication.

More information is available via the internet at www.odu.edu/cmc, by calling 757-683-4388, or by visiting the CMC at 2202 Webb Center North.

Campus Services

Campus Information Center. The Campus Information Center is a clearinghouse for information on University services, procedures, and activities. Designed to help students deal more effectively with the structure of a large university, the center offers information about on- and off-campus life and provides referrals to the resources best able to meet student needs. The services of the center are available to the students, faculty, staff, and general health insurance. In the future, the University may require all Norfolk campus students to have health insurance. International students are required to have health insurance. See the Student Health Services web site for information regarding health insurance at http://studentaffairs.odu.edu/studenthealth.
public. The Campus Information Center, located in the lobby of Webb Center, can be reached by calling (757) 683-5914.

Disability Services. Disability Services is committed to creating access to higher education for students with disabilities. Reasonable accommodations are made for students with visual, hearing, mobility, learning and other impairments. Specific information about services may be obtained by calling (757) 683-4655. New students who desire assistance are expected to contact the office at least 45 days prior to registration to make arrangements. Currently enrolled students need to make arrangements for accommodations as soon as they have pre-registered for a semester.

Services for Off-Campus Students. In addition to serving the needs of individual off-campus students, the Campus Information Center promotes University awareness of off-campus students’ concerns and provides a wide range of programming and information on general subjects, such as personal safety. More specific assistance for off-campus students is available from Services for Off-Campus Students located behind the Campus Information Center in the Webb Center Lobby.

Because off-campus concerns can interfere with the commuter student’s ability to participate in the learning opportunities of the University, the Campus Information Center provides information and assistance in a number of critical areas, including the following: transportation information and ride-share system, off-campus housing listings, legal referrals, child care referrals, Commuter Involvement Program, Good Morning Commuters, and the Car Assistance Program. Students can also visit the off-campus housing web site at web.odu.edu/offcampushousing.

Center for Major Exploration (CME). The purpose of CME is to assist students who are undecided on a major upon entry to the University or who become undecided at some point during their college career after exploring a prior choice. This assistance is provided through individual advising and major/career counseling. The staff works closely with advising students in developing and evaluating their academic and career plans and providing services to enhance students’ academic and future career success. CME staff work together with staff in the Career Management Center to offer additional programs and services throughout the year addressing a variety of topics related to academic success, choosing a major and career development. One-credit University Orientation and Major and Career Exploration courses are offered to assist students. CME advisors also provide information for students regarding academic policies and procedures and other student service and administrative offices of the University. The Center for Major Exploration is located in 1504, first floor North Mall of Webb Center; the phone number is 683-3699; http://web.odu.edu/advising.

Counseling Services. The primary purpose of Counseling Services is to assist students with the transitions and changes they encounter during their college years. The staff helps students to better understand themselves and their potentials and to enhance problem-solving skills. The staff also lends support and assistance during times of crisis.

Counseling Services offers personal assessment, short-term individual and small group counseling, crisis intervention, referral for psychiatric services or long-term counseling focused on solving problems, and a variety of educational programs that promote personal, academic and career development. Consultation services are also available to student organizations, faculty and staff.

For more information, come to 1526, first floor North Mall of Webb Center or phone 683-4401; http://web.odu.edu/~counsel.

International Students. More than 1,150 international students are enrolled at the University. More than 100 foreign countries are represented in the University community. The University highly values these students and provides an extensive range of services and programs designed to meet their educational, cultural and social needs. In addition, there are several student organizations with special emphasis on international interests which encourage interaction between Americans and international students. As a result, these students are given many opportunities to actively participate in all facets of University life and to share their culture with the University community.

Women’s Center. Serving the Old Dominion University Campus since 1976, the Women’s Center offers programs and services to address the special challenges and opportunities women students encounter related to their personal and academic success. Also, recognizing the critical role that both women and men play in creating a world that is free of gender bias, the Center’s goals include promoting healthy relationships and a safe and equitable learning environment that is free of barriers to all persons. Center services seek to empower all students to achieve their personal, academic and professional potential. In addition: A.F.E., Sexual Assault Prevention; Free Environmen...
Student Disciplinary Policies and Procedures

I. Preamble
Students are expected and required to assume the responsibility for their own behavior and to abide by the laws of the Commonwealth of Virginia and the rules and regulations of Old Dominion University. A student who violates the following general standards of conduct may be subject to administrative actions (as defined in Section III-G), or to one or more disciplinary sanctions (as defined in section VII), whether or not civil authorities choose to prosecute.

II. Authority
Old Dominion University is governed by its Board of Visitors and supported by the Commonwealth of Virginia. The Board is specifically authorized to regulate student conduct by state statute.

III. Definitions
As used in this document, the following terms shall have the meanings ascribed to them as follows:
A. Vice president for student affairs: The University official who has primary responsibility for the administration of all student discipline. He/she exercises final decision-making authority for cases which have been heard by the Student Conduct Committee. The vice president may delegate all or part of this responsibility to such other persons as he/she deems appropriate.
B. Code of Student Conduct: The statement of rules and regulations governing student conduct as established by the Board of Visitors and contained in Section V herein.
C. Chair: The head of the Student Conduct Committee and presiding officer at Student Conduct Committee hearings; a vice chair shall assume the duties of chair, when the chair is unavailable.
D. Student: A person who (1) has been admitted to or has enrolled or intends to enroll at the University, and (2) has not completed a program of study for which he/she was enrolled. Student status continues whether or not the University’s academic programs are in session.
E. The Student Conduct Committee: A faculty/student judicial body authorized to hear and adjudicate alleged violations of the Code of Student Conduct.
F. Plagiarism: A student will have committed plagiarism if he or she reproduces someone else’s work without acknowledging its source; or if a source is cited which the student has not cited or used. Examples of plagiarism include: submitting a research paper obtained from a commercial research service, the Internet, or from another student as if it were original work; making simple changes to borrowed materials while leaving the organization, content, or phraseology intact; or copying material from a source, supplying proper documentation, but leaving out quotation marks. Plagiarism also occurs in a group project if one or more of the members of the group does none of the group’s work and participates in none of the group’s activities, but attempts to take credit for the work of the group.
G. Administrative Action: The issuance of an oral or written warning, admonition, reprimand, and/or use of counseling procedures.
H. University Hearing Officer: The University official or officials assigned by the vice president for student affairs to conduct disciplinary proceedings and administrative action.
I. Disciplinary Proceedings: Those proceedings initiated by a notice of charges and governed by the provisions of Section VIII. The term Disciplinary Proceedings does not include Administrative Action.
J. Honor Council: A student organization which educates members of the academic community about the University’s standards of academic integrity. The Council also monitors student adherence to these standards, and provides panel members to serve on the Student Conduct Committee.

IV. Honor Code
“We, the students of Old Dominion University, aspire to be honest and forthright in our academic endeavors. Therefore, we will practice honesty and integrity and be guided by the tenets of the Monarch Creed. We will meet the challenge to be beyond reproach in our actions and our words. We will conduct ourselves in a manner that commands the dignity and respect that we also give to others.”

V. Code of Student Conduct
University students shall conduct themselves in a manner compatible with the University’s educational mission and shall be disciplined only for misconduct adversely affecting that mission. Any student who conspires to commit, or who participates in an action that results in a violation of the Code of Student Conduct, shall be held by the acts of every person participating in such an action and shall be disciplined accordingly. Specifically, students are subject to disciplinary action for the following:
A. Academic dishonesty, including but not limited to plagiarism and all forms of academic cheating, and failure to report known violations of the honor pledge;
B. Forgery, alteration, or misuse of University or other official documents, records, or identification;
C. Knowingly furnishing false information to the University;
D. Obstruction or disruption of University operations;
E. Obstruction or disruption of University-authorized activities;
F. Physical or violent verbal abuse of any person on property owned or controlled by the University, or at functions sponsored or supervised by the University;
G. Conduct that threatens or endangers the health or safety of any person, including oneself, on property owned or controlled by the University or at functions sponsored or supervised by the University;
H. Theft or damage to University property;
I. Theft of or intentional damage to private property on premises owned or controlled by the University;
J. Unauthorized entry of University facilities or property;
K. Unauthorized access, use or misuse of University property including, but not limited to: attempting to leave the library with materials which have not been properly borrowed; unauthorized use or misuse of computer equipment, computer accounts, computer software and hardware; or misuse of University telephones;
L. Violation of University regulations or campus policies approved by either the Board of Visitors or the president and described in official University publications, e.g., Old Dominion University Catalog, Student Handbook, TELETECHNET Student Handbook;
M. Use or possession of alcohol, marijuana, narcotics, illicit drugs, or drug paraphernalia (except as expressly permitted by law or University regulations) on property owned or controlled by the University;
N. The sale or distribution of marijuana, narcotics, or dangerous drugs (except as expressly permitted by law) on property owned or controlled by the University or at functions sponsored or supervised by the University;
O. Violation of University residence hall policies (consult the Residence Hall Handbook);
P. Lewd, indecent, or obscene displays of conduct on property owned or controlled by the University or at functions sponsored or supervised by the University or University-related organizations;
Q. Drunken or disorderly behavior on property owned or controlled by the University or at functions sponsored or supervised by the University or University-related organizations;
R. Intimidating behavior directed toward any student, faculty member, staff member, or administrator;
S. Failure to comply with the directions of a University official acting in the performance of his or her duties;
T. Violation of the University’s firearms policy;
U. Circulating a report or warning that property under University control or supervision may be subject to a bombing, fire, crime, emergency, or other catastrophe, knowing that the report or warning is false;
V. Tampering with safety equipment or the inappropriate use or possession of safety equipment on property owned or controlled by the University;
W. Giving false testimony or evidence at any official University hearing or to any University official;
X. Conduct deemed unlawful by the criminal statutes of the Commonwealth of Virginia or the United States of America and conduct that endangers or threatens the security of the University community;
Y. Violations of the conditions of a sanction imposed through University disciplinary procedures;
Z. Violation of the University’s sexual assault policy;
VI. Violations of Residence Hall Rules and Regulations

AA. The unreasonable use of complimentary materials and/or supplies provided for the benefit or consumption of the University community;

AB. Retaliation.

VI. Sanctions

A. Restitution
   Restitution may include payment for damage to University property or facilities, payment for damage to the property or person of a member of the University community, and repayment of misappropriated or misused University funds.

B. Disciplinary Probation
   Disciplinary probation is a period of fixed duration during which the fitness of a student to continue at the University is evaluated. Disciplinary probation serves as a warning to the student that future violations of the Code of Student Conduct may result in more serious sanctions including suspension or dismissal. Disciplinary probation may include mandatory conditions such as the following by way of illustration:
   • Exclusion from privileged or extracurricular activities at the University;
   • Suspension of residence privileges in property owned or controlled by the University;
   • Mandatory participation in classes, and/or other lawful activities deemed appropriate, as a means of rehabilitating the student found in violation of the Code of Student Conduct.
   • A fine of an amount specified by the hearing officer or Student Conduct Committee and approved by the vice president for student affairs.

C. Disciplinary Suspension
   Disciplinary suspension is the temporary separation of a student from the University. In cases of disciplinary suspension, tuition refunds will be evaluated in accordance with the Tuition Refund Policy as outlined in the Old Dominion University Catalog.

D. Disciplinary Dismissal
   Disciplinary dismissal is the permanent separation of a student from the University. In cases of disciplinary dismissal, tuition refunds will be evaluated in accordance with the Tuition Refund Policy as outlined in the Old Dominion University Catalog.

E. Summary Disciplinary Dismissal
   Summary disciplinary dismissal is the immediate separation of a student from the University and is authorized by the vice president or a designated representative when the continued presence of the student at the University constitutes a danger to the health, safety, or welfare of the University community. At the time a student is summarily dismissed, the student shall be informed of his or her right to a hearing in accordance with the procedures contained in the Student Disciplinary Policies and Procedures. Such hearing shall be held without undue delay and the student shall remain dismissed until the hearing determines the student’s status.

F. Minimum Sanctions for Alcohol Violations
   First Offense: Probation for one year, $50.00 fine, mandatory workshop, parental notification for underage offenses.
   Second Offense: Probation for an additional year, $100.00 fine, additional workshop and/or counseling, parental notification.
   Third Offense: Suspension for one semester, parental notification.

G. Minimum Sanctions for Illegal Drug Violations
   First Offense: Dismissal from University housing and disciplinary probation for one year; $50.00 fine, mandatory workshop and parental notification.
   Second Offense: Disciplinary suspension.
   Persons found to be involved in the sale of illegal drugs will be subject to permanent dismissal from the University.

VIII. Disciplinary Procedures

A. Administrative Action Proceedings
   Administrative action proceedings are informal investigations conducted by a University hearing officer for alleged violations of University regulations by a student or a student organization. The hearing officer may take administrative action without instituting disciplinary proceedings, and such action shall be final and not subject to further hearing or appeal. A disciplinary penalty may not be imposed without first instituting disciplinary proceedings pursuant to disciplinary procedures.

B. Academic Dishonesty Procedures
   1. Faculty members should clearly identify course specific standards which interpret University, college, and departmental policies related to academic integrity. These explanations should appear in the course syllabus and in all other explanations of course requirements. Faculty should require the inclusion of the honor pledge on all academic work submitted for grading.
   2. Faculty members who discover evidence of academic dishonesty may arrange to meet with the student(s) suspected of the alleged infraction or forward the case to the vice president for student affairs. At any time faculty members may choose to consult with the vice president for student affairs or the Office of Student Judicial Affairs.
   3. If the student(s) acknowledge(s) the act of academic dishonesty, and the faculty member is satisfied that the incident can be effectively resolved with a grade sanction:
      a. The faculty member will assign either an F in the course, or an F for the assignment or exam during which the cheating occurred.
      b. The faculty member will forward a written summary of the incident to the Office of Student Judicial Affairs.
      c. The hearing officer will contact the student to arrange a conference to review the Standards of Conduct related to academic dishonesty.
      d. If the student is currently on disciplinary probation, the student will be placed on disciplinary probation for one calendar year.
      e. In cases where misconduct is the result of abuse of alcohol or other drugs, mandatory alcohol or drug education may be a required condition of the probation.
      f. If the student is currently on disciplinary probation, or if the student has previously acknowledged an act of academic dishonesty and received a grade sanction as a result, disciplinary proceedings will be instituted to determine the appropriate disciplinary sanction. Such sanction may include suspension or dismissal from the University.
   4. All official disciplinary sanctions, including grade sanctions, which are assigned to a student as a result of an act of academic dishonesty, will be recorded on the student’s official University transcript.
   5. In the case of disciplinary sanction of probation assigned for Academic Dishonesty, a student will be given the option to petition the vice president for student affairs to have the “Academic Dishonesty” notation removed from his/her transcript if:
      a. A minimum of one year has elapsed since the sanction was imposed; and
      b. the student has successfully completed the University’s “Academic Integrity Matters” Seminar; and
      c. the student has not been found in violation of other Honor Code infractions during the student’s tenure at the University; and
      d. there is evidence that the academic dishonesty was not a premeditated act.
2. Students may not utilize the grade forgiveness policy to retake the class in which the academic dishonesty occurred.

3. The vice president for student affairs will notify the petitioner of his/her decision within three weeks of the receipt of the petition.

4. If the student denies the allegation of academic dishonesty, or if a faculty member believes the严重 of the incident may warrant a sanction more severe than disciplinary probation:
   a. The faculty member will forward a written summary of the incident to the University hearing officer. The summary must contain copies of all evidence including the names of any known witnesses to the alleged act of academic dishonesty.
   b. The University hearing officer will institute formal Disciplinary Proceedings.
   c. No grade penalty should be assigned by the instructor until the case is finally resolved, including the processes of hearing the student’s appeal, if any. If the charges cannot be resolved prior to the end of semester, a grade of “I” should be assigned by the instructor.
   d. The faculty member will be notified of the final outcome in order that the appropriate grade may be assigned.

5. Students may file a grade appeal if a grade penalty for alleged academic dishonesty violation occurs without proper adherence to the above procedures.

C. Institution of Disciplinary Proceedings

Disciplinary charges brought against a student or a recognized student organization shall be adjudicated in the following manner:

1. Upon written notice of an alleged violation of the Code of Student Conduct disciplinary proceedings shall be instituted by the vice president for student affairs or University hearing officer by the issuance of notice of charges. The written notice of complaint may be initiated by faculty, staff, students or through a campus police summons.

2. The accused student will be informed of the alleged violation(s) in writing. The vice president will normally forward relevant evidence to a pre-hearing officer who will promptly schedule a pre-hearing conference with the accused student. Appropriate arrangements will be made for students at distance sites. The vice president may choose to bypass the pre-hearing and forward a case directly to a University hearing officer for the initial hearing. During the pre-hearing conference, the accused student will have the opportunity to discuss and review all evidence as well as ask questions about the charges and the options available for resolution. During this conference the student will be presented with the following options:
   a. To plead in violation to the charges, waive all rights to a formal hearing and appeal and accept a sanction imposed by the hearing officer;
   b. To request a formal hearing with the right to appeal.

3. Students who fail to attend the pre-hearing conference will be considered in violation of the charges and an appropriate sanction will be imposed. Students who fail to attend a formal hearing will forfeit their right to appeal.

D. Formal Hearing Procedures

1. Rights of the Accused Student:
   a. To be present at the hearing and hear all testimony presented. If a student, who has been properly notified, fails to appear at the scheduled date, time and place for the hearing, the panel may hear the case and make its findings in the student’s absence;
   b. To examine, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
   c. To be provided, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
   d. To question witnesses in accordance with the rules;
   e. To present evidence in accordance with the rules;
   f. To remain silent at the hearing.

2. The notice of charges and all other written notices shall be delivered by the method deemed most effective by the hearing officer to the student’s or organization’s address or e-mail address as it then appears on the official records of the University. If the address is not current, other reasonable attempts will be made to deliver the notice. The notice shall include the portion of the Code of Student Conduct allegedly violated; the reported circumstances of the alleged violation; and request the student or organizational representative to appear/participate at a specified time, date and place for a hearing. Other appropriate arrangements will be made for students at distance sites. Failure to have a current address on record with the University or failure to read e-mail sent to the student’s University e-mail address shall not invalidate the notice. If the notice is for a formal hearing, a copy of all evidence available at the time of the notice will accompany the notice as well as names of potential witnesses. The accused student will have the opportunity to review all evidence as well as ask questions about the procedures. A copy of these regulations shall accompany each notice of charges. A copy of the notice of charges may be sent to the parent or guardian of a student if the student is dependent as defined in Section 152 of the Internal Revenue Code of 1954.

3. If the notice of charges requests the appearance/participation of the accused at a hearing, and if the accused fails or refuses to appear/participate, the University hearing officer may, after such investigation that is deemed sufficient: dismiss the charges; take administrative action; or impose a disciplinary penalty.

4. Requests for continuance must be timely and made by the student in writing to the hearing officer, who may reschedule the hearing if the request is timely and for good cause. If the hearing officer takes administrative action, the accused student or organization shall be notified in writing of such action and such action shall be subject to further hearing or appeal. If the hearing officer imposes a disciplinary sanction, the student or organization representative shall be notified in writing of such action. Appeals to disciplinary sanctions imposed at a hearing held in the absence of the accused student or organizational representative shall follow the procedures outlined in the disciplinary procedures.

5. When an accused student or organizational representative appears in response to the notice of charges, the hearing officer shall review the facts of the alleged violations, and the names of witnesses then known to the hearing officer. The student or organizational representative shall be advised that no response is required and that any statement made shall become a part of the official evidence of the case. The accused may advise the hearing officer of any witnesses or evidence supporting the accused’s position. The hearing officer shall also advise the accused that if any new evidence is discovered during an investigation subsequent to the hearing, it will be shared with the accused. The accused will have an opportunity to respond to the evidence. In certain cases an advisor may assist the hearing officer.

6. After the hearing with the student or organizational representative and such further investigation as the hearing officer deems necessary, the hearing officer shall proceed as follows: 1) If the hearing officer determines that the alleged violation is not supported by the evidence, the charges shall be dismissed and the accused student so notified. 2) If the hearing officer is satisfied that the violation occurred as alleged, but that no disciplinary sanction should be imposed, the hearing officer may levy administrative action and notify the student accordingly. 3) If the hearing officer is satisfied that the violation occurred as alleged and that a disciplinary penalty should be imposed, the hearing officer shall so notify the accused student or organizational representative, describing the sanction which the hearing officer will impose.

7. The accused may accept the decision and sanction(s) proposed by the hearing officer and waive his/her right to any further hearing or appeal. Or, the accused may reject the decision of the hearing officer and request an appeal hearing before the Student Conduct Committee. Faculty and other staff who have been involved in the hearing will be notified that the hearing has concluded and provided with any recommendation resulting form the hearing that requires their attention.

8. Rules of Procedure:
   a. In cases involving more than one student, the hearing officer may consolidate the cases for hearing, but shall make separate findings for each accused student.
b. The accused student may have an adviser of the student’s choice present during the hearing. Generally, the adviser shall be present for consultation purposes only and shall not be permitted to speak on the student’s behalf. However, an adviser may be permitted to address the committee at the discretion of the hearing officer. If an accused student elects to be represented by a third party adviser, the accused must provide a signed letter designating that person as their official representative before the University can communicate otherwise privileged information to the adviser.

c. Rules of common courtesy and decency shall be observed.

d. The questioning of any person appearing before the hearing officer by any individual, including the accused, in any appeal shall not be in a badgering, unduly repetitious, or irrelevant manner. It shall be at the discretion of the hearing officer to curtail a participant’s further opportunity for questioning if such behavior occurs.

e. Any person may be dismissed from the hearing who interferes with or obstructs the hearing or who fails to abide by the rules of the hearing.

f. The hearing officer shall have the right to call additional witnesses, require the presentation of additional evidence, and require additional investigation.

g. A taped or stenographic record of a hearing shall be maintained. The notice, exhibits, taped or stenographic record shall become the record of the case and shall be filed in the Office of the Vice President for Student Affairs. This hearing record shall be retained for a period of no more than five years.

h. All hearings shall be closed.

E. Appeal Procedures

1. Only students who have attended and participated in their disciplinary hearing have the right to appeal the decision of the hearing officer. The appealing student may remain in class pending the outcome of an appeal. However, if the decision of the hearing officer is upheld, then sanction will be imposed as of the original date unless the appeal is filed within 10 days of the hearing.

2. An appeal to the Student Conduct Committee or the Hearing Officer shall consist of: faculty members appointed by the vice president from a list of nominees submitted by the Student Government Association or from a list of faculty who have previously served; students appointed by the vice president from a list of nominees submitted by the Student Conduct Committee of the new date for the hearing.

3. A continuance of the hearing date may be requested by either the accused student or the hearing officer. Such an appeal must be made in writing and submitted to the Student Conduct Committee at least 72 hours before the originally scheduled date and time.

4. The format for the hearing shall be as follows: The chair shall call the hearing to order, read the notice of hearing, and inform the parties of the time and place of the hearing. The hearing panel may hear any evidence and question any witness in accordance with the procedures to be used during the hearing, and permit the student to introduce any evidence and witnesses relevant to the appeal.

F. The Student Conduct Committee

The Student Conduct Committee is the appellate body within the University disciplinary system. It shall hear all appeals of disciplinary sanctions imposed by a hearing officer. It shall consist of: faculty members appointed by the vice president from a list of nominees submitted by the Faculty Senate or from a list of faculty who have previously served; students appointed by the vice president from a list of nominees submitted by the Student Government Association or from a list of students who have previously served; and a chair from the faculty appointed by the vice president. Student nominees should consist primarily of members of the Honor Council. The term of office for these positions shall be one year and shall be renewable.

In order to provide for the prompt consideration and disposition of all cases, appeal hearings shall be conducted according to the following procedures:

1. The vice president shall initiate a Student Conduct Committee appeal hearing by notifying the chair of the need for a hearing and advising the accused of a proposed hearing date. Upon receiving such notice, the chair shall designate two faculty members plus one alternate and two student members plus one alternate of the Student Conduct Committee to serve with the chair on a hearing panel. The chair will preside, but will not vote, except in the event of a tie.

2. The vice president shall provide written notice to the student who filed the appeal, including the time, and place of the hearing. This written notice will contain a statement of the grounds for appeal to be considered by the committee, the names of witnesses the hearing officer will call to the hearing, and a statement of procedural protection afforded the student as described in section VIII.D.8. This notice shall be delivered, by the most effective means available as determined by the vice president, to the student’s address currently on record with the University. If the student’s address is not current, other reasonable attempts will be made to deliver the notice. Failure of the student to have a current address on record with the University shall not invalidate the notice. The notice shall be given (e.g. mailed or delivered) at least seven consecutive days before the hearing date, unless the hearing officer, for good cause, shall set a shorter time. If a student who has been properly notified fails to appear at the hearing at the scheduled date, time, and place, the hearing panel may hear the evidence and make its findings in the student’s absence.

3. A continuance of the hearing date may be requested by either the accused student or the hearing officer. Such requests must be timely and made in writing to the chair, who shall have the authority to reschedule the hearing if the request is timely and for good cause. Usually, only one such continuance is granted to each of the parties. If a continuance is granted, the chair shall notify both the student and the Student Conduct Committee of the new date for the hearing.

4. The format for the hearing shall be as follows: The chair shall call the hearing to order, call the roll of the panel in attendance, and the presence or absence of the student. The chair shall read the notice of hearing, verify the notice of charges given to the student, report any continuances granted, establish the presence of any adviser for the student, call to the attention of the student any special or unusual procedures to be used during the hearing, and permit the student to state the grounds for the appeal. The Student Conduct Committee shall then determine whether an appeal is substantiated. Ordinarily, the hearing officer has introduced and questioned a witness, the witness may then be questioned by the panel members and the accused student, respectively. The accused student shall then have the opportunity to introduce any evidence and witnesses relevant to the grounds for appeal. After the accused student has questioned such a witness, the witness may then be questioned by the panel members and the hearing officer. At the conclusion of the presentation of evidence, the hearing officer and the accused student shall have the opportunity to make summary statements pertaining to the appeal. The chair shall rule on the relevance of evidence and testimony, if necessary.

5. At the conclusion of the summary statements, the hearing panel shall recess the hearing and meet in executive session (out of the hearing) to determine its findings. The panel shall either recommend upholding the findings of the hearing officer or recommend that the decision of the hearing officer be overturned. If the panel recommends that the hearing officer’s decision be overturned, the panel...
shall recommend either a different finding and/or sanction to the vice president. There shall be no findings to uphold unless a majority of the hearing panel agree that a preponderance of the evidence presented supports the decision of the hearing officer. All hearing panel members are expected to cast a vote. The chair shall not be entitled to vote, except in the case of a tie vote.

6. Upon making its decision, the Student Conduct Committee will so advise the vice president for student affairs in writing within five business days after the date of the appeal hearing. The vice president will review the student’s appeal and the recommendations of the Student Conduct Committee.

The vice president shall examine the record of the case and any additional evidence provided. The vice president may interview new witnesses to the case, or engage in whatever investigation he/she deems appropriate to fully hear the student’s appeal. The vice president shall consider the recommendations of the Student Conduct Committee and may accept or reverse the finding by reducing or increasing the sanctions imposed by the hearing officer.

Within seven working days after receiving the recommendation of the Student Conduct Committee, the vice president will advise the accused student of his/her decision concerning the final disposition of the case. The decision of the vice president is final.

7. Rules of Procedure in Appeal Hearings:
   a. In cases involving more than one student, the vice president for student affairs may consolidate the cases for hearing, but the committee shall make separate recommendations for each accused student.
   b. The appealing student may have an adviser of the student’s choice present during the hearing. Generally, the adviser shall be present for consultation purposes only and shall not be permitted to speak on the student’s behalf. However, an adviser may be permitted to address the committee at the discretion of the chair. If an accused student elects to be represented by a third party adviser, the accused must provide a signed letter designating that person as their official representative before the University can communicate to the adviser otherwise privileged information.
   c. Rules of common courtesy and decency shall be observed.
   d. The questioning of any person appearing before the hearing panel by any individual participating in a hearing shall not be in a badgering, unduly repetitious, or irrelevant manner. It shall be at the discretion of the chair to curtail a participant’s further opportunity for questioning if such behavior occurs.
   e. Any person may be dismissed from the hearing who interferes with or obstructs the hearing or who fails to abide by the rulings of the chair.
   f. The chair shall have the right to call additional witnesses, require the presentation of additional evidence, and require additional investigation.
   g. A taped or stenographic record of a hearing shall be maintained. The notice, exhibits, taped or stenographic record, and vote of the panel shall become the record of the case and shall be filed in the Office of the Vice President for Student Affairs. This hearing record shall be retained for a period of ten years.
   h. All hearings shall be closed.

8. The accused is entitled:
   a. To be present at the hearing and hear all testimony presented. If a student, who has been properly notified, fails to appear at the scheduled date, time, and place for the hearing, the panel may hear the case and make its findings in the student’s absence;
   b. To examine, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
   c. To be provided, prior to the hearing, with the names of witnesses whom the University hearing officer has asked to appear at the hearing;
   d. To question witnesses in accordance with the rules;
   e. To present evidence in accordance with the rules;
   f. To remain silent during the hearing.

G. Additional Procedures in Cases of Sexual Assault
   1. The vice president for student affairs shall schedule special training for the Student Conduct Committee and the hearing officer(s) once each semester covering the University’s policies governing sexual assault, and the special needs of the accuser and the accused in these cases.
   2. Upon notification of an alleged violation, the accused shall not initiate any contact, directly or indirectly, with the accuser. Retaliation against the accuser or against any witness involved in the case by the accused or others acting on behalf of the accused shall be considered violation of the Code of Student Conduct.
   3. During a hearing, no evidence may be presented which pertains to the past sexual history of the accuser or of any witness.
   4. During a hearing, unrelated past sexual history of the accused may not be entered as evidence nor discussed in the hearing.
   5. The accused and accuser will be notified in writing of the outcome of Disciplinary Proceedings, any sanctions imposed and of the final action taken by the vice president on any appeal.
   6. In cases where a sanction of disciplinary suspension or dismissal is imposed, a notation of the sanction will be recorded on the student’s official University transcript.
   7. The accuser shall have the right to have an accompanying adviser throughout a hearing.
   8. The accuser shall be informed of all witnesses to be called, to the extent known, during a hearing.
   9. A hearing involving charges of sexual assault shall be closed.
   10. All proceedings in cases involving sexual assault will be treated confidentially, to the extent provided by law, and the identities of any involved party will not be disclosed to anyone not directly involved with the University’s disciplinary process.

H. Mediation Option
   Students seeking to file charges against another student that have arisen out of personal or group conflict may choose the mediation option instead of formal disciplinary proceedings. All parties to the conflict must agree in writing to have their dispute mediated.

   The University hearing officer may assist the student in determining if the concern should be mediated or handled through the student judicial system. Mediation is confidential and mediation agreements will be binding. Violation of such agreements may be referred to the student judicial process. The University hearing officer using trained mediators will schedule mediation sessions.

IX. Record Maintenance
   Disciplinary files will be maintained and destroyed in accordance with the Commonwealth of Virginia’s Records Retention and Disposition Schedule. All disciplinary case resolutions will be recorded in the student’s discipline file, which will be retained by the Office of Student Judicial Affairs for a period of five years with the following exceptions:
   A. In cases of disciplinary suspension and disciplinary dismissal the disciplinary file will be retained permanently by the Office of Student Judicial Affairs.
   B. Records of disciplinary probation (excluding academic dishonesty cases) will be retained for one year after the conclusion of the probationary period.

Student Records
   Student Record Policy. The University’s student record policy was formulated to protect the privacy of student information that the University maintains, and yet provide access to student records for those having legitimate purposes for viewing such records. Regulations and procedures to ensure adequate protection of the student are provided in this policy. The complete policy may be obtained from the Office of the University Registrar.
Sexual Harassment Policy and Procedures

I. Policy

A. Policy Statement and Responsibilities

1. Sexual harassment in any situation is reprehensible. It is the policy of Old Dominion University to provide students and employees with an environment for learning and working which is free of sexual harassment whether by members of the same sex or the opposite sex, which is prohibited by Title IX of the Education Amendments of 1972 and Title VII of the 1964 Civil Rights Act.

2. It is the responsibility of University administrators and supervisors to assure that effective measures are taken to implement the procedures outlined in this policy.

3. It is a violation of this policy for any member of the University community to seek gain, advancement, or consideration in return for sexual favors, or to make an intentionally false accusation of sexual harassment.

4. The University’s EO/AA director must be advised of all complaints of reported incidents of sexual harassment. The Office of EO/AA will monitor repeated complaints or reports within the same unit or against the same individual, where appropriately identified, to assure that such allegations are fairly and properly handled.

5. Any person who has been accused of sexual harassment, pursuant to the terms of this policy, who retaliate against his/her accuser in any manner, shall be charged with a violation of this policy which shall be treated as an independent and separate act of sexual harassment.

6. Any member of the University community who is found in violation of this policy will be subject to appropriate sanctions, which may include discharge, expulsion or debarment.

B. Policy Definitions

1. “Work” for the purposes of this policy, means employment-related activities carried out by University employees and University-sponsored activities carried out by volunteers.

2. “Member of the University community,” for purposes of this policy, means student or employee, or an alumnus, alumna, or volunteer involved in any University-sponsored activity.

C. Definition of Sexual Harassment

Sexual harassment is defined as unwelcomed and unsolicited conduct of a sexual nature, physical or verbal, by a member of the University community of the opposite sex, or the same sex, in an official University position when:

1. Another of the University community member’s submission to such conduct is made explicitly or implicitly a term or condition of the employee’s work performance or the student’s academic performance;

2. Another of the University community member’s submission to or rejection of such conduct is used as a basis for an employment decision or an academic evaluation; or

3. Such conduct is known or should have been known to interfere with such person’s work or academic performance, by creating an intimidating, hostile, or offensive working or educational environment.

A variety of sexual conduct directed at another University community member may be considered sexual harassment, including, but not limited to:

- offensive sexual innuendos, advances, propositions, threats, jokes, suggestive comments;
- graphic or degrading comments of a sexual nature about a person’s appearance, whistling in a suggestive manner, obscene gestures;
- unwanted physical contact or touching such as pinching or intentional brushing against the body;
- solicitation of sexual favors through implicit or explicit promises of rewards or threats of punishment.

D. Power Differential, Consent and Sexual Harassment

Consenting romantic and sexual relationships between faculty and student, or between supervisor and employee, while not expressly forbidden, are generally deemed very unwise. A faculty member who enters into a sexual relationship with a student (or a supervisor with an employee) where a professional power differential exists, must realize that, if a charge of sexual harassment is subsequently lodged, it will be exceedingly difficult to prove a defense on grounds of mutual consent.

If conduct of a sexual nature has occurred or is occurring in an apparently consensual romantic or sexual relationship, and, if a complaint of sexual harassment regarding such conduct is filed by the student against the faculty member or the teaching/lab assistant, or by the employee against the University official, then sexual harassment shall be rebuttably presumed in such cases, when:

1. The relationship is between a faculty member or teaching/lab assistant and a student and:
   a. The faculty member or teaching/lab assistant is in a position to determine the student’s grade or otherwise affect the student’s academic performance or advancement; and
   b. The relationship began after the faculty member or teaching assistant was in such a position, or

2. The relationship is between an employee and a University official who is in a position to supervise the employee or otherwise influence the conditions of the employee’s work and the relationship began after the supervisor was in such a position.

Sexual harassment is presumed under such circumstances because the power differential existing between the faculty member and student or the supervisor and employee may restrict the student or employee’s freedom to choose to enter into the relationship. In order to rebut the presumption of sexual harassment, the faculty member, teaching assistant, or other University employee or official who is charged with sexual harassment as a result of conduct occurring in a consensual relationship as described above must be prepared to prove, by a preponderance of the evidence, that the individual claiming sexual harassment entered into the relationship freely and voluntarily.

II. Committee on Sexual Harassment

A. The president will appoint a Committee on Sexual Harassment consisting of individuals with professional training and/or experience such as would qualify them to assist victims of sexual harassment and those accused of violating this policy. The chair of the committee shall be the University’s director of equal opportunity/affirmative action ("the EO/AA director"). The other members shall be as follows: two faculty members and staff members at large, a staff member from Counseling Services, a staff member from Student Health Services, and a staff member from the Women’s Center. Names of the members of the committee shall be publicized by the University.

III. Procedures for Enforcement of the Sexual Harassment Policy

Sexual harassment complaints can be made according to the procedures outlined below.

Members of the Sexual Harassment Committee shall assist members of the University community who are the object of sexual harassment, or who are accused of violating this policy. Committee members may also assist the EO/AA director in the informal mediation process by their direct involvement.

All student complaints of sexual harassment must be filed within two years from the date the alleged harassment occurred. Complaints by other members of the University community must be made within 120 days from the date the alleged harassment occurred.

A. STEP I

1. Any individual in the University community who believes she or he has experienced sexual harassment as defined in this policy should contact the EO/AA director or a member of the University Committee on Sexual Harassment.

2. The complainant may elect an informal process to mediate the complaint. This process provides an opportunity for the complainant and the accused to resolve the problem in an informal manner, without the necessity of disciplinary action or of the more formal procedures for processing a complaint.

3. The complainant may elect to file a formal complaint. The complainant shall explain, in writing, the nature of the harassment and indicate what remedy she or he seeks. The EO/AA director shall forward a copy of the complaint to the complainant and indicate what remedy she or he seeks. The complainant shall explain, in writing, the nature of the harassment and indicate what remedy she or he seeks. The EO/AA director shall forward a copy of the complaint to the complainant and indicate what remedy she or he seeks.
B. STEP II

1. Upon conclusion of the administrative review, if the complaint is unresolved and the complainant desires to proceed with the charge, the record of the complaint shall be provided to the chair of the appropriate administrative tribunal listed below.

2. Members of the Committee on Sexual Harassment may advise the complainant and the accused by clarifying and explaining procedures, and promoting an equitable resolution for all parties.

3. The imposition of sanctions shall occur in accordance with the appropriate University complaint procedures, and promoting an equitable resolution for all parties.

4. A complaint of sexual harassment may be pursued in accordance with the appropriate University complaint resolution procedure:

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IV. Sexual Harassment Committee

ReNeel S. Dunman, Chair, Director, Equal Opportunity/Affirmative Action
Shirley Blow-Brockman, Lecturer, Academic Skills
Rudolph Burwell, Assistant Chief, Public Safety
Julie L. Dodd, Director, Women’s Center
Luisa M. Iglesia, Associate Professor, English
Brian Payne, Professor, Sociology and Criminal Justice
Lenora H. Thompson, Psychologist, Counseling Services
Kathy Williamson, Employee Relations Manager, Human Resources
Barbara A. Winstead, Chair, Psychology
Michael T. Zugelder, Associate Professor, Finance

Old Dominion University Discrimination Complaint Procedure

I. Purpose and Scope of the Procedure

A. Purpose

The purpose of the Discrimination Complaint Procedure (“the Procedure”) is to promote equal employment, equal educational, and social opportunities for Old Dominion University employees and students by providing a means for the internal resolution of complaints of discrimination on the basis of gender, race, color, religion, national origin, age, disability, veteran status, sexual orientation or political affiliation.

B. Use of the Procedure

The Procedure may be used by any full- or part-time employee or student of Old Dominion University, who believes that he or she has a discrimination complaint as defined in the Procedures except as follows:

1. A student disciplinary action which must be appealed as described in the University’s Student Disciplinary Policies and Procedures; and

2. The imposition of a faculty sanction, the termination of a faculty member for financial reasons, and a decision concerning the award of tenure to a faculty member, all of which may be reviewed only as described in the specifically applicable faculty personnel policies and procedures contained in the University’s Faculty Handbook.

C. Use of Administrative Review Procedures

An employee or student must complete any existing administrative review procedures for review of an action about which the employee or student wishes to complain prior to filing a complaint under this procedure.

D. Use of Other Discrimination Complaint or Grievance Procedures

This Procedure is not to be used in addition to other internal discrimination complaint or grievance procedures which may be available to the employee or student who has a discrimination complaint. For example:

1. an employee covered under the Virginia Personnel Act who chooses to complain about an action through the grievance procedure described in the Virginia Personnel Act must raise a complaint of discrimination in his or her grievance; 2. a faculty member who chooses to complain about an action through the grievance procedure provided in the Faculty Handbook must raise a
complaint of discrimination in his or her grievance; or 3) a student who chooses to complain about an action through any existing student grievance procedure must raise a complaint of discrimination in his or her grievance.

E. Use of External Discrimination Complaint Procedures
   This Procedure affords a means for the internal resolution of discrimination complaints, and is not intended to be used in conjunction with external (i.e., State or Federal) discrimination complaint procedures. Therefore, this Procedure is not available to an employee or student who has filed a complaint with the Commonwealth of Virginia Department of Human Resource Management or with the U.S. Equal Employment Opportunity Commission. Any complaint pending under this Procedure will be dismissed upon notice to the University that a federal or state complaint has been filed.

II. Definitions
   For the purposes of the Procedure, the following terms have the meanings ascribed to them as follows:
   A. Discrimination Complaint: A discrimination complaint is a written statement by an individual that he or she has suffered direct injury as a result of an action by a University official or employee which is intended on the basis of gender, race, color, religion, national origin, age, disability, veteran status, sexual orientation, or political affiliation.
   B. Complainant: The individual who files a discrimination complaint.
   C. Respondent: The University official or employee named in the discrimination complaint as having taken the action, which is the basis for the complaint.
   D. Director: The EO/AA director or the director’s designated representative.

III. Administration of the Procedure
   A. Responsibility for Administration
      The Procedure will be administered by the director and all records resulting from a complainant’s use of the Procedure will be maintained by the director. The director establishes and interprets the Procedure, assures compliance with the Procedure as it relates to employees and students, and is responsible for providing information to employees and students concerning the availability and operation of the Procedure.
   B. Time Periods
      1. With the exception of the time period described in paragraph V (B), designated vacation days of the University and days between the end of one University semester or summer session and the beginning of the next semester or summer shall not be included in the time periods described herein.
      2. If, under the Procedure, a time period begins upon a party’s receipt of notice, the time period will commence upon actual receipt of notice by the party or three (3) days after the notice was sent by certified mail to the last address shown on University records for that party.

IV. Informal Procedure
   A. Informal Discussion
      The director shall encourage an employee or student who has a complaint of alleged discrimination to discuss the complaint with the individual who took the action, which is the basis for the complaint. The Director may be present during such discussions if either party requests such.
   B. Informal Resolution
      Both parties to the complaint shall attempt to effect a resolution of the complaint through informal discussions.

V. Formal Procedure
   A. Discrimination Complaint
      An employee or student who has a complaint of illegal discrimination may initiate formally this discrimination complaint procedure by filing a written statement with the EO/AA Office. The written statement must include the following:
      1. a description of the action upon which the complaint is based;
      2. the date of the action or in the case of an action which was reviewed administratively, the date of the final administrative decision below the level of the president;
      3. the name of the respondent, that is, the name of the University employee who took the action or, in the case of an action which was reviewed administratively, the name of the University official who made the final administrative decision, below the level of the president, in the review process;
      4. the nature of the alleged discrimination;
      5. whether the complainant has informally discussed the matter with the respondent and, if so, the results of those discussions; and
      6. whether the complainant has pursued the complaint through administrative review procedures, and, if so, a description of those procedures and the results.

B. Time for Filing a Complaint
   The written statement must be filed within one hundred twenty (120) calendar days of the date upon which either the action described in the complaint occurred or the final decision was made after an administrative review of the action, whichever was later.

C. Response to the Complaint
   If the director determines that the written statement is complete and is a timely filed discrimination complaint, the director will notify the supervisor of the respondent. The respondent may respond in writing to the discrimination complaint; however, the respondent’s written response must be received by the director within ten (10) days of the respondent’s receipt of notice of the complaint. In the written response, the respondent may ask for an opportunity to resolve the complaint through discussions. If the respondent should ask for an opportunity to discuss the matter, the director will take no further action on the complaint for a period of ten (10) days from the date of the director’s receipt of the written response so as to provide that opportunity.

D. Procedure for Investigating a Complaint
   1. If the complaint is not resolved informally, the director will provide both parties with a reasonable time to choose whether to have an investigation made by the director or by a panel.
   2. If either party should choose to have an investigation made by a panel, the discrimination complaint will be investigated by a panel.
   3. If neither of the parties chooses to have the complaint investigated by a panel, the director will investigate the complaint. The director’s investigation will commence within five (5) days of the director’s receipt of notice of the election made by the parties or within five (5) days of the end of the period for making such an election, whichever is earlier. During the investigation, the director will, at a minimum:
      a. provide an opportunity to both the complainant and the respondent to meet with the director and discuss the complaint;
      b. attempt to interview all individuals whom the parties have identified as having pertinent information; and
      c. review all documents provided by the parties.
   The director may interview also other individuals whom, in the director’s judgement, have pertinent information and may review also other documents which, in the director’s judgment, are relevant to the investigation of the complaint. The director will make a taped recording of all interviews. The director will conduct the investigation expeditiously and, upon conclusion of the investigation, will make a finding and recommendation as described in paragraph 6.
   4. If either party chooses to have the investigation made by a panel, the panel will be composed of three members from the University’s EO/AA Committee as follows:
      a. One member of the panel will be selected by the complainant and one member by the respondent. Neither of the individuals so selected may have had prior involvement in the action, which is the basis for the complaint. If either party chooses an individual with such prior involvement, that party will be given an opportunity to select another individual to serve on the panel.
      b. The third member of the panel and its chair will be the EO/AA director.
      c. A party whose initial selection is disqualified will be given three (3) days within which to select a replacement and to advise the director accordingly.
      d. If either party fails to select a panel member within the time period set by the director, the director will choose the panel member for that party.
5. The panel’s investigation will commence within ten days of the panel’s selection. The investigation will proceed as follows:
   a. The panel will hear a presentation by the complainant, during which the complainant will present his or her claim, pertinent witnesses and relevant documents.
   b. The panel will then hear a presentation by the respondent during which the respondent will present his or her response to the complaint, pertinent witnesses and relevant documents.
   c. A party may be present during the other party’s presentation but witnesses will be present only while making statements to the panel.
   d. The panel members may question the parties and witnesses but must do so in a fair and objective manner.
   e. The panel members may request documents other than those presented by the parties and may interview pertinent witnesses other than those presented by the parties.
   f. The chair will set the date(s), time(s) and place(s) of the panel’s meeting(s) and will conduct the meeting(s). The chair may limit repetitive or irrelevant statements by the parties or by witnesses. The chair shall limit questioning by a panel member if that questioning becomes abusive, unfair, or repetitive. The chair may dismiss from a meeting any person, including a party, who becomes abusive or who obstructs or interferes with the meeting.
   g. The meeting(s) will be closed. Taped recording(s) of the meeting(s) will be made.
   h. Upon the conclusion of its investigation, the panel will meet to determine its finding and make its recommendation as described in paragraph 6 below. The panel’s finding and recommendations shall be determined by majority vote of the panel members.

6. Findings and recommendations of the director or panel shall be made as follows:
   a. Where the director or panel finds that there is not probable cause to believe that discrimination has occurred, the director or panel shall recommend that the complaint be dismissed.
   b. Where the director or panel finds that there is probable cause to believe that discrimination has occurred, the director or panel shall recommend a remedy, which the University’s president has the authority to provide.

The findings and recommendation of the director or the panel will be forwarded to the University’s president. The director, as chair of the panel, will communicate the decision of the panel to the president. Copies of the findings and recommendations will be sent to the complainant and the respondent. The taped record of the investigation and documents received during the investigation will be provided to the president with the director’s or panel’s decision.

E. Decision by the President

1. The president will make a final decision in the matter based upon the president’s review of the findings and recommendations of the director or panel. The president will notify the complainant and respondent of the president’s decision in writing within twenty-one (21) days of the president’s receipt of the findings and recommendations. If the president disagrees with the panel’s or director’s findings and recommendations, the statement of decision will include a statement of reasons for the decision. If the president decides to provide a remedy to the complainant, the statement will include a description of the remedy to be provided. The president’s decision is final.

2. When a remedy is provided by the president, the director will monitor implementation of that remedy.

VI. Assurance of Confidentiality and Retention of Records

A. The complaint and all records developed during the investigations of the complaint shall be considered confidential and shall not be released except as required by law or by the provisions of this Procedure.

B. The complaint and all records developed during the investigation of the complaint shall be retained for a period of two (2) years after the date of the president’s decision. Thereafter the records shall be destroyed unless state or federal action is pending.

VII. Further Review of the Complaint

After the president makes a decision, there is no further University review of the complaint. A dissatisfied complainant may file a complaint of discrimination with the Commonwealth of Virginia Department of Human Resource Management, the U.S. Equal Employment Opportunity Commission, or the U.S. Department of Education, Office for Civil Rights.

Accommodation of Students with Disabilities: Policy and Procedures

Old Dominion University is committed to achieving equal educational opportunity and full participation for persons with disabilities. It is the University’s policy that no qualified person be excluded from participation in any University program or activity, be denied the benefits of any University program or activity, or otherwise be subjected to discrimination with regard to any University program or activity. This policy derives from the University’s commitment to non-discrimination for all persons in employment, access to facilities, student programs, activities and services.

Disability Services shall oversee the assessment of student requests for accommodation and assistance and shall coordinate the development of the program among the student, faculty members, and department chairs. In addition, the office shall implement the University’s disability program for students and supervise the delivery of equipment and services.

The director of equal opportunity and affirmative action is the Section 504 Coordinator who will monitor the implementation of these guidelines. The provisions of services to students with documented disabilities at Old Dominion University are based on the principle of non-discrimination and accommodation in academic programs set forth in the implementing regulations for Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. These services will be provided within the basic guidelines to follow, with the understanding that students with disabilities may require unique accommodations and must have their needs assessed on a case-by-case basis. The provision of accommodations for students with documented disabilities need not guarantee them equal results or achievement; accommodations must only afford them an equal opportunity for achievement. Old Dominion University is committed to providing students with documented disabilities the same opportunity to achieve academic success as it provides for all students.

I. Definition of Those Qualified for Assistance

The appropriate recipient of accommodations is defined as one who has a physical or mental impairment, which substantially limits one or more major life activities, such as walking, seeing, hearing, speaking, performing manual tasks or learning. In addition, a person who has a history of such an impairment is qualified for assistance. With respect specifically to the post-secondary setting, such a person must be otherwise qualified under the academic standards requisite for admission in spite of the disability.

II. Recruitment

The Office of Admissions at Old Dominion University will make all reasonable effort to assure that all recruitment activities are made accessible to persons with documented disabilities. All schools hosting Old Dominion University recruitment activities will be encouraged to provide that such facilities are accessible so that interested persons with disabilities will not be excluded or denied participation. In keeping with this policy, Old Dominion University will provide, if given adequate advance notice, such services as interpreters, audio tapes or reader services at recruitment functions.

III. Admission to the University

A. General Admissions

The requirements for general admission for persons with disabilities are no different from those for other persons applying to Old Dominion University. The official application for general admission to the University will not ask for information concerning an applicant’s physical or mental disability. However, there are programs within the University which have technical standards that must be met. A prospective student may choose to self disclose in the admissions process.

B. Acceptance to Specific Programs

Each academic program has established technical standards that describe the skills the student must have or be able to acquire in order to meet curriculum requirements and to perform successfully in an academic program. The University is not required to make
major academic adjustments, fundamental changes, or substantially modify standards for acceptance into or completion of any academic program. Students with disabilities interested in applying for acceptance to a particular program should assure that they are aware of any applicable technical standards.

If a question arises about the qualifications of a student with a disability who wishes to be accepted in a particular degree program, the department chair shall have the responsibility of deciding whether or not the applicant will be accepted to the program. After having considered the requests for accommodation presented by the student, as well as the technical standards for the requested program, the department chair shall determine whether or not the student is otherwise qualified for acceptance to the program.

In making the determination, the department chair should consult with the student’s advisor and Disability Services. If after careful consideration, the department chair decides that the student is not otherwise qualified for acceptance to the program of study, the student will be advised of his or her academic options. The decision of the department chair may be appealed to the dean. The dean shall consult with the director of equal opportunity/affirmative action prior to deciding the appeal. The decision of the dean is final.

IV. Determination of Need for Reasonable Accommodations/ Academic Adjustments

Under Section 504, institutions are required to respond by making modifications in academic requirements as necessary to ensure that such requirements do not discriminate or have the effect of discriminating against a student with a disability.

The information sent to students upon acceptance to the University shall include a notice that it is the responsibility of students with a disability to contact Disability Services to arrange for accommodations. The information provided by the student in doing so will be kept confidential and shared only with those involved in arranging for accommodations.

Students who request reasonable accommodations must be prepared to provide documentation of the disability by a qualified professional, where appropriate, before accommodations will be implemented. Except under extraordinary circumstances, the documentation must be current, i.e., dated no more than three years prior to enrollment in the University.

Documentation must provide sufficient information to assist the institution in determining what difficulties the student would encounter in a normal learning environment. Although formats will vary, the following critical data should be included in any documentation in support of a request for accommodations:

1. The student’s name, the dates of examination or testing, the examiner’s name and credentials.
2. Identification of the problems or reasons for referral.
3. In cases of learning disability, a list of the tests administered, including the names of the tests, as well as the version used.
4. An analysis or interpretation of test results.
5. Diagnostic summary with a brief composite of the entire assessment process. The summary should address the concerns raised in the section on reasons for referral.
6. Recommendations of strategies to assist the student in becoming an efficient learner.

A student with a documented disability who has registered for class or has been accepted into the University can request support services and the use of assistive technology for classroom and extracurricular activities. The student must notify Disability Services of the accommodations required within a reasonable time prior to the date of anticipated need.

Reasonable accommodations by the University are possible only after contact with Disability Services has been initiated. Students needing sign language interpreters or special equipment should provide 45 days notice to Disability Services.

Requests for accommodation shall be assessed by the Office of Disability Services after carefully reviewing the diagnostic evaluation and the student’s previous scholastic performance. Each will be reviewed on its own merits and verified by objective documentation about the effect of the specific documented disability on the ability to learn in the content area in question.

Students are encouraged to self-identify their documented disability to their professors at the beginning of each semester to avoid delays in receiving accommodations. If students are newly documented during the course of a semester, accommodations will be implemented within a reasonable time period, usually two weeks following presentation of the documentation.

In order to receive accommodations, students must supply their instructors with letters from Disability Services, which verify their disability and identify reasonable accommodations. The student and faculty member shall:

1. discuss the implementation of appropriate accommodations;
2. note their respective agreement to these accommodations; and
3. return the signed forms to Disability Services noting their agreement in the space provided.

Students who have a documented disability may elect not to disclose the disability. Should the student seek accommodations late in the semester, or if a student has a disability which is not obvious and chooses not to disclose it, then he/she should be aware that 1) all previous grades will stand as earned, and 2) accommodations will be implemented in a timely manner, usually within two weeks. For students who are newly identified and documented during the course of a semester and thus, have not had the advantage of accommodations, considerations will be made on a case-by-case basis in consultation with all parties involved.

The types of accommodations provided to students with documented disabilities will vary depending on the nature of the disability and the course content. Often an initial trial-and-error period may be needed to determine the best way to accommodate a student’s disability.

Disability Services will confer with students and determine appropriate accommodations. Students are notified of the results of the assessment. This notification to the student from the University shall serve as a guide for the provision of services from the University for the semester or situation specified.

If agreed-upon accommodations did not meet the needs of the student, the student should contact Disability Services for further assistance.

If agreed upon accommodations or are not implemented, the student should contact Disability Services. Disability Services will determine the reasonableness of the accommodation(s) requested. If Disability Services determines that the request is reasonable, it will consult with the appropriate chair and, if necessary the dean, to reach agreement on the accommodations to be provided.

If Disability Services does not agree with the student’s request, then the student may follow the procedures outlined in Section VI of this policy.

V. Support Services

A. Advising

Students with documented disabilities should make sure that their advisors are aware of the disabilities so that the advisor can guide the student as to course or degree requirements which may affect the student’s completion of the course or degree program.

B. Classroom Accommodations

The University shall provide the following minimal accommodations for students with documented disabilities in the classroom: 1) classroom activities, including testing procedures and other methods of evaluation used for classroom participation, shall be reasonably modified to provide students with documented disabilities with an opportunity to participate; 2) the location of classrooms shall be changed as appropriate to accommodate the student with a disability; 3) a reasonable number of elective courses shall be held in accessible facilities; 4) the use of special equipment and assistive technology; and 5) modification of course requirements or assignments which may not be essential shall be considered.

C. Student Services and Activities

Students with documented disabilities at Old Dominion University shall be provided reasonable accommodation for participation in and use of student services and activities including housing, health insurance, counseling, financial aid, physical education, athletics, recreation, transportation, or other extracurricular programs or activities.

Given adequate notification, those students who require assistive technology and assistance for counseling settings will be provided with the aids and assistance necessary to participate.

At athletic and extracurricular activities, such as concerts and stage entertainment, special seating will be provided for students using wheelchairs as audience participants. For Old Dominion University sponsored lectures, cultural activities, convocations and commencements, the participation of students with documented disabilities shall be provided, upon request, through the aid of sign interpreters, assistive technology or other reasonable accommodation. Arrangements shall be made by Disability Services if sufficient notification is given.

D. Housing
Old Dominion University provides on-campus housing space, which has been specifically reserved for occupancy by students with documented disabilities and is moderately barrier free. The University will provide and assign students with disabilities to housing, as such space is available in resident hall and apartment settings. Roommates will be assigned to students with disabilities occupying modified rooms in the same manner as other resident students.

It is the responsibility of the student to identify him/herself as a student with a documented disability seeking University housing in order to be considered for a reserved space. Application for a reserved space for a student with a disability should be made to Disability Services.

Housing Services will assign that space based on information provided by Disability Services. Priority will be based on the greatest physical need to live in University housing as a means of providing a student with a disability opportunity to successfully fulfill their academic program at the University. Final selection for reserved spaces for students with disabilities will be completed at a specified date in mid-summer of each year. The student will be informed of the room assignment by Housing Services. The remaining spaces reserved for students with disabilities will be turned over to the Housing Services staff for assignment to students on the housing waiting list. Any student with a documented disability has the alternative of entering the regular housing application procedures and is not required to take a reserved space. However, students who have special needs should make sure the regular housing space could accommodate their needs.

Rental rates for students with documented disabilities shall be set at the same rate as for any other student at Old Dominion University. The exception to this is the single room policy, which provides for a limited number of single room accommodations available for qualified students with documented disabilities at the rate which would normally be charged for double occupancy. The request for single accommodations must be made to Disability Services and be properly documented. A final determination is made by Disability Services and final placement is made by Housing Services. Returning students may request that they be assigned to the same space as in the previous year. Students should proceed through the regular housing process to request the same space.

VI. Complaint Resolution Process

If a student with a documented disability believes that he/she has not been provided with the services to which he/she is entitled, the student should direct his/her complaint to the Office of Equal Opportunity and Affirmative Action.

The student shall provide to the director of EO/AA, in writing, documentation of the disability, the nature of the discrimination, and any other information deemed important.

The director will then attempt to reach an agreement through an informal mediation process. If an agreement is reached, a copy of the agreement shall be provided to the student and the faculty member. If an agreement cannot be reached, the director will convene an ADA Evaluation Committee for the purpose of evaluating the case and making a recommendation to the provost. The decision of the provost is final.

The members of the ADA Evaluation Committee will be the director of equal opportunity/affirmative action (chair), the general counsel, the director of disability services, the appropriate dean and a designated representative from Academic Affairs.
Admission to Old Dominion University

Office of Admission

The mission of the Office of Admissions is to recruit, admit and enroll students from throughout the United States and abroad who will contribute to the overall collegiate experience. Old Dominion University is open to all qualified students regardless of race, sex, age, national origin, veteran status, disability, political affiliation or sexual orientation.

I. Undergraduate Admission

Freshman Admission

Freshman applicants are students who are currently enrolled in high school or who graduated from high school within the past two years and have not attended any regionally accredited college or university (not to include dual enrollment).

Admission to the University does not imply admission to specific degree programs unless it is stated explicitly in the letter of admission. Students should refer to the application for admission to review information regarding additional departmental application requirements.

Requirements

The Admission Review Committee takes the following factors into consideration during the application review.

Academic Involvement

The University encourages students to participate in a challenging program of study. Preference is given to students enrolled in Advanced Placement (AP), college-level dual-enrollment, honors and/or International Baccalaureate (IB) courses. The most qualified applicants’ high school curriculum includes course work in the following areas:

- English 4 units
- Social Sciences 3 units (World History, United States History and United States Government)
- Mathematics 3 units (Algebra, Geometry, Algebra II)
- Sciences 3 units
- Foreign Language 3 years of one foreign language or two years of two foreign languages

College of Engineering and Technology Intended: Students who have taken advanced courses, particularly in math, chemistry and physics, are best prepared for the academic rigor of the Batten College of Engineering and Technology and are more competitive in the admissions process. Students are recommended to complete four units of mathematics that include one unit of higher-level math courses such as trigonometry, analysis, or calculus. Science units should include one unit of chemistry, one unit of physics, and one unit of study in another area of science, such as general science, physical science, environmental science, and anatomy and physiology.

Academic Achievement

The Admission Review Committee considers the cumulative high school grade point average and class rank as well as the performance on the Scholastic Assessment Test I (SAT) or the American College Testing (ACT) Program. Applicants should consult their high school guidance counselor for test registration procedures.

Additional Credentials

The Admission Review Committee reviews each student’s resume, essay, and letters of recommendation. These additional credentials, combined with the academic qualifications, provide the committee a comprehensive profile of an applicant’s potential for academic success and his or her ability to contribute to the academic community. Students with unique talents and abilities in art, music, leadership, and other endeavors should include this information in their admissions package.

Non-Traditional Freshmen

Students who have not graduated from an accredited high school will be considered for admission provided they take the High School Equivalency Test administered by the State Board of Education or the General Education Development Certificate (GED).

Students who graduated from high school more than two years ago and have not enrolled at any regionally accredited college or university since graduation are required to submit an official high school transcript. The admission committee strongly encourages the submission of a resume and statement of goals.

High school students with exceptional academic abilities may take classes before completing the full program of high school studies. Students must submit scores from either the SAT I or the ACT and their high school transcript. Additionally, a letter must be submitted from the high school principal supporting the student’s early admission.

Freshman Early Action Admission

Freshman applicants who submit the application, application fee and all credentials by the early action deadline of December 15 will be notified of their admission during the second week of January. Early action decisions are non-binding. Students who apply by the early action deadline are reviewed for scholarship eligibility and are invited to attend the annual Scholarship Day, which is held in early spring.

Freshman Regular Admission

Freshman applicants must submit the application, application fee and all credentials by March 15. All applicants who have completed the application process will receive notification on a rolling basis.

The Honors College

The Honors College was established to further the University’s commitment to excellence in education. With an emphasis on teaching, innovation, and small classes, the college offers the experience of a small liberal arts college within the framework of the large university. Honor students are free to pursue any major. The four-year experience offers specially designed, low-enrollment courses to honors students and selected juniors and seniors. Many courses fulfill the General Education requirements of the University.

Courses are proposed and developed by faculty who are selected on a competitive basis to teach in the college and to interact closely with the students. Several out-of-class and off-campus experiences are often part of these courses – at no extra cost to students. A one-credit honors tutorial is required in the junior year, and a senior honors colloquium is taken in the final year of study. All Honors College students are awarded an annual honors stipend. To be considered for selection to the Honors College, students should apply for freshman admission to the University as early as possible. Currently enrolled and transfer students with freshman or sophomore standing should contact the Dean of the Honors College. The Honors College is located in Room 218 of the Education Building, (757) 683-4865.

Freshman Guaranteed Entry and Accelerated Bachelor’s/Master’s Programs

High-ability freshmen may be guaranteed entry into professional and graduate school in a number of areas.

In the College of Health Sciences, physical therapy, nursing, and dental hygiene programs offer this option for freshmen. Accelerated bachelor’s/master’s programs are also available in health sciences/community health, dental hygiene and nursing.

The B.S./M.D. (guaranteed admission to medical school) is available through the College of Sciences. The B.S./M.D. program allows students to begin professional school after three years. In addition, the College of Sciences offers an accelerated bachelor’s/master’s program in computer science.

A bachelor’s in engineering/M.D. program is available for students pursuing undergraduate engineering degrees. The Batten College of Engineering and Technology also offers accelerated bachelor’s/master’s and bachelor’s/Ph.D. programs.

In the Darden College of Education, freshman guaranteed entry is available in early childhood and special education.
A five-year B.A. or B.S./M.B.A. allows students to combine a Bachelor of Arts or Bachelor of Science with excellent preparation for a career in the business world. These programs are available in the College of Arts and Letters, Business and Public Administration (economics) and Sciences. In addition, the following accelerated bachelor’s/master’s programs are available in the College of Arts and Letters: applied linguistics/English, communication/humanities, English, history, interdisciplinary studies/humanities, international studies, and women’s studies/humanities.

Information on guaranteed entry and accelerated bachelor’s/master’s programs may be obtained on the University’s web site or by contacting the individual programs or departments.

Transfer Admission

Transfer applicants are students who have attended another regionally accredited college or university after graduating from high school or receiving a GED.

Admission to the University does not imply admission to a specific degree program. Students should refer to the application for admission to review information regarding additional departmental application procedures.

Requirements

The admissions committee considers several factors during the application review.

Academic Involvement

The University encourages students to enroll in a challenging program of study. If fewer than 24 semester hours of academic work have been completed at a regionally accredited college or university, significant weight will be placed on performance at the high school level.

Academic Achievement

The Admission Review Committee will consider the cumulative grade point average and grade point average of the most recent 24 hours of academic courses. Performance on the Scholastic Aptitude Test (SAT) or American College Testing (ACT) Program will be considered if it has been less than two years since high school graduation and the applicant has completed fewer than 24 semester hours of academic work at a regionally accredited college or university.

Additional Credentials

Other items taken into consideration during the review process are letters of recommendation, resume and essay. These additional credentials provide the Admission Review Committee with a comprehensive profile of an applicant’s potential for academic success and his or her ability to contribute to the academic community.

Transfer Early Action Admission

Transfer applicants who submit the application, application fee, all official transcripts and all other credentials by the early action deadline of March 15 will be notified of their admission decision by April 15. Early action decisions are non-binding. Students who apply by the early action deadline are reviewed for scholarship eligibility.

Transfer Regular Admission

Transfer applicants must submit the application, application fee, all official transcripts and all other credentials by May 1 for the fall term, October 1 for the spring term and March 15 for the summer term. All applicants who have completed the application process will receive notification on a rolling basis. Once a student has been admitted, an evaluation of his or her transfer credit will be available at www.oleonline.odu.edu.

Transfer of Credit

General. Transfer of credit is allowed for course work taken at an institution of higher education that is accredited by a regional accrediting body, such as the Commission on Colleges of the Southern Association of Colleges and Schools. A grade of C (2.00) or above must be earned, and the course must be appropriate to the University’s degree program. In general, all liberal arts credits and professional and technical courses parallel to those of the University are transferable.

Graduate credit will not be accepted to meet undergraduate degree requirements.

Transfer Policies for General Education Requirements

1. Students wishing to transfer academic credits into Old Dominion University to satisfy the General Education Requirements must apply individual transfer courses to the academic skills, perspectives and upper-division categories as listed in this catalog. Students must submit transcripts to the Office of Admissions for evaluation. Decisions regarding the applicability of transfer courses to General Education Requirements will rest with the chair of the academic department responsible for the subject matter involved. Students should be aware that even though University General Education Requirements might be met through transfer of courses into the necessary categories, departmental and college requirements must still be met.

2. With regard to the fulfillment of General Education Requirements, students will be able to apply transfer credit on a course-by-course basis rather than hour-by-hour as long as the Office of Admissions representatives judge the course to be compensatory with content categories of the curriculum used to fulfill General Education Requirements at Old Dominion University. Questions regarding such applicability will be directed to the chair of the academic department responsible for the subject matter involved. Any such course transfer will carry the number of academic credits assigned by the institution where the credits were earned. In the case of quarter system credits, the standard conversion of quarter hours to semester hours (2/3) will be used.

3. Students who have received an A.A., A.S., or A.A. and S. from Richard Bland College or the Virginia Community College System (including the A.S. and A.A. and S. degrees in general studies, as modified by Old Dominion University) have met all General Education requirements except those specified as major or college requirements and the upper-division requirement that is met through completion of a second degree or major, a minor, or an approved focus-area cluster. Students who have received an Associate in Applied Science (A.A.S.) degree from the Virginia Community College System in specific articulated programs (to include 37 specified general education credits) have met all General Education requirements except those specified as major or college requirements and the upper-level requirement. College-parallel programs at other community colleges or schools (consisting of general education requirements of degree programs from the Virginia Community College System) are also accepted as meeting lower-division General Education requirements and are reviewed by the assistant director of admissions or staff in distance learning. Students who transfer into the University from a campus of the Virginia Community College System without having completed the A.A., A.S., or A.A. and S. degree receive credit for General Education courses listed in an approved Transfer Guide, even if these courses are not full equivalents of Old Dominion University courses. Similarly, the University evaluates transcripts of all transfer students from accredited two- or four-year institutions at the time of the matriculation and assigns appropriate transfer credit for General Education courses judged as compatible with corresponding Old Dominion University General Education courses. Students must earn a grade of C (2.0) or better in order to receive the credit hours associated with classes taken at other regionally accredited institutions.

Substitutions for General Education Requirements can be made only by the dean of the college offering the General Education skill or perspective area.

4. Though it is recommended that students who plan to pursue traditional degree programs at Old Dominion University take an equivalent of six semester hours of social science in two separate subject areas, transfer students (without a university-parallel associate degree) who have earned the equivalent of six semester hours in one or more social science areas as defined in the General Education Requirements (prior to enrolling at Old Dominion University) will be considered to have

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* Modifications are as follows: (1) the general studies degree must have been received on or after April 1993, (2) Northern Virginia Community College general studies degree holders must have MTH 151 or higher, and (3) Blue Ridge Community College general studies degree holders must have MTH 151 or higher and eight hours of science with a lab.

** Traditional and professional degrees are noted on the Synopsis of Degree Programs chart in this Catalog.
completed the social science perspective of the General Education Requirements. Though it is also recommended that students enroll in a two-semester laboratory science in one field, transfer students who have earned the equivalent of eight semester hours in two different laboratory sciences as defined in the General Education Requirements (prior to enrolling at Old Dominion University) will be considered to have fulfilled eight credits of the natural science and technology General Education Requirement at Old Dominion University.

5. Students earning high school diplomas before December 31, 1985 will be exempted from the General Education foreign language requirement as part of the skills area of General Education at Old Dominion University.

6. Students who have earned a baccalaureate degree at another regionally accredited institution but who wish to acquire a second baccalaureate degree from Old Dominion University will be considered to have fulfilled University General Education Requirements for the second degree. Such students will be expected to meet all college, school and departmental requirements as well as complete a minimum of 30 semester hours at Old Dominion University for a second degree. Prior to undertaking the second degree, students must have their accumulated credits evaluated and the second degree program approved in writing by the appropriate chair and dean.

Special Transfer Credit Policies. Transfer students admitted to the Department of Art must submit a portfolio for evaluation by the faculty to determine the number of art credits that will be accepted from previous study. Information on portfolio requirements may be obtained from the chair of the department. For more information, refer to the Department of Art section of this catalog.

Transfer students interested in music must have an audition to determine placement and number of credits transferable from previous study. Information on the audition may be obtained from the chair of the department. For more information, refer to the Department of Music section of this catalog.

Applicability of Credit. Formal evaluation of credits is made by the Office of Admissions after admission to degree status and prior to the student’s first registration, if all official records have been received. Where specific equivalents can be identified, they are indicated in the evaluation. In other cases, only the discipline is listed along with the credit hours accepted. Students should be prepared to provide course descriptions to assist the Office of Admissions in determining equivalence with University course work. If no specific equivalent can be assigned, the student may still receive elective credit for work.

Associate degrees awarded outside the Virginia Community College System are examined individually to determine whether the degrees are university-parallel programs.

Second Baccalaureate Degree Admission

Second baccalaureate degree applicants are students who have earned a bachelor’s degree from a regionally accredited college or university and wish to pursue an additional bachelor’s degree in a different course of study. Second-degree applicants must submit the application, application fee and all official transcripts by May 1 for the fall term, October 1 for the spring term and March 15 for the summer term. All applicants who have completed the application process will receive notification on a rolling basis.

II. Nondegree Entry

Nondegree entry is available to students who do not choose to apply for admission to a degree program at the time but wish to enroll in course work at the institution. Some examples of nondegree students are:

• Visiting student – A student who takes course work at Old Dominion University and then transfers the course credit to the home (degree-granting) institution.
• Applying for a certificate program.
• Expanding academic background or teacher certification.
• Taking courses for personal and/or academic growth.
• Missed the application deadline, but intends to apply as a degree-seeking student for a successive term.
• Taking prerequisites (undergraduate, second degree or graduate) for a degree-seeking program.
• Senior scholars – High school students taking college-level courses (permission is needed from an admissions counselor).

Directions for Certificate Program Registration

Please contact the department offering the affiliate program for specific registration information and procedures.

Additional Information

• All students should seek the approval of the academic department before registering for course work as a nondegree student.
• Financial aid is not available for nondegree students, except those in approved teacher certification programs.
• Students under suspension from another college or university are not eligible to attend as nondegree.
• Academic advising is not available to nondegree students, but students are strongly encouraged to contact their academic department before registering for courses.
• Undergraduate students are advised to take no more than 24 semester hours as nondegree students.
• All students, degree and nondegree alike, must meet the continuation requirements as stated in the current University Catalog. Failure to meet these requirements will subject students to probation or suspension.

Nondegree Entry Procedures

Applicants for nondegree status are required to complete the application form found in the Guide to Enrollment or on the University’s web page. For the student’s convenience, official credentials may not be required at the time of registration; however, unofficial records or a personal interview may be requested for admission purposes. It is understood that all student information stated on the application is truthful. Deliberate falsification of application information will result in immediate withdrawal and a potential forfeiture of credits. Students should be familiar with policies and procedures for nondegree enrollment listed on the application form.

III. Continuing Student Admission

Continuing applicants are students who have previously attended Old Dominion University on a degree-seeking basis and left the University, but would like to return. A student who has left the University in good academic standing is required to complete a reactivation/readmission form. If the separation from the University was longer than five years, the applicant will be required to reapply and resubmit all official transcripts and necessary credentials.

Students who are returning from academic suspension must participate in the Academic Continuance Experience for Success (ACES) program prior to the start of classes for the returning semester. Failure to participate will result in a deferral of admission until the next semester, at which time the ACES program must be completed. More information about readmission from suspension can be found at www.odu.edu/admission or by contacting the Office of Admission (also see Undergraduate Continuance Regulations and Adjusted Resident Credit information in this Catalog).

IV. Graduate Admission

Refer to the Graduate Catalog.

V. English Proficiency Requirements for Non-Native Speakers of English

Admission to the University is contingent upon successful completion of English language proficiency requirements. Non-native speakers of English can provide evidence of English language proficiency through a variety of options. Please note that Bridge Program students, undergraduate and graduate, must satisfy English proficiency requirements within twelve months of their enrollment in the program. An application to the English Language Center and subsequent enrollment in English language courses at the center does not imply admission to the University. English language courses are noncredit. Further information for non-native speakers of English is available from the Office of Admissions (permanent residents and naturalized citizens) and from the Office of International Admissions (all non-immigrants). Fulfillment of any one of the following will satisfy English language proficiency requirements for admission to Old Dominion University:
Undergraduate Students

1. Submission of one of the following: a TOEFL score of 550 (paper), 213 (CBT) or 79 (Internet), a 480 Verbal SAT score, a GCSE or GCE "O" level pass in English language, an IELTS overall band score of 6.5, a CPE grade of A, B, C.
2. Possession of a bachelor’s or master’s degree equivalent from an accredited institution located in a country where English is the native language.
3. Successful completion of two university- or college-level English courses at a regionally accredited U.S. institution. These courses must be equivalent to the University’s English composition course and any other advanced composition or technical writing course. Successful completion is defined as obtaining a minimum grade of C (2.00) in each of these courses.
4. Successful completion of two semesters in Old Dominion University’s Undergraduate Bridge Program. Successful completion is defined as satisfying the following two criteria:
   a. Securing a minimum grade of B and demonstrating 85% attendance in each English Language Center class for two semesters; and
   b. Securing a minimum grade point average of 2.50 in academic courses taken during the Bridge Program.

Students who choose to satisfy University English proficiency requirements through the TOEFL will be placed according to their results on the test. Students admitted to the University whose TOEFL scores are between 500-550 or CBT scores are between 173-213 will be placed in a comprehensive Undergraduate Bridge Program, including academic course work and semi-intensive English Language Center courses. Those students with TOEFL scores below 500 or CBT scores below 173 will be enrolled in full-time intensive English Language Center courses.

Students whose native language is not English and who have satisfied English language proficiency requirements through one of the avenues detailed above are exempt from fulfilling the foreign language requirement for general education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Department of Foreign Languages and Literatures to obtain a waiver of the 200-400 level courses.

Transfer credit is not granted for English composition classes taken at an institution located in a non-native English-speaking country. Exceptions to this policy may be made in instances in which the University has entered a formal agreement with an overseas institution.

All undergraduate students take a University writing exam (called the Writing Sample Placement Test) to determine proficiency in writing. An Exit Examination of Writing Proficiency is also required in order to graduate. This exam may be taken during the junior year.

VI. International Student Admission

All international students are required to attend International Orientation, which precedes fall and spring registration. The Office of International Student and Scholar Services organizes this program and issues certificates of eligibility for student (F1) and exchange scholar (J1) visas. Old Dominion University issues J1 documentation exclusively for students and scholars who are participating in official international exchanges (i.e., university exchanges, home or U.S. government-sponsored or transfer from other institutions in J1 status). All admissions correspondence such as applications, academic records, financial documents, examination results, translations, and course descriptions are to be addressed to:

The Office of International Admissions
Old Dominion University
220 Rollins Hall
Norfolk, Virginia, USA 23529
Tel: (757) 683-3701
Fax: (757) 683-5196
E-mail: intladm@odu.edu
Web site: http://admissions.odu.edu/international.php

The international undergraduate and graduate applications are available at the web site noted above.

Transfer Credit

The determination of the appropriate amount of transfer credit to be awarded for work completed at a foreign institution is based on information concerning the grading scale, credits assigned per class (or number of hours per week spent in class) and the duration (in weeks) per class. It is the responsibility of the student to provide this information to the University. Descriptions of courses must be provided in English.

Please note that the Office of International Admissions will attempt to have a complete and accurate transfer evaluation prior to the student’s enrollment. In some cases, however, the final transfer credit evaluation and determination of course equivalency at Old Dominion may take additional time.

Deferment

International students may defer their application for admission for 12 months (beyond original term of entry). The Office of International Admissions must be notified in writing prior to registration of the original term of entry. A deferral may result in requiring updated academic, English proficiency, or financial documents. Students who will need a new IAP-66 or I-20 Form for the new term must return the previously issued form with the written request for deferral.

Please visit the Office of International Admissions web site to submit the online deferment form at www.odu.edu/intladm.
Tuition, Fees, and Financial Information

The tuition and fees outlined below have been approved for 2006-2007. Tuition and fees are always subject to change, and while the University is unable to notify each student individually of changes to fees, this information is widely publicized in the media on campus, locally, and statewide.

Tuition

As used by the University, the term tuition refers to a comprehensive fee which includes payment of instructional programs, academic services, student services and activities, recreational sports, and intercollegiate athletics. All fees are subject to approval and/or change by the Board of Visitors.

The comprehensive fee includes a student activity fee of $69.88 per credit hour for the Norfolk campus courses and $36.77 per credit hour for Higher Education Centers, TELETECHNET and off-campus courses to support student services programs, recreational sports, and intercollegiate athletics and a capital fee of $1.67 per credit hour for out-of-state students.

Information related to the comprehensive tuition is published in the Guide to Enrollment each semester.

Comprehensive Tuition Per Semester—2006-07 Academic Year*

<table>
<thead>
<tr>
<th>Fall, Spring and Summer</th>
<th>Virginia Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition and Fees</td>
<td>$197.00</td>
<td>$49.00</td>
</tr>
<tr>
<td>Graduate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition and Fees</td>
<td>$285.00</td>
<td>$715.00</td>
</tr>
<tr>
<td>Teaching Assistant</td>
<td>$285.00</td>
<td>$285.00</td>
</tr>
<tr>
<td>Research Assistant</td>
<td>$285.00</td>
<td>$285.00</td>
</tr>
<tr>
<td>Clinical Psychology Joint</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition—per semester, full-time rate</td>
<td>$3,456.00</td>
<td>$9,324.00</td>
</tr>
<tr>
<td>Health Service Fee—per semester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time undergraduate (12 or more semester hours) and graduate students (9 or more semester hours)—mandatory</td>
<td>$55.00</td>
<td>$55.00</td>
</tr>
<tr>
<td>Part-time undergraduate (11 hours or fewer) and graduate student (8 hours or fewer) and students taking all courses off campus—optional</td>
<td>$55.00</td>
<td>$55.00</td>
</tr>
<tr>
<td>Summer sessions, undergraduate and graduate students—optional</td>
<td>$45.00</td>
<td>$45.00</td>
</tr>
<tr>
<td>Transportation Fee—per semester (Mandatory for all students, fall and spring, taking on-campus courses)</td>
<td>$30.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>General Service Fee—per semester (Mandatory for all students)</td>
<td>$9.00</td>
<td>$9.00</td>
</tr>
<tr>
<td>Asynchronous Nursing Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition Rate</td>
<td>$270.00</td>
<td>$270.00</td>
</tr>
<tr>
<td>Physical Therapy Surcharge—per year</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
</tbody>
</table>

Laboratory Fees—2006-07 Academic Year*

| BIOL 108N, 109N, 115N, 116N, 122N, 123N | $20.00 |
| BIOL 420, 520 | $25.00 |
| BIOL 103 | $30.00 |
| BIOL 250, 251 | $35.00 |
| BIOL 314, 315 | $40.00 |
| BIOL 407, 507 | $100.00 |
| CHEM 312, 314 | $35.00 |
| CHEM 101N, 102N, 115N, 116N, 126N, 127N | $40.00 |
| CHEM 322, 442W, 542, 444, 544 | $50.00 |
| ENGN 110, 111 | $35.00 |
| GEOG 402, 404, 502, 504 | $25.00 |
| NURS 619, 658, 659, 660, 665, 672, 673, 674, 675, 676, 767 | $25.00 |
| OEAS 106N, 107N | $20.00 |
| OEAS 110N, 111N, 112N | $30.00 |
| OTS 110, 221, 231, 241, 250, 360 | $20.00 |
| PHYS 103N, 104N, 111N, 112N, 231N, 232N | $30.00 |
| THEA/COMM 370, 380 | $25.00 |

Nonrecurring Charges and Fees—2006-07 Academic Year*

| Application Fee | $40.00 |
| Late Penalty Fee | $10% of past due amount |
| Payment Plan Processing Fee (nonrefundable) | $40.00 |
| Returned Check Processing Charge | $20.00 |
| Collection Fees | 33% |
| Transcript Processing Charge (per copy) | $5.00 |
| Thesis, Dissertation Binding Service Charge | $40.00 |
| Additional Copies | $16.50 |
| Ph.D. Dissertation Microfilming | $55.00 |
| Copyrighting | $45.00 |

State Residency

To be considered a Virginia resident for tuition purposes for any given semester, it is necessary that the applicant be domiciled in the Commonwealth of Virginia for at least one year immediately preceding the beginning of that term. Domicile is a technical legal concept and is defined as the place (state) where a person resides with the unqualified intention of remaining indefinitely, with no present intention of leaving. Domicile is generally evidenced by such things as payment of income, real estate, and personal property taxes, voter and automobile registration, and driver’s license. Residence in Virginia for the purpose of securing an education does not qualify a person for classification as a Virginia student for tuition purposes.

A student who meets the criteria for resident tuition during his or her course of study at Old Dominion University is not automatically reclassified to such status.

** All fees are tentative and subject to final approval by the Board of Visitors and/or the President. Those listed are in effect as of 2006-07 and are subject to change.

*** Does not apply to Old Dominion University full-time faculty and staff and their full-time dependents and former Old Dominion University students seeking readmission who have not attended another institution since leaving Old Dominion.
status. He or she must request such classification, using an appeal form available from the Office of the University Registrar. By law, appeals of classifications must be submitted before the start of classes for the term in which a change is sought. Copies of the Virginia statute and guidelines issued by the State Council of Higher Education for Virginia are on reserve in the University Library and are available at www.schev.edu (search for “domicile”). Because of the length of those requirements, they are not printed in this catalog. Additional information may be obtained from the Office of the University Registrar.

Students who fail to complete the Tuition Rate Determination Form are classified at the out-of-state tuition rate.

**Billing Cycle**

Through the act of registration, either by registering online or by registration form, students accept responsibility for charges incurred. All University charges are due and payable by the established deadlines. The total amount due must be received by 5:00 p.m. on the deadline date shown on the statement to avoid financial penalties. Students unable to pay the total due may opt for participation in the University payment plan. If charges remain unpaid 30 days after the due date, a 10% late payment penalty is assessed.

**Billing Statements**

The University sends debt notification by e-mail. It is the student’s responsibility to activate the ODU.EDU e-mail address issued to all admitted students. Please refer to Leo Online for specific types of notification covered. Approximately 30 days before the payment due date, advance billing statements for tuition and fees are sent to students who have preregistered. Students are expected to access account information through the secure access site on the World Wide Web at www.leonline.odu.edu. Any student who registers or adds classes after any advance billing may be issued a statement by electronic mail during the next billing cycle, and charges will be subject to late payment fees. Failure to receive a reminder bill confirming charges does not waive the requirement to make payment when due, and financial penalties may accrue.

**Failure to Pay Tuition**

Students’ registrations will not be canceled for failure to pay tuition. Nonpayment will not release students from the financial obligation for tuition charges. Students are strongly encouraged to follow University procedures and meet published deadlines to officially drop classes and be released from charges. Stopped payment of a tuition draft does not constitute a cancellation of the student’s registration.

**Payment/Cashiers Office**

Students may pay for classes with personal checks, money orders, cash, or charge cards (VISA or MasterCard only). Cash payments should be made at the Cashiers Office ONLY. Payments may be mailed to Accounts Receivable/Cashiering, Old Dominion University, Alfred B. Rollins, Jr. Hall, Norfolk, VA 23529-0045. Personal checks will be accepted for the exact amount of fees and/or other amounts owed the University. Third party payments are accepted upon submission of authorization documents. Payments on all financial obligations to the University will be applied on the basis of age of the debt. The oldest debt will be paid first. Postdated checks are not scrutinized and will be deposited upon receipt. The Cashiers Office does not cash checks or make cash refunds. Checks must be provided in US dollars. Checks written in excess of assessed fees or other amounts paid the University will be accepted and processed, but the excess will be refunded to the student by mail at a later date.

**Third-Party Payment Authorizations**

The financial guarantee for payment of tuition and fees must be addressed specifically to Old Dominion University, Accounts Receivable, and printed on agency letterhead, purchase order, or voucher. Payments must be unconditionally guaranteed and made by the due date specified on the University’s invoice. Amendments to the financial guarantee are required in writing. Prior to the University processing authorizations, students may receive an individual billing statement. Students must provide the third-party billing authorization or government training voucher to the Office of Finance before the student’s individual payment due date. Failure to submit the authorization by the established deadline may result in a student billing, assessment of late fees and a financial hold on the student’s account. An agency with a past due balance may have billing privileges terminated. Sponsoring agencies and students being sponsored by these agencies should be aware that the student is ultimately responsible for any defaults in payments by the sponsoring agency. A student whose employer or sponsor reimburses him or her for tuition after receipt of grades is not considered a third party. A student must pay in full upon registration or by the stated due date to avoid financial penalties. Contact the third-party billing coordinator for billing requirements or check the University website.

**Student Account Inquiry**

The University reserves the right to request information on the student identification number and/or a photo identification when releasing information or conducting other financial transactions. Specific account information will be released only to the student. Each student account can be viewed using any Internet browser. Students are strongly encouraged to access records directly through their secure access site on www.leonline.odu.edu. Students are expected and required to assume responsibility for their own financial matters and to abide by the laws of the Commonwealth and the rules and regulations of the University. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur.

**Delinquent Accounts**

The University will not issue a degree, diploma, transcript of grades, grade report, or permit a registration for future terms to any student who has not paid all debts in full. Students with accounts holds are permitted to drop classes to reduce debt or withdraw to prevent academic penalty.

**Collections**

Virginia State law requires that the University make every attempt to collect past due amounts owed to state agencies. If, after 60 days, full payment of a debt has not been received, the account will be placed with a collection agency. Account holders are responsible for any collection costs incurred at a rate of 33.33% of the total due. Several other actions may be taken including the following: the account can be listed by the Credit Bureau as a bad debt; a delinquent account can be collected in full from income tax refunds or other refunds due from the state (for Virginia residents); and the account may be turned over to the Virginia Attorney General’s Office for litigation. Timely payment is strongly encouraged so that collection efforts can be avoided.

**Set-off Debt Collection Act**

The University pursues debt in accordance with the guidelines set forth by the Commonwealth of Virginia in the Virginia Debt Collection Act. Under the provisions of this act, an individual’s Virginia income tax refund will be subject to the University’s claim for any unpaid balance of tuition and fees. Any communication disputing an amount owed must be submitted in writing to the accounts receivable manager, Alfred B. Rollins Jr. Hall.

**Dishonored Checks and Charge Cards**

A $20.00 fee will be charged for each returned check or charge. If collection action is necessary, students will be liable for all collection agency costs. Stopping payment on a tuition draft does not constitute a cancellation of the student’s registration.

**University Payment Plan (not available on past due balances)**

The University offers a payment plan during fall and spring semesters ONLY. Payment plan agreements are administered by the Office of Finance and are established for a specified four-month period each semester (refer to the Guide to Enrollment). Payment plans are established on the student’s total charges for tuition and/or housing. There is a $40.00 non-refundable processing fee to establish the plan each semester. Students must be in good standing with their student account to be eligible to participate. Payment plan forms are available on the University’s web site. Failure to pay on time may prevent students from using the payment plan process to defer payments in future terms. If any payment is 30 days past due, the entire payment plan balance will be due and payable. A 10% late penalty will be assessed on the entire balance if a payment is 30 days past due.
Tuition Refund Policy

The total tuition is considered fully earned by the University once scheduled classes have begun in any semester or summer session. Failure to attend the course after registering is not justification for elimination of charges.

For refund purposes, the beginning date of class is defined as the first official class date for the term. Students desiring to drop or withdraw from the University must formally notify the University using the official procedures set by the Office of the University Registrar. Refunds will be computed based on the actual withdrawal date certified by the Office of the Registrar. Refunds will not be made to students who do not attend classes and have not completed the required withdrawal procedure. Refunds are issued by check for all payments, including credit cards. Please refer to the Guide to Enrollment for refund dates.

Tuition Differentials

In accordance with the refund periods, a full or partial refund of the difference between tuition paid and the new tuition charges will be granted if the per credit rates differ. In those instances where the revised tuition charges are greater, the additional tuition charges will be assessed.

Drop and Add

No refund or additional tuition charges are assessed for students who drop and add an equal number of credit hours on the same day within the same semester/session if the per credit tuition rates are the same.

Special Situations

Administrative withdrawals, as in the case of classes canceled by the University or the case of academically suspended students, entitle the student to a full refund of tuition.

Refund Policy on Financial Aid Funds

Federal regulations mandate the treatment of refunds for financial aid recipients. Financial aid funds are returned to the government when charges were paid by financial aid and a refund is given a student who fully withdraws from the University. Financial aid recipients may request more detailed information from the Financial Aid Office as federal refund guidelines are subject to change.

Tuition Appeal Policy

Students who must withdraw (with a grade of W or WF only) after the end of the refund period may appeal for a refund under the Tuition Appeal Policy. The purpose of the tuition appeal policy is to provide an opportunity for students to explain mitigating circumstances that prohibited them from course completion. All appeals are written and are reviewed by the Tuition Appeal Committee. The Tuition Appeal Committee may approve a refund or a release of financial aid under pre-approved conditions or recommend an exception. Committee decisions are final.

Students have the responsibility to submit an appeal within one year of the tuition due date for which charges are being appealed and to demonstrate compliance with the policy. Documentation is required, especially in cases of illness, death, and changes in employment status or military orders. Depending on the complexity of the appeal and the receipt of all supporting documentation, processing time on appeals can vary from two to four weeks.

Tuition appeals will generally be approved for the following reasons as long as the appropriate supporting documentation is provided: extended periods of physical illness, extended periods of physical or mental illness of the student’s immediate family member, death of a student’s immediate family member, involuntary transfers to an off-campus site, involuntary changes in employment status or military deployment, or a statement from the Office of the Vice President for Student Affairs authorizing an administrative withdrawal for medical reasons.

Students are strongly discouraged from submitting appeals that are based on lack of awareness of University policies and procedures, changes in personal circumstances or decisions, dissatisfaction with academic progress, or personal errors in judgment, including not attending class or the acceptance of new employment, as they will not be considered for approval. Issues related to the dissatisfaction with course content, delivery of instruction, or dissatisfaction with an advisor or instructor should be addressed with the chair of the academic department rather than through this appeal process.

Tuition appeal forms are available from the Office of Finance or from the University web site.

Employee Fee Waiver

Full-time faculty and staff registered for on-campus courses may have the transportation fee waived provided a faculty/staff parking decal has been purchased. Accounts are adjusted after the end of the drop/add period.

Senior Citizen Waivers

Free tuition for credit courses is available to senior citizens (persons 60 years of age or older who are residents of Virginia) who have a federal taxable income of less than $10,000; if the person’s taxable income exceeds $10,000, the individual may only audit the course for free. Noncredit courses are free to all senior citizens. Senior citizens must pay other course-related fees such as applied music fees, lifetime sports fees, and other fees related to class materials.

The senior citizen must meet the University’s admission requirements. Enrollment in credit courses is available once classes begin. Enrollment in noncredit courses is on a space-available basis only after all tuition-paying students have been accommodated. Applications are available from the Office of Finance and the University web site.

Perkins Loan Exit Interviews

The Perkins Loan Program requires that all recipients attend an exit interview before graduating, leaving the University, or attending less than half-time for the semester enrolled. During the interview session, the student is informed of his or her rights and responsibilities, including grace period, deferrals and how they work, and cancellation privileges. Students are notified of exit interviews by mail. If a student fails to attend the exit interview or return the required materials, a hold is placed on the student’s transcript and/or diploma until the University has received all the proper paperwork required to meet federal regulations. The Federal Direct Student Loan program is a distinctly separate loan program and has another exit process. For information on the Federal Direct Student Loan exit interviews, please contact the Office of Financial Aid.

Deferments

Old Dominion University offers two types of deferments: financial aid and veterans. A deferment is an extension of the payment deadline for tuition and housing charges for students whose financial aid funds or veterans’ benefits are not available by the tuition deadline. Generally, the deferment period extends the date of payment by approximately 90 days or until funds become available, whichever comes first. Deferments expire on November 1 for fall, on April 1 for spring, and August 1 for summer. Deferments are a separate program and should not be confused with other University payment arrangements.

Financial Aid: Students who have officially accepted a financial aid offer through the Office of Financial Aid may be granted a deferment automatically. Some types of aid cannot be deferred. For example, federal work study is ineligible since funds are earned as wages throughout the year. Students are responsible for paying any outstanding balance not covered by the amount of aid deferred.

Veterans: Students participating in educational programs through the Department of Veterans Affairs may qualify for a deferment of tuition and housing. Interested students should contact Military Student Services staff in the Office of the University Registrar for more information. Deferments are only granted prior to the tuition deadline for each semester provided all past due debts are satisfied.

Balance of Aid Refunds

Grants, scholarships and loans are credited to the student’s account in the order received. After all charges are fully paid, refund checks will be issued as excess payments are credited to the account. Expected installment payments are deducted from the account prior to the release of the refund. All refund checks (except Plus Loan refunds) are made payable to the student and are mailed to the student’s permanent home address. The refund check will be mailed three to five business days after the refund entry is made on the account. Due to security reasons, checks are not available for pick up.

Replacement Checks

Checks that are lost, mutilated or destroyed can be replaced. Mutilated or expired checks should be submitted for replacement. For checks that are lost, 10 business days from the date the original check was issued must expire before a written request for a replacement check will be accepted. The ten-day period allows for the original check to be forwarded by the postal service or returned

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to the University. A “stop payment” of the original check requires two-four business days to process at the bank. Once the stop payment has been confirmed by the bank, a replacement check can be issued. Expect a minimum of an additional two-four business days to process a replacement check. Please note that international checks will take longer.

Education Tax Credits
The Taxpayer Relief Act (TRA) of 1997, enacted by Congress, created two tax benefits for families who are paying for higher education. On January 31 of each year, all eligible students are issued a 1098T form for the prior calendar year. Students are directed to consult a tax professional or the Internal Revenue Service for matters related to tax credits.

Contact Information
Information related to tuition and fees, billing, refunds, payment options and related forms may be directed to Customer Relations located in the downstairs lobby of Alfred B. Rollins, Jr. Hall, Local (757) 683-3030 Toll-free (800) 224-1450, e-mail tuition@odu.edu. Payment address: Office of Finance, Old Dominion University, Alfred B. Rollins, Jr. Hall, Norfolk, VA 23529.

Student Health Insurance
All full-time and part-time students are encouraged to make provision for payment of charges for health services not provided by Student Health Services. The University recommends that all students carry adequate personal health insurance. In the future, the University may require all Norfolk campus students to have health insurance. International students are required to have health insurance. See the Student Health Services web site for information regarding health insurance at http://studentaffairs.odu.edu/studenthealth.

Motor Vehicle Parking
All motor vehicles parked in University parking facilities must display a valid parking permit. Students, faculty and staff are required to purchase permits; visitors and guests may obtain complimentary one-day parking permits upon request. Permits may be obtained at the parking facility located at 43rd Street and Elkhorn Avenue.

University motor vehicle regulations are enforced year around except as noted in the ODU Motor Vehicle Regulations Manual. Permit regulations are enforced from midnight Sunday until 5:00 p.m. Friday. Evening permits are available for purchase by students attending classes after 3:45 p.m.; evening permits are not valid for daytime parking.

Additional information and copies of the Old Dominion University Motor Vehicle Regulations may be obtained by calling Old Dominion University Parking Services at (757) 683-4004.

Fees for Noncredit Programs
The fees for noncredit programs vary according to the activity. Noncredit courses are free to all senior citizens on a space-available basis.
Student Financial Aid

The Office of Student Financial Aid supports the mission of the University by assisting students and their families in reducing or eliminating financial barriers that might prohibit their participation in the degree programs offered by Old Dominion University. The office administers need-based financial aid programs funded by Federal, State, University, and private sources in the form of grants, Federal Direct Subsidized loans, federal work-study programs, and both merit-based and need-based scholarships. In addition, the office administers the William D. Ford Federal Direct Unsubsidized Loan program and the Federal Direct PLUS loan program, both of which are non-need-based federally-supported sources of funding. Alternative loan options are also available.

Regulations governing the administration of student financial aid are subject to unanticipated change. Information provided herein is as accurate as possible on the date of printing. For additional and updated information, students and interested parties are invited to visit the office’s web site at http://web.odu.edu/af/finaid/finaid.htm or Old Dominion University’s home page, http://www.odu.edu.

Scholarships, Grants, Loans, and Student Employment

The University offers a variety of awards each year to qualified students who have been accepted for admission into degree programs. Some of these awards are available only to Virginia residents, while others are awarded without regard to state residency. Student assistance is offered on the basis of scholastic achievement and/or established financial need. Financial need is defined as the difference between the cost of education/attendance at Old Dominion University and the amount of money an applicant and his or her family are expected to make available from their income and assets to meet the expenses of that education. The eligibility for non-need Federal Direct Unsubsidized loans and Federal Direct PLUS loans is determined by a combination of factors, including dependency status, student classification (undergraduate/graduate, grade level), cost of attendance, and aggregate amount borrowed to date, to name a few.

To be eligible for assistance from the major student aid programs, a student must be a citizen or an eligible non-citizen. A student must be admitted and enrolled as degree seeking in an eligible program; must be registered with the Selective Service (if required); must not be in default or owe a repayment or refund on a federally guaranteed loan or grant; and must be in good academic standing (making satisfactory academic progress) to be eligible for financial assistance. Certain aid programs require a student to maintain a full-time status. There is one exception to the requirement that students be admitted on a degree-seeking basis: students who are admitted only for purposes of teacher certification may qualify for a William D. Ford Federal Direct Loan.

Financial aid eligibility is determined on an annual basis, for one academic year (Fall, Spring, Summer) only, and is determined for succeeding years upon re-application and continued eligibility. Applications for Old Dominion University-administered financial aid should be submitted as early as possible in January for consideration in the following academic year. Awards are offered on a first-come, first-served basis. Priority awards of grants funded by the Commonwealth of Virginia as well as for the Federal Supplemental Educational Opportunity Grant (FSEOG) Program are awarded to eligible students whose Free Application for Federal Student Aid (FAFSA) is received by the federal processing agency no later than February 15 preceding the academic year of interest.

To be considered for the Annual and Endowed Scholarships administered by the University, an Admissions application or the Scholarship Application for Continuing Students must be received by the University by February 15 preceding the academic year of interest. All admitted students are automatically considered.

An entering student must be accepted for admission into a degree-seeking program before receiving a financial aid eligibility notification letter; however, a student who has not yet been accepted for admission may apply for financial assistance. Once admitted into an eligible degree program, the student will automatically receive a notice of tentative financial aid eligibility. Announcements of financial aid eligibility for early applicants are generally made before May 1. The applicant will be notified by the Office of Student Financial Aid. In addition, the admitted student is encouraged to monitor the status of his/her application for aid and its subsequent processing by accessing his/her records on the University’s secure online site, LEO Online. Students may be notified by e-mail to their Old Dominion University e-mail accounts throughout the year. Alerts, reminders, and student-specific information are mailed through the University’s secure e-mail system throughout the year, and students are responsible for reading and responding to these communications.

The information regarding financial aid contained in this catalog is subject to changes or deletions without notification. Additional information concerning financial aid is available through the Office of Student Financial Aid. The federal Student Guide, which describes the federal student financial aid programs and how to apply for them, is also available free of charge from the Federal Student Aid Information Center (1-800-433-3243). The U.S. Department of Education provides efficient and secure access to information and government services and benefits for students via the Access America for Students gateway web site (http://www.students.gov).

Application Requirements

To be considered for financial aid, a student must complete all documents and submit them as soon as possible after January 1 preceding the academic year for which application is made. (For example, a student planning to attend during the Fall Semester, 2006 would submit a financial aid application in January, 2006.) The documents and deadlines are described below. Note: The Free Application for Federal Student Aid (FAFSA) is required of all applicants for financial aid.

Document 1: The Free Application for Federal Student Aid (FAFSA). Submitting a completed and signed FAFSA initiates the process of applying for financial aid. The information provided by the student (and his/her parents) is used by the University and other awarding agencies to determine financial need and general financial aid eligibility. The FAFSA may be obtained from high schools, community colleges, or any financial aid office. FAFSAs are also mailed to students by the U.S. Department of Education upon the student’s request (call 1-800-433-3243). Because the FAFSA must reflect income for the calendar year preceding the academic year aid is being applied for, it cannot be signed or mailed until after January 1. When completing the FAFSA, use Old Dominion University’s Title IV Institution Code (003728) in Step Six. The FAFSA should be mailed to the U.S. Department of Education’s federal processor, not to Old Dominion University: students are required to file a domicile form with the Office of the University Registrar to establish resident status (in state or out of state) prior to receiving a financial aid award notification. A pre-addressed envelope is provided with each application. Old Dominion University encourages students to take advantage of the electronic FAFSA option (FAFSA on the web, http://www.fafsa.ed.gov/), which is a secure and convenient method for completing the application process. All applicants and parents of dependent applicants should apply for a pin number with the Department of Education to sign the FAFSA application electronically.

Document 2: Student Aid Report (SAR). Once the FAFSA is received and processed, the federal processing center will mail the Student Aid Report (SAR) to the applicant. Student employees who wish to participate in the federal work-study program will be notified of this requirement. Applications for Old Dominion University’s Title IV Institution Code (003728) in Step Six. The FAFSA should be mailed to the U.S. Department of Education’s federal processor, not to Old Dominion University: students are required to file a domicile form with the Office of the University Registrar to establish resident status (in state or out of state) prior to receiving a financial aid award notification. A pre-addressed envelope is provided with each application. Old Dominion University encourages students to take advantage of the electronic FAFSA option (FAFSA on the web, http://www.fafsa.ed.gov/), which is a secure and convenient method for completing the application process. All applicants and parents of dependent applicants should apply for a pin number with the Department of Education to sign the FAFSA application electronically.

Document 3: Employment Eligibility Verification (Form I-9). Students who are eligible to participate in the federal work study program will be required to submit certain documents. The Immigration Reform and Control Act of 1986 requires all employees of the University to complete an Employment Eligibility Verification (Form I-9). Student employees who wish to work on or off campus must be prepared to complete the I-9 Form before they begin working.

The I-9 Form cannot be completed unless the employee provides documents to verify both identity and employment eligibility. The following documents will satisfy this requirement:

- A U.S. passport
- A certificate of U.S. citizenship (INS Form N-560 or N-561)
- A certificate of naturalization (INS Form N-550 or N-370)
- An unexpired foreign passport bearing an unexpired endorsement by the U.S. Attorney General for work in the U.S.
- A resident alien card or registration card with a photograph, which authorizes employment
- A temporary resident card (INS Form I-688)
- An employment authorization card (INS Form I-688A)

If one of the previously referenced documents is not available, an applicant or employee must submit both a document verifying employment eligibility and a document establishing identity. Documents that verify employment eligibility include:
- A social security card (unless on its face it shows that its issuance does not authorize employment in the U.S.)
- An unexpired reentry permit (INS Form I-327)
- An unexpired refugee travel document (INS Form I-571)
- An employment authorization document issued by the Immigration and Naturalization Service
- A native American tribal document
- A U.S. citizen identification card (INS Form I-197) or identification card for use of resident citizens in the U.S. (INS Form I-174)
- A U.S. birth certificate issued by the Department of State (Form FS-545)
- A certificate of birth abroad issued by the Department of State (Form DS-1350)
- An original or certified copy of a birth certificate issued by a state, county, or municipal authority bearing a seal

Documents establishing identity include:
- A photo driver’s license or other state-issued identification document. If the driver’s license or identification card does not include a photograph, it should provide identifying information, such as name, date of birth, sex, height, color of eyes, and address.
- A school identification card with a photograph
- A voter registration card
- A U.S. military card or draft record
- An identification card issued by federal, state, or local government agencies or entities
- A military dependent’s identification card
- A U.S. Coast Guard Merchant Mariner card
- A driver’s license issued by a Canadian government authority

Document 4: Consortium Agreement and Dual Enrollment Forms

Students attending classes at a distant site may be required to submit these forms. These students should consult with their site director and their financial aid counselor to determine if these forms are required.

Standards of Satisfactory Academic Progress to Maintain Financial Aid Eligibility

Old Dominion University Requirements

Fulfillment of Federal Satisfactory Academic Progress is reviewed and evaluated by the Financial Aid Office in compliance with federal regulations. In order to qualify for assistance through the Office of Student Financial Aid, students must be accepted by the University as degree-seeking students. Students must be enrolled at least half-time (50%) to qualify for most financial aid programs. Undergraduate students must be enrolled for a minimum of twelve credit hours per semester (Fall, Spring, or Summer) to be considered full-time. NOTE: The full-time requirement of 12 hours during the Summer term is a federal requirement for student financial aid for undergraduate students, even though it differs from the University standard of nine hours for full-time enrollment for the Summer term (see “Normal Course Load for Undergraduate Students” in the Academic Information section of the catalog). An undergraduate student must be enrolled for a minimum of nine credit hours per semester to be considered enrolled three-quarters time during the Fall, Spring, or Summer semesters. Half-time enrollment is six credit hours per semester, including the Summer semester, for all undergraduate students. Graduate students must be enrolled for a minimum of nine hours during either the Fall or Spring semesters or six hours during the Summer semester to be considered full-time. Half-time enrollment for graduate students is four hours during either the Fall or Spring semesters or three hours during the Summer semester.

Eligibility and award amounts are based on the number of semester hours in which the student is enrolled. For purposes of financial aid, courses taken as Audit courses do not count toward enrolled hours. It may be possible for off-campus students to meet eligibility requirements through credit hours they are taking elsewhere; however, students must be enrolled in at least one Old Dominion University course to meet financial aid eligibility requirements. Off-campus students are encouraged to contact their advisor for additional information.

The following quantitative, time factor, and qualitative requirements apply to all of the financial aid programs administered by Old Dominion University with the exception of programs that are governed by state requirements for satisfactory academic progress.

I. Quantitative Requirements

A. To determine the full-time, three-quarter-time, and half-time eligibility status of the student, the University will use the number of semester hours for which the student is enrolled on the last day of the drop/add period of each semester.

B. Measurable degree progress:

Undergraduate students. The student must consistently demonstrate a completion ratio of 75% of courses attempted. For example, a student who has enrolled in (attempted) 60 semester credit hours must have successfully completed (earned) 45 semester credit hours to maintain measurable degree progress for financial aid eligibility. Graduate students. The student must consistently demonstrate a completion ratio of 80% of all courses attempted.

II. Allowable Time

All students must meet the University’s standards for Regulations for Continuance found in the Academic Information section of this catalog. The maximum allowable time to be eligible for most financial aid programs for a full-time undergraduate student is five years or 10 semesters. The maximum allowable time to be eligible for financial aid for a full-time master’s degree student is three years and for a full-time doctoral degree student four years. Certain additional restrictions on maximum allowable time to maintain eligibility for state grants may be legislated during the period covered by this catalog.

III. Qualitative

The Financial Aid Office will conduct a review at the end of the Spring semester of each academic year to determine the student’s successful progression toward obtaining a degree by comparing cumulative grade point average to hours earned. Qualitative satisfactory academic progress for undergraduate students is evaluated in accordance with the following table:

<table>
<thead>
<tr>
<th>Undergraduate</th>
<th>Minimum GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-25</td>
<td>1.50</td>
</tr>
<tr>
<td>26-57</td>
<td>1.70</td>
</tr>
<tr>
<td>58-89</td>
<td>1.80*</td>
</tr>
<tr>
<td>90-up</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Qualitative satisfactory academic progress for graduate students is evaluated in accordance with the following:

<table>
<thead>
<tr>
<th>Graduate</th>
<th>Minimum GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-up</td>
<td>3.00</td>
</tr>
</tbody>
</table>

* Additional restrictions, such as minimum GPA or maximum hours attempted, affecting state grant eligibility may be enacted during the period covered by this catalog.

IV. Review Policies

A. Following the Spring semester each year, the financial aid recipient’s academic status will be reviewed. If the student has not maintained satisfactory academic progress, his or her financial aid will not be processed or will be canceled.

B. The following shall be considered as credits completed:

1. A through D- grades, undergraduate
2. A through C- grades, graduate
3. P - passing with credit

C. The following shall not be considered as credits completed:

1. F grades
2. O audit, no credit
3. W withdrawal
4. I incomplete
5. WF unofficial withdrawal
6. Q grades

D. Students who do not complete any credits, who receive a 0.00 GPA, or who do not successfully meet the satisfactory academic progress standards stated above will be placed on financial aid suspension.

E. Students who enroll and subsequently withdraw after the official tuition deadline and receipt of aid for two semesters are ineligible for further financial aid. Example: Student enrolls Fall 2004, receives financial aid, and then withdraws. Student enrolls Spring 2005, receives financial aid, and then withdraws. The student is ineligible for financial aid beginning Summer 2005 and thereafter. This policy is not subject to appeal.

F. Students who drop all courses prior to the official tuition deadline will be required to return all financial aid received, including loan proceeds and excess aid (“balance of aid”). Aid will be canceled and the student will be billed for all aid received. This policy is not subject to appeal. Students who fail all courses during a given semester may be required to return a portion of the Federal financial aid received.
V. Appeal of Financial Aid Suspension
A. Once a student has been placed on financial aid suspension as a result of the routine annual review, he or she may appeal this action by submitting, in writing, a completed Satisfactory Academic Progress Appeal Form. The completed form should be accompanied by the required supporting documents from the student’s advisor. Completed forms should be submitted to the student’s financial aid counselor. The appeal must document (a) reasons the student did not achieve minimum degree progress requirements and (b) the student’s action plan to prevent recurrence of the academic progress deficiency. The Satisfactory Academic Progress Appeal Form packet is available from the office’s web site. Note: The state (Commonwealth of Virginia) satisfactory academic progress requirements are not subject to appeal.
B. The Office of Student Financial Aid will review the appeal and the student will be advised, in writing, of the decision. The decision will be based on factors that are beyond the control of the student such as documented medical factors.
C. A student wishing reconsideration of a denied appeal may request reconsideration, in writing, with appropriate documentation attached, to the Assistant Director for Financial Aid Counseling Services, whose decision is final.
D. Upon academic suspension, financial aid suspension is automatic. Academic suspension may be appealed through the director of academic continuance to College Appeals Committees, if an undergraduate student, or the Graduate Appeals Committee, if a graduate student.
E. Successful appeals of academic suspension (item D above) do not automatically result in reinstatement of aid eligibility. Request for reconsideration for reinstatement of financial aid eligibility is a separate process. The appeal (Satisfactory Academic Progress Form packet) for financial aid reinstatement must be submitted, in writing, to the student’s financial aid counselor. Consideration for reinstatement of financial aid will consist of a strict review of degree progress and the student’s plan for program completion without recurrence of the deficiency. An undergraduate must document satisfactory completion of a minimum of six credit hours (within one term) with at least a 2.00 GPA, after the date of academic suspension, on his or her own, to be considered for financial aid reinstatement. The student will be notified in writing of the counselor's decision.

VI. Conditions for Reinstatement
Students on financial aid suspension may be eligible for reinstatement after successful completion of the required number of units with the required minimum GPA as stated previously. Any student who has been denied financial aid at another postsecondary institution due to academic progress insufficiency may be denied aid at Old Dominion University until that student has satisfactorily completed six credit hours (within one term) on his or her own.

No undergraduate student who has earned 90 or more credit hours with a cumulative GPA less than 2.00 is eligible for financial assistance under any circumstances. This institutional policy is not subject to appeal.

Federal Programs

Students must submit the Free Application for Federal Student Aid (FAFSA) to determine eligibility for all of the following federal financial aid programs.

Federal Pell Grant Program. A Federal Pell Grant, unlike a loan, does not have to be repaid. Pell Grants are only awarded to undergraduate students who have not earned a bachelor’s degree. For many students, Pell Grants provide a foundation of financial aid to which other aid may be added.

Federal Supplemental Educational Opportunity Grant (FSEOG). Like the Federal Pell Grant, this award assists undergraduate students only and does not have to be repaid. This grant is made to students who demonstrate exceptional financial need (very low expected family contribution, or EFC). Students who meet all other eligibility criteria and whose FAFSA were received by the federal processing agency by the priority deadline (February 15) are considered for this grant. It is awarded on a first-come, first-served basis. Federal funding for this program is extremely limited.

Federal Work Study (FWS) Program. This program provides jobs for undergraduate and graduate students with financial need, allowing them the opportunity to earn money for educational expenses. The FWS program encourages community service work such as tutoring and work related to the course of study. A student who qualifies for FWS is not automatically guaranteed employment and must compete with other FWS recipients for available positions. The Career Management Center, located at 2202 Webb University Center, maintains a listing of available positions on its web site at http://www.odu.edu/ao/cmc/news.html.

Federal Perkins Loan Program. This low-interest (5 percent) loan is targeted for students with exceptional financial need. A Federal Perkins Loan borrower is not charged an origination fee or an insurance premium. A Federal Perkins Loan must be repaid.

Federal Direct Student Loan Programs

Old Dominion University participates in the William D. Ford Federal Direct Loan Program and thus receives loan funds directly from the U.S. Department of Education upon disbursement (payment) to eligible students. There are three kinds of loans:

William D. Ford Federal Direct Subsidized Loans. The federal government will pay the interest on these loans while students are in school and during deferrals (postponements of repayment). Students must demonstrate financial need to receive this type of loan. Both undergraduate and graduate students may be eligible and must be enrolled at least half time. Like all other forms of aid, loans are disbursed to student accounts on a semester-by-semester basis, and eligibility must be re-confirmed prior to release.

William D. Ford Federal Direct Unsubsidized Loans are available to eligible students regardless of financial need, but students will be required to pay all interest charges, including the interest that accumulates during deferments.

The Federal Direct Parent Loan for Undergraduate Students (PLUS) is available for parents of dependent students who filed the FAFSA and who meet other general eligibility requirements. Applications for this loan must be obtained through the Office of Student Financial Aid. They are not automatically offered but are available upon the written request of the parent borrower. Parents are responsible for all interest charges. PLUS Loan applications are subject to credit approval.

State Programs

The Virginia Student Financial Assistance Program (VSFAP) was established to assist students with financial need. VSFAP Funds are used for need-based grants to Virginia resident undergraduates or for assistantships and fellowships to graduate students. As funds are limited, they are awarded on a first-come, first-served basis, with students meeting the priority requirements first (February 15 receipt by federal processing agency) being given first consideration. Specific Satisfactory Academic Progress requirements that are more rigorous than those for federal financial aid eligibility consideration apply. Interested students are encouraged to visit the State Council for Higher Education in Virginia web site at http://www.schev.edu for detailed information and program regulations and guidelines.

Commonwealth Award. In order to be eligible for a Commonwealth award, a student must be admitted into a Virginia public two or four year college or university, a domiciliary resident of Virginia as defined by the Code of Virginia 23-7.4, demonstrate financial need as determined by the institution (FAFSA required), be enrolled at least half-time in an eligible baccalaureate program, a U.S. citizen or eligible non-citizen, and otherwise eligible for federal financial aid. This is a grant and does not have to be repaid. The actual awards vary by institution and are based on funds available. The awards may not exceed tuition and required fees. Additional restrictions, such as minimum GPA or maximum hours attempted, affecting state grant eligibility may be enacted during the period covered by this catalog.

Virginia Guaranteed Assistance Program (VGAP). In order to be eligible for a VGAP award, a student must meet all the Commonwealth award requirements, and must also be a graduate of a Virginia high school, have a minimum cumulative high school grade point average of 2.5 on a 4.0 scale, and be classified as a dependent student for federal financial aid purposes. A student generally enters the VGAP program as a freshman. Renewal of the VGAP grant is dependent upon several factors, including a minimum 2.0 GPA each semester, completion of a minimum of 12 hours each semester (full-time completion), early FAFSA filing, demonstrated financial need, and continuous full-time enrollment (minimum 12 credit hours per semester). The program is limited to the first four years of attendance (fall/spring enrollment for four consecutive academic years). Additional restrictions, such as minimum GPA or maximum hours attempted, affecting state grant eligibility may be enacted during the period covered by this catalog.
College Scholarship Assistance Program (CSAP). This grant is awarded to eligible undergraduate students and does not have to be repaid. A recipient must be a Virginia resident working toward a first baccalaureate degree and must demonstrate financial need (FAFSA required), be admitted into a Virginia public institution, be enrolled at least half-time (six credit hours per semester), and have a computed expected family contribution (EFC) that is less than one-half of the total cost of attendance, among other criteria. Awards are comprised of both federal and non-federal funds because CSAP includes Virginia’s allotment of the Federal Leveraging Educational Assistance partnership (LEAP).

Conditions for Disbursement of Financial Aid

The Office of Student Financial Aid publishes a “Statement of Student Responsibility & Conditions for Release of Financial Aid” document each academic year. This statement is included with the initial award notification mailed to the student and is also accessible on the Financial Aid Office page of the University web site http://web.odu.edu. When students accept financial aid, they also acknowledge that they have read and agree to comply with the Statement. A limited sample of conditions is as follows:

1. Students are required to communicate immediately with their counselors if they change the number of hours enrolled each semester. Financial aid is based upon full-time, three-quarter-time, or half-time enrollment. If a student’s aid has been calculated based on an enrollment level different from the actual enrollment for that semester, the aid will not be released until the student has notified the counselor and the counselor has reviewed and recalculated aid eligibility. Financial aid eligibility changes when enrollment level changes. Students who drop courses are responsible for notifying the financial aid counselor immediately. Aid will be reduced accordingly and financial aid already received will be due back to the University. This also applies to “balance-of-aid” payments made to students prior to dropping.

2. The student is responsible for repayment of any and all financial aid received if adjustments resulting from unreported or misreported information discovered through verification, third-party notices, account reviews, and/or Quality Assurance findings lead to reductions in aid. All students who appear to qualify for a Federal Pell Grant are required to complete all information submitted on the FAFSA as part of the federal verification process. Documents such as Federal Income Tax returns, W-2 forms, Leave and Earnings Statements, notices of SSI benefits, and Verification Worksheets will be required. Other documents may be requested to confirm marital status or other information provided on the FAFSA during the verification process.

3. The student is responsible for reporting additional educational assistance received through sources other than the Financial Aid Office. Financial aid may be adjusted according to federal regulations as a result of additional educational assistance received and not reflected initially. The student bears responsibility for reporting any additional aid in the form of scholarships from outside sources, Vocational Rehabilitation Benefits, Graduate Tuition Scholarships, Veterans Benefits, Senior Citizen Tuition Waivers, Employer Assisted Tuition Payments, Third Party Payment Agreements involving any outside group or company, and all other forms of assistance. The student must report these external sources of financial assistance immediately to his/her financial aid counseling team.

4. Federal Direct Student Loans and Federal Perkins Loans require Promissory Notes. Federal Direct Student Loan promissory notes may be signed online. Federal Perkins Loan Promissory Notes are produced by the Office of Student Financial Aid after all eligibility conditions have been met. Students must complete and sign the promissory notes and return them to the Financial Aid Office before the loan process can be completed. Entrance loan counseling is required of all first-time borrowers prior to release of loan proceeds.

5. Transfer credit evaluations for new transfer students may result in additional loan eligibility. Students may request an account review once all transfer credits have been evaluated and are reflected on the student’s official academic transcript.

6. A tentative or conditional financial aid package assumes a level of anticipated funding. The University reserves the right to modify financial aid at any time on the basis of new information affecting student eligibility, including but not limited to changes in financial resources, residence, academic status, or changes in the availability of funds.

8. Students who withdraw from all courses are subject to regulations regarding the RETURN TO TITLE IV FUNDS requirement. If the date of complete withdrawal precedes the date on which 60% of the academic semester has been completed, a prorated portion of all Title IV student financial assistance will be due back to the federal programs. The University policy regarding tuition refunds following withdrawal is stated in the catalog and is independent of the Return of Title IV funds regulations. Students who withdraw from the University before 60% of the semester has elapsed should anticipate repaying a significant portion of Title IV financial assistance. Additionally, students receiving all “F” grades are subject to the same federal guidelines.

Scholarships

Awards Based on Admission to the University

Admissions Scholarships

All entering fall freshmen and transfer students who submit their admission application and ALL required credentials by the early action/scholarship deadline (freshmen – December 1 and transfer – March 15) are considered for merit based scholarships offered through the Old Dominion University Admissions Office. The admission application serves as the merit based scholarship application.

Information regarding minimum requirements for eligibility consideration can be obtained from the Admissions web site.

Annual and Endowed University Scholarships

Scholarships at Old Dominion University have been established through the generosity of individuals, organizations and corporations to recognize outstanding academic performance and to assist students in pursuing their educational goals. Scholarship awards are based on a variety of criteria. For some awards, eligibility is entirely determined by academic merit or potential. Other requirements include: financial need, school or city residency, graduation from a particular high school or participation in a specific program, organization or activity. Generally, recipients have earned at least a 3.7 grade point average (on a 4.00 scale) and are full-time, degree-seeking students.

All first-time freshmen and transfer students will automatically be considered for academic and endowed scholarships based on their admissions application. The majority of scholarships offered to Old Dominion University students are based on information already known to the University.

The Scholarship Form for Continuing and Graduate Students is available for students who are (1) students who began attending Old Dominion University before August 1999, or (2) students who have a change in scholarship eligibility according to the Criteria Check List (included in the Scholarship Form). Continuing students who meet the above circumstances must complete and submit the form to the Office of Student Financial Aid, 121 Rollins Hall, Norfolk, VA 23529-0052. The form must be received by February 15 each year to be considered for scholarships for the following academic year. The information provided on the Form for Continuing and Graduate Students will be maintained and used for scholarship selection for the duration of the student’s attendance at Old Dominion University. If the student withdraws from all courses, the student must withdraw the aid from the student’s account.

It is not necessary to complete the form more than once during attendance at Old Dominion University, UNLESS the required information has changed. To determine eligibility for need-based scholarships (designated by an asterisk (*)), students must also file the Free Application for Federal Student Aid (FAFSA) PRIOR to February 15 of the appropriate academic year.

Selection procedures vary for these awards. All scholarships require admission to and enrollment in a degree program at Old Dominion University. For some scholarships, a portfolio, an audition or participation in a specific program may be required. A (*) denotes that graduate students are eligible for scholarships. The additional steps, if required, are summarized following each scholarship description.

Students will receive written notification of any scholarship for which they have been selected. Most scholarships will be awarded in April and May of each year. All scholarships must be formally accepted in writing.
Awards for Entering Freshmen

The Nicholas Andrasz Academic and Social Service Endowed Scholarship was established by Nicholas Andrasz to assist an entering freshman who has graduated from a Virginia Beach high school. The recipient must have a minimum 3.25 grade point average, minimum 1000 combined SAT score and must have spent a considerable amount of non-paid volunteer time helping to make his/her community a better place.

The Beta Sigma Phi-Alice Brewer White Memorial Endowed Scholarship is made possible by an endowment established in 1985. This award assists an entering freshman who is from Southside Hampton Roads. Preference will be given to students with a 3.20 grade point average and Beta Sigma Phi affiliations, including mother, grandmother or aunt. The student may also be a member of Beta Sigma Phi. Leadership ability and community involvement are factors in selection. This scholarship is renewable.

The James L. Bugg Scholarship was established in 1978 by the Old Dominion University Alumni Association to honor this former University president. The award is made to an alumnus’ son or daughter who has participated in extracurricular activities and community service and displays top academic achievement.

The CHROME Scholarships are funded by the University and awarded to entering freshmen who have participated in a certified high school CHROME club. Recipients must intend to pursue a degree in engineering, mathematics, science, technology or a related field.

The Claire Virginia Dabel Memorial Scholarship is funded through an endowment established by Dr. Virginia B. Newbern to assist one or more freshmen students majoring in the field of biology.

The Peter G. Decker Scholarship is funded by an endowment established by Peter G. Decker and the estate of Celina Stern. This scholarship is awarded to students who have graduated from the Old Dominion Lambert’s Point Summer Program and are admitted to Old Dominion University upon completion of high school.

*The E. L. Hamm Endowed Scholarship was established by Edward L. Hamm, Jr. to assist a student who is residing in or has resided in Norfolk Redevelopment & Housing Authority properties. The recipient must be a full-time undergraduate student who demonstrates financial need. (FAFSA)

*The James W. Ingersoll Memorial Scholarships are made possible by an endowment given by the Ingersoll family, their friends and the citizens of Portsmouth, Virginia. These awards assist entering freshmen who demonstrate financial need and are graduates of Churchland High School in Portsmouth. (FAFSA)

The James V. and Donna L. Koch Endowed Scholarship was established by the Old Dominion University Educational Foundation in 2001 to honor this former University president and his wife. This four-year scholarship assists an incoming freshman with a minimum 1300 SAT score, 3.80 cumulative grade point average and extracurricular involvement. The scholarship can be renewed if the student maintains eligibility criteria.

The Edgar and Kathleen Kovner Scholarships for outstanding high school students are awarded each year to entering freshmen in the Frank Batten College of Engineering and Technology. The awards are based on performance in a high school curriculum that emphasized mathematics and the sciences. These scholarships are renewable for three years for recipients who remain enrolled at Old Dominion. Students are selected by the Dean of the Frank Batten College of Engineering and Technology and maintain a 3.00 grade point average.

The A. D. Morgan Scholarships are supported by a trust established in 1968 by Dr. A.D. Morgan and Annye Lewis Morgan. The scholarships assist Old Dominion University students who are U.S. citizens and residents of the greater Norfolk area. Preference is given to the members of the Freemason Street Baptist Church of Norfolk. Recipients are selected by the trustees of the Scholarship Fund and coordinated through the Old Dominion University Office of Student Financial Aid.

*The Patricia Ann Vaughan Myers '57 Memorial Scholarship was established by Hugh L. Vaughan in honor of his daughter, Patricia Ann. It assists an entering freshman who is a Virginia resident and a resident of the Tidewater area. The student must demonstrate financial need, academic merit and be a full-time student under the age of 24 who lives at home. (FAFSA)

Norfolk School Board Scholarships are funded by the University and awarded to ten entering freshmen graduates of Norfolk public or private schools. Students are selected based on their high school academic achievement. The award equals full in-state tuition (up to 15 credit hours per semester). Recipients are selected by the Director of Guidance of the Norfolk Public School system, in conjunction with the high school guidance counselors. Recipients may qualify for a one-year renewal of the award by maintaining a 2.50 grade point average and completing 24 academic units at the end of the first academic year.

The Parents’ Association of Old Dominion University Freshman Scholarship is funded by an endowment by the organization to assist an outstanding entering freshman who has demonstrated academic merit and leadership skills.

The Parents’ Association of Old Dominion University Freshman '90 Scholarship is funded by an endowment by the organization to assist an outstanding entering freshman who has demonstrated academic merit and leadership skills.

*Regional Scholarship awards are provided by the University in the amount of $1,200 to entering freshmen from Accomack County, Chesapeake, Franklin, Hampton, Isle of Wight, Newport News, Northampton County, Portsmouth, Southampton County, Suffolk, Surry and Virginia Beach public high schools. Students must demonstrate financial need. Students may qualify for a one-year renewal of the award if they maintain a 2.50 grade point average, complete 24 academic units for the year and demonstrate financial need. (FAFSA)

Old Dominion University Scholarships for Entering Freshmen

The Theodore F. and Constance C. Constant Domion Scholarship was established by Theodore F. and Constance C. Constant to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test. The recipient must be a Virginia resident, with preference given to Hampton Roads residents.

The Mary T. Cooper and Dudley Cooper Dominion Scholarship was established by Mary T. Cooper and Dudley Cooper to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test. The recipient must also be a United States citizen.

The Clifford and Ann Cutchins, III Dominion Scholarship was established by Mr. and Mrs. Clifford A. Cutchins, III to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

The Robert L. and Geraldine E. Fodrey Alumni Association Memorial Scholarship Endowment was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

The Harry H. and Marie Mansbach Dominion Scholarship was established by Harry H. and Marie Mansbach to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

The Joseph M. Marchello Dominion Scholars Endowment was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

The William B. Spong, Jr., Dominion Scholar Endowment was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

The College of Arts and Letters

*The Herbert Altschul Memorial Scholarship in Humanities is made possible by an endowment given by the family of the late Herbert Altschul, a Norfolk businessman and former owner of Altschul’s Department Store. This award assists three juniors who demonstrate financial need, are U.S. citizens and are majoring in the Humanities. (FAFSA)

*The Elliot S. Brenneiser Memorial Scholarship was established to assist a full-time music major in either the piano performance program or the music education program with a concentration in piano. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

*The Martha Brown Endowed Scholarship is made possible by the friends of Martha Brown. It is awarded to assist a full- or part-time student in...
the College of Arts and Letters. The recipient must be a sophomore or junior and maintain a minimum cumulative grade point average of 3.0 pursuing a minor in African American Studies. The student must also demonstrate financial need. (FAFSA)

* The Dr. James V. D. Card Scholarship Fund was established by James V. D. Card to assist an undergraduate or graduate student who is majoring in English. The recipient must demonstrate financial need. (FAFSA)

The Marie A. Dornhecker-French Language Endowed Scholarship is funded by the Marie A. Dornhecker Charitable Trust and was established in 1998. The recipient must be a full-time student living in the Hampton Roads area of Virginia and must be a French language major in his or her junior year of study. The scholarship is to be based primarily on academic merit.

* The Drewry Family Endowed Scholarship was established in 2004 by William B. Drewry to be given to a declared undergraduate majoring in the College of Arts and Letters. The recipient must be academically average with a grade point average between 2.8 and 3.0. Preference will be given to a student with financial aid. (FAFSA)

* The Friends of Women’s Studies Scholarship is funded by an endowment in honor of Carolyn Rhodes for students majoring in women’s studies. Two scholarships are awarded: one to a graduate student seeking an M.A. in humanities and one to an undergraduate student. Undergraduate students must demonstrate financial need and have a minimum grade point average of 3.50. Recipients can be full- or part-time students. (FAFSA)

* The Barbara M. Gorlinsky Memorial Fine Arts Scholarship is made possible by an endowment the Gorlinsky family established in memory of their daughter. It is designed to assist students with financial need who are fine arts majors. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO, FAFA) (757) 683-4047

The Eva May Morris Gregory Dance Scholarship honors someone who emulates Ms. Gregory’s approach and perspective regarding dance. The recipient must be a rising junior majoring in dance with a minimum 3.00 grade point average.

The Lee and Bernard Jaffe Family Endowed Scholarship Fund acknowledges excellence in spoken and written communications using the English language. The recipient must be a rising junior or senior with a declared major in English or Communications with a 3.50 grade point average and recommended by the department chair and dean.

The Jerome J. Kern Music Prize was made possible by an endowment from the estate of Jerome J. Kern to assist a student who has declared a major in music. The award is determined by the Department of Music and based on academic merit and musical talent.

The Jerome J. Kern Music Scholarship was established by William A. Goldback in memory of his uncle. The recipient must be an undergraduate student of exceptional academic ability seeking a major or plans to be a music major. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

The Wayne Lustig Endowed Scholarship, established by Mrs. Elaine B. Lustig, assists undergraduate students in the College of Arts and Letters who demonstrate academic merit and participate in an aspect of the University’s athletic program, either at the intercollegiate, club or intramural level.

The Virginia M. Morgan Writing Scholarship established in 2005 by Frank Batten and is awarded to two or more first year full-time graduate students enrolled in the creative writing program. Recipients must maintain a minimum 3.5 GPA.

The Old Dominion University Dance Program Scholarship was established to assist a full-time dance major with outstanding ability/potential in dance.

The James Harrison Parker Scholarship Fund was established by the Thistle Foundation to assist a student majoring in English with an emphasis in composition. The recipient must be a rising junior and have a minimum cumulative 3.00 grade point average.

* The Harvey Ronald Saunders Memorial Endowed Scholarship was established by Mr. and Mrs. Louis M. Saunders to assist an undergraduate or graduate student majoring in the arts/fine arts with an emphasis in painting or drawing. The recipient must have a 3.00 minimum grade point average, demonstrate financial need and be a citizen of the United States or Israel. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO, FAFA) (757) 683-4047

The Charles K. Sibley Art Scholarship is funded by an endowment made possible by contributions from the friends and patrons of the former Old Dominion University professor. Awards are to assist graduate or undergraduate students majoring in studio art or art history. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO) (757) 683-4047

The David Scott Sutelan Memorial Scholarship is made possible by an endowment established by David, Charles and May Scott Sutelan. The recipient will be seeking a major in fine arts in the creative writing program.

The Caroline Heath Tunstall-Elizabeth Calvert Page Dabney Scholarship is funded by an endowment contributed in honor of two former members of the Old Dominion University English Department. This scholarship is awarded to an upperclassman in the College of Arts and Letters who has obtained at least a 3.50 grade point average.

The Charles E. and Frieda O. Vogan Music Scholarship assists undergraduate music students. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

The Forrest P. and Edith R. White Endowed Scholarship Fund was established by Edith R. White to provide scholarships to students studying acting in the Old Dominion University Communication and Theatre Arts Department. (AUDITION)

The College of Business and Public Administration

* The Atlantic Group Endowed Scholarship was established in 2004 by Dennis McLaughlin and The Atlantic Group, Inc. to assist an undergraduate in the College of Business who is a declared management major. The student must have a grade point average of 3.0 or higher and the selection will be based on demonstrated financial need. (FAFSA)

* The Bagwell-Jones Endowed Scholarship was established by Dorothy M. Jones in memory of her parents. The recipient must be a rising senior in the College of Business and Public Administration with the highest grade point average of the three prior years at Old Dominion, as well as demonstrate financial need. (FAFSA)

The Constant Dominion Business Scholarship was established as an endowment by Mr. and Mrs. Theodore F. Constant. The scholars selected will be among the best students selected to enter the University’s College of Business and Public Administration. The award will be given to at least two Virginia residents each year.

The Theodore F. and Constance C. Constant Fellowships are funded by an endowment that assists two full-time graduate students in the College of Business and Public Administration.

The DeHority Accounting Alumni Scholarship was established in 1993 by the Old Dominion University Accounting Alumni. It is awarded to a student who has completed a minimum of 60 semester hours majoring in accounting with a grade point average of 3.00 or above.

* The Hunter A. Hogan Scholarship is funded by an endowment established by Robert M. and Eleanor Stanton and Goodman Segar Hogan Inc. on the occasion of Mr. Hogan’s retirement as chair of the firm and in recognition of his leadership in the real estate industry. This scholarship is awarded to one or more students who have demonstrated financial need and are enrolled in the real estate program in the College of Business and Public Administration. (FAFSA)

The Janet L. Hume Scholarship is funded by an endowment established by Harbour Bank. This scholarship is provided to assist a junior with a declared major in the College of Business and Public Administration who has demonstrated academic merit. Preference is given to a student at least 30 years old who has demonstrated financial need. (FAFSA)

* The Dorothy M. Jones Memorial Scholarship has been given anonymously by a former student to honor Professor Jones, associate professor emeritus in the College of Business and Public Administration. This scholarship is awarded to a junior who has declared a major in the College of Business and Public Administration. The student must be a resident of Eastern Virginia, enrolled full time, in good academic standing and demonstrate financial need. Preference is given to graduates of Matthews High School. (FAFSA)

The Lori E. Kaplan Real Estate Endowed Scholarship was established in memory and honor of the late Lori E. Kaplan by Harvey Lindsay, Janet Abraham and Roslyn Kaplan and funded by an endowment given by Harvey Lindsay Commercial Real Estate, friends and family of Lori E. Kaplan and the proceeds of the annual Lori Kaplan Memorial Golf Tournament. Preference is given to students with a declared major in financial management or real estate, a minimum 2.75 grade point average, demonstrated interest in the profession of real estate, demonstrated commitment to the community and those currently employed full or part time.

The Barry M. Kornblau Real Estate Endowed Scholarship was established by Barry M. Kornblau for a student who is a junior or senior in the College of Business and Public Administration. A major in financial
management with an emphasis in real estate and a grade point average of 3.25 are required.

♦ The Gregory Lumsden Endowed Scholarship was established by Gregory Lumsden in 2005 to assist an undergraduate student in the College of Business and Public Administration. The scholarship recipient must have a minimum cumulative 3.0 grade point average and must demonstrate evidence of involvement in student activities. Recipient must demonstrate financial need. (FAFSA)

♦ The Norfolk-Tidewater Chapter of the Society of Financial Service Professionals Scholarship was established to assist a junior or senior majoring in risk and insurance in the College of Business and Public Administration. The student must be in good academic standing with the University. Preference is given to students who demonstrate a high grade point average, extracurricular activities and financial need. (FAFSA)

♦ The Charles H. and Mary Kathryn Rotert Scholarship is funded by an endowment established by Mr. and Mrs. Charles H. Rotert Jr. This scholarship is awarded to a deserving student in the College of Business and Public Administration.

♦ The Marvin and Marilyn Simon Family Endowed Fellows Program in Business was established in 1994 to assist a master’s or doctoral degree-seeking candidate attending the College of Business and Public Administration. The recipient will be a talented student studying in business who has outstanding academic ability.

♦ The John R. Tabb Scholarship was established by an endowment by the Tabb family in 2004. It is the desire of the family to assist a graduate student studying economic development with an international focus. The recipient must be a U.S. citizen with residency in North Carolina, Virginia or Iowa. A minimum grade point average of 3.5 and demonstrated financial need is required. (FAFSA)

Anne D. Wood Endowed Scholarship Fund was established by Richard B. Thurmond in 2001 to assist an undergraduate student enrolled in the Real Estate track in the College of Business and Public Administration. The recipient must have a minimum grade point average of 2.50.

The Darden College of Education

♦ The Coca-Cola Scholars Endowed Scholarship Fund was established by the Coca-Cola Foundation. The scholarship recipient must be enrolled in a financial aid-eligible program leading to teacher certification, licensure, and/or enhancement. Consideration will be given to all students studying at rural Virginia TELETECHNET sites who have a minimum of 58 credit hours with a 3.00 cumulative grade point average. The recipient must also demonstrate financial need. (FAFSA, ESSAY)

♦ The Sarah E. Armstrong Scholarship Endowment was established in 2002 in memory of the donor, Sarah E. Armstrong. The recipient must be a full-time student who has been accepted into the College of Education and must have an overall cumulative 3.2 grade point average.

♦ The Carol V. DeRolf Early Childhood Education Endowed Scholarship is made possible by David J. and Claire K. Benjack in hopes the recipient will embody the most important qualities necessary in early childhood education. The recipient must be either a full- or part-time graduate student seeking a master’s degree in early childhood education. Minimum 3.0 GPA is required.

♦ The John Albert Gay Scholarship is made possible by an endowment given by Dr. and Mrs. R. A. Gay (Florence Vaughan). This scholarship assists a graduate student majoring in special education. Preference is given to those specializing in the area of the emotionally disturbed child. Student must demonstrate financial need. (FAFSA)

♦ The Peggy Wofter Hull Scholarship is made possible by an endowment given by Marie D. Wofter in memory of her daughter. It is awarded to a full-time doctoral student in education. Students are nominated by their graduate program director and are selected by the Office of the Dean of the Darden College of Education. Recipients must demonstrate financial need. (FAFSA)

♦ The Frank Hill Knecht Memorial Scholarship is made possible by an endowment given by Lena Rosa K. Conley, an alumnus and retired staff member of Old Dominion University, in memory of her brother. This scholarship assists a full-time graduate student in education. Preference is given to study in the area of special education. (FAFSA)

The Frank Batten College of Engineering and Technology

♦ The Civil and Environmental Engineering Visiting Council Graduate Scholarship in Engineering was established by The Civil and Environmental Engineering Visiting Council (CEEVC) in 2003. The recipient must be either a full- or part-time civil or environmental engineering graduate student who has a minimum cumulative GPA of 3.25. Transfer students from other colleges or universities are also eligible for consideration.

♦ The Corporate Circle Endowed Scholarship was established by The Corporate Circle of the Frank Batten College of Engineering and Technology in 2003. Preference will be given to someone with membership in one or more of ODU’s student engineering societies.

♦ The Rolfie Dubbe’ Engineering Scholarship is funded by an endowment to assist a full-time graduate engineering student who holds a minimum cumulative GPA of 3.0. The scholarship recipient must be enrolled in the civil engineering program with a preference in geo-technical engineering. Must demonstrate financial need. (FAFSA)

The John Foster Memorial Endowment was established by the Virginia Surveyor’s Foundation to assist a student enrolled in the surveying program within the Batten College of Engineering and Technology.

The Edgar and Kathleen Kovner Scholarships provide several one-year scholarships: (a) for continuing engineering students who demonstrate academic achievement and (b) for engineering students who participate in extracurricular activities.

♦ The Stuart H. Russell Memorial Scholarship is made possible by an endowment established by the estate of Olive L. Spicer. The scholarship is awarded to a deserving student in the Batten College of Engineering and Technology with particular preference given to a student in the Electrical and Computer Engineering Department with an interest in electronics.

♦ The William D. Stanley Scholarship Fund in Engineering Technology was established by William D. Stanley to assist an undergraduate, engineering technology student with 58 or more credits at a two-year institution at least 3.0 grade point average. Recipient must demonstrate need. (FAFSA)

The Sumitomo Machinery Corporation of America Endowed Scholarship is awarded to an undergraduate student enrolled in the Batten College of Engineering and Technology or the College of Business and Public Administration with preference given to students with a minor in Japanese. The recipient will be eligible for a work experience in Japan with the Sumitomo Machinery Corporation. The recipient may be eligible for renewal on a semi-annual basis with the approval of the award committee and the maintenance of a 3.0 grade point average.

The Virginia Society of Professional Engineers Scholarship, established in 1991, is awarded to a junior or a senior in the Batten College of Engineering and Technology. The student must have attended high school in southern Hampton Roads, be active in College of Engineering and Technology clubs and societies and be a U.S. citizen. An essay must be submitted to the Engineering Scholarship Committee. (ESSAY)

♦ The Edward L. White Endowed Scholarship was established by Edward L. White, Jr. and Margaret W. Moore to assist a computer engineering student. The recipient must be a Norfolk resident, have a minimum 3.0 grade point average and demonstrate financial need. (FAFSA)

♦ The George C. Winslow Scholarship is made possible by an endowment to assist a graduate or undergraduate student who has demonstrated financial need and has obtained at least a 2.50 grade point average while pursuing a degree in mechanical engineering. (FAFSA)

The College of Health Sciences

♦ The Amerigroup Leadership Endowed Scholarship is made possible by the Amerigroup Corporation. The scholarship is awarded to a student who is enrolled at least half-time as an undergraduate junior or senior in the College of Health Sciences with an interest in nursing. Priority is given to students who have dependent children. The recipient must demonstrate financial need. (FAFSA)

♦ The Thomas Charles Auclair (‘78) Scholarship is made possible through an endowment given by Mr. and Mrs. George E. Auclair in memory of their son. The scholarship supports a student pursuing studies in environmental health.

The Captain Kenneth B. Austin USN and Mrs. Virginia Frank Keller Austin Scholarship for Nursing Students was established by Captain Kenneth B. Austin to assist a full-time student with junior status who has been
accepted into the School of Nursing. The recipient will be selected based on merit and demonstrated leadership experience.

*The Friends of Dental Hygiene Endowed Scholarship was established by Mrs. Linda Fox Rohrer in 2004. Recipients must be either full-time graduate or undergraduate students. The scholarship will be awarded to a deserving student in the School of Dental Hygiene. The recipient must also demonstrate financial need. (FAFSA)

*The Gene W. Hirschfeld Scholarship is supported by an endowment given by the former chair of the Department of Dental Hygiene and Dental Assisting. The scholarship is awarded to undergraduate or graduate students who demonstrate financial need and are enrolled in the dental hygiene program. (FAFSA)

*The TOWN Foundation Scholarship Awards were established to encourage students with academic ability who lack sufficient financial means to attend the Old Dominion University School of Nursing. Each recipient must meet the normal admission standards of the Old Dominion University School of Nursing and demonstrate substantial financial need. (FAFSA)

*The Lettie Pate Whitehead Nursing Scholarship is made possible by an endowment given by the Lettie Pate Whitehead Foundation, Inc. It is awarded to deserving females demonstrating financial need. (FAFSA)

**The C. S. Sherwood III Scholarship** is made possible by an endowment from the family and friends of the late Calder S. Sherwood, III, former professor emeritus at Old Dominion University. This scholarship is to assist one rising senior majoring in either geology or chemistry (on an alternating basis).

*The Dorothy Brown Smith Endowed Scholarship was established in 2004 to assist a graduate student who is enrolled at least half-time in the Department of Ocean, Earth, and Atmospheric Sciences in the College of Sciences.

*The Jacques S. Zaneveld Endowed Scholarship was established by Dr. Jacques S. Zaneveld to assist a graduate student in the Department of Ocean, Earth, and Atmospheric Sciences of the College of Sciences. The recipient must demonstrate a need for funding in the preparation of his/her dissertation in the field of biological oceanography. (FAFSA)

The Honors College

The Honors College Scholarships are awarded to a select group of entering freshmen who, on the basis of their academic achievement, are chosen to participate in the program. The scholarships may be renewed for three years (six semesters) provided students continue to meet program participation standards. Recipients are selected by the Dean of the Honors College (Separate Application Required: http://www.odu.edu/ao/honors/) (PARTICIPATION) (757)683-4865

The Brook Foundation Endowed Honors Scholarship was established by The Brook Foundation to assist students enrolled in the Honors College. The recipients must be juniors or rising seniors in good standing in the Honors College and willing to volunteer with ACCESS.

The Crammer-Skinner Scholarships are funded through an endowment established by Mr. and Mrs. Jay G. Crammer in recognition of the contributions to the University by Dr. Richard Skinner, first director of the Honors College. They are awarded to Honors College participants whose academic performance, extracurricular activities and potential for leadership exemplify ideals of scholarship, personal integrity and citizenship. The endowment also provides financial support to bring prominent persons to campus to interact with the honors students. (PARTICIPATION)

The Claire Nesson Academic Honors Scholarship is made possible by Mrs. Claire Nesson to assist an entering or continuing student who participates in the Honors College. (PARTICIPATION)

Military Awards

Army Reserve Officer Training Corps (AROTC) participants may qualify for scholarships. More information on application procedures and program requirements is available from the faculty of the Department of Military Science. (PARTICIPATION) (757) 683-3663

Naval Reserve Officer Training Corps (NROTC) participants may qualify for full or partial scholarships. More information on application procedures and program requirements is available from the faculty of the Department of Naval Science. (PARTICIPATION) (757) 683-4744

The Vice Admiral Samuel L. Gravely Scholarship has been established by the University to honor a member of the Naval community. Two recipients will be selected by the Hampton Roads Naval ROTC unit from among the College Program Candidates who have met the July 15 application deadline. The recipients must be full-time students with 3.00 minimum high school grade point averages and 100/22 SAT/ACT test scores.

*The Lucile D. Thompson Memorial Scholarship is sponsored by the American Legion Women’s Post No. 118. The scholarship is awarded to an honorably discharged veteran who demonstrates financial need. (FAFSA)

*The Theodore N. Turley Memorial Scholarship assists an Army ROTC participant with financial need who has achieved junior status and has obtained a minimum 3.0 cumulative grade point average at the end of the first semester of the junior year. (PARTICIPATION, FAFSA)

Other Awards (General)

*The Alumni Association Outstanding Scholar Fellowships were established in 1984. The fellowships are awarded to two graduate students in good academic standing who are attending Old Dominion University on a full-time or part-time basis. One fellowship must be awarded to an Old Dominion University alumnus/alumna who has been admitted as a full-time student to a graduate program at the University.

*The Bannon Foundation Quasi-Endowed Scholarship was established to assist four students of the Eastern Shore of Virginia with their commuter expenses.
◆ The Nancy Topping Bazin Scholarship was established by the Friends of Women’s Studies to assist a graduate student in women’s studies.

◆ Birshtein Family Scholarship Endowment was established by Ms. Frances Levy Birshtein. Two scholarships per year will be awarded, The Mayer Isaac ‘Easy’ Birshtein Scholarship and The Oscar Brandeis Birshtein and Frances Levy Birshtein Scholarship. Recipients must be undergraduate students who have graduated from a high school in Norfolk, Portsmouth or Virginia Beach, have a cumulative grade point average between 3.00 and 3.50 and demonstrate financial need. (FAFSA)

◆ The Opie and Peggy Bittle Memorial Endowment was established in 2001 by Charles and Margaret Bittle Wildermann to assist a student who demonstrates financial need. (FAFSA)

◆ The John R. Burton Jr. Scholarship is made possible by an endowment given by John R. Burton Jr. This scholarship assists students who demonstrate financial need. Preference is shown to high school graduates who have been reared in the Hope Haven Home. (FAFSA)

◆ The Robert Claytor Memorial Scholarship is funded by an endowment from the friends of Robert Claytor for a student who demonstrates financial need, according to federal needs analysis. (FAFSA)

◆ The Delta Sigma Lambda-Dr. Ruth Harrell Scholarship is supported by an endowment which assists female undergraduate students 25 years or older who have attended college for a minimum of one year. Delta Sigma Lambda members are eligible for the award. Preference is given to students who demonstrate financial need. Students must complete a separate application, which may be obtained from the Old Dominion University Women’s Center. Delta Sigma Lambda members are eligible for the award. (FAFSA) (757) 683-4109

◆ The Delta Sigma Lambda Glennys Burns Scholarship is supported by an endowment which assists female undergraduate students 25 years or older who have attended college for a minimum of one year. Delta Sigma Lambda members are eligible for the award. Preference is given to students who demonstrate financial need. Students must complete a separate application, which may be obtained from the Old Dominion University Women’s Center. (SPECIAL APPLICATION, FAFSA) (757) 683-4109

The Ellis Family Endowed Scholarship was established by Janet A. and John C. Ellis to assist a high school graduate of a Hampton Roads high school. The recipient must be an undergraduate student of good character with financial need. Preference will be given to individuals who participated in the Tidewater ACCESS or Learning Bridge programs.

◆ The Holland Dunston Ellis Jr. Memorial Scholarship has been established through an endowment gift from Mrs. Loravonne P. Ellis in memory of her husband. The award is to assist a continuing student who is a Virginia resident from either I.C. Norcom or Booker T. Washington High Schools. The recipient must be a female student who successfully completes the University Ladders program. (ESSAY)

◆ The John R. Burton Jr. Scholarship is made possible by an endowment given by John R. Burton Jr. This scholarship assists students who demonstrate financial need. Preference is shown to high school graduates who have been reared in the Hope Haven Home. (FAFSA)

◆ The Robert Claytor Memorial Scholarship is funded by an endowment from the friends of Robert Claytor for a student who demonstrates financial need, according to federal needs analysis. (FAFSA)

◆ The Charles H. Eure Memorial Scholarship is awarded to a marine science or engineering student who has a 3.00 grade point average and is of sound moral character. Preference will be given to a STASR (South Tidewater Association of Ship Repairers) company family member.

◆ The Harkworth-Hobbs Endowed Scholarship was established by Dorothy and Charles Harkworth and Charles Hackworth II to assist an undergraduate student with a minimum 3.2 grade point average who demonstrates need and has participated in student activities and non-paid volunteer community activities. (FAFSA)

◆ The Haislip-Rorrer Scholarship was established in 2001 by Wallace G. and Linda Haislip. The undergraduate scholarship recipient must demonstrate financial need and leadership experiences, be a resident of the southeast of Hampton Roads and have a minimum 3.0 grade point average. (FAFSA)

◆ The Martin Luther King Jr. Endowed Scholarship was established in 1987 by an anonymous donor to be given to a graduate of one of the following high schools: Lake Taylor, I.C. Norcom, Norview, Booker T. Washington, Maury or Granby. The recipient must have completed 60 academic credit hours with a major in the Batten College of Engineering and Technology or the Department of Accounting and demonstrate financial need. (FAFSA)

◆ The R.E.T. “Kit” Larson Scholarship is made possible by an endowment established in memory of Mr. Larson by his friends and colleagues of The Virginian-Pilot newspaper. The scholarship is awarded to a junior or senior with financial need who is enrolled full-time and works on a school, community or University publication. Recipient must be a resident of a Virginia or North Carolina city or county served by The Virginian-Pilot. (FAFSA)

◆ The Lillian Vernon Endowed Scholarship is funded by an endowment from the Lillian Vernon Foundation. It is awarded to a spouse, child, or grandchild of an active Lillian Vernon employee. Recipient must have a minimum grade point average of 2.80 and demonstrate financial need. (FAFSA)

◆ The Aubrey and Lucille Machen Scholarship is made possible by an endowment established in 1992 by Robert F. and Nancy M. Wildermann. The award assists a student who meets Old Dominion University’s minimum academic requirements and has financial need. (FAFSA)

◆ The Memorial and Recognition Scholarship Fund is an endowed scholarship that will be awarded to a student with a minimum grade point average of 3.00 and is able to demonstrate involvement in community service.

The Meredith Construction Company Scholarship is made possible by an endowment given by the Meredith Construction Co. Inc., Meredith Realty, et al. and members of the Meredith family. The award is given to a graduate student demonstrating academic merit in his/her chosen curriculum.

◆ The Steve Russell Morrison Memorial Endowed Scholarship has been established by the family and friends of Steve Russell Morrison and the Epsilon Beta Chapter of Kappa Delta Rho. This scholarship is awarded to a rising sophomore demonstrating leadership and involvement in campus and community affairs. Preference is given to active members of the Epsilon Beta Chapter of Kappa Delta Rho. (ESSAY)

◆ The Norfolk Southern Scholars Program was implemented by the Norfolk Southern Foundation for students from the Lambert’s Point neighborhood of Norfolk. It is awarded to students who have successfully completed the Lambert’s Point Summer Program, are admitted to Old Dominion University and demonstrate financial need. It is renewable for a maximum of three additional years. (FAFSA)

◆ The Old Dominion University Alumni Association Scholarship was established in 2002 to assist a full-time undergraduate student. The recipient must be an undergraduate student. The recipient must demonstrate strong leadership skills, proven volunteer activities within the community, and a minimum grade point average of 3.0. (INTERVIEW, ESSAY)

◆ The Old Dominion University Faculty Emeriti Association Scholarship is made possible by an endowment established by the organization. This scholarship assists full-time undergraduate students entering their junior year of study, who have high academic credentials. Preference is given to dependent children of current Old Dominion University faculty and faculty administrators.

◆ The Old Dominion University Faculty Faculty Emeriti Association Scholarship is made possible by an endowment established by the organization. This scholarship assists full-time undergraduate students entering their junior year of study, who have high academic credentials. Preference is given to dependent children of current Old Dominion University faculty and faculty administrators.

◆ The Old Dominion University Faculty Faculty Emeriti Association Scholarship is made possible by an endowment established by the organization. This scholarship assists full-time undergraduate students entering their junior year of study, who have high academic credentials. Preference is given to dependent children of current Old Dominion University faculty and faculty administrators.

◆ The Parents’ Association of Old Dominion University Continuing Student Scholarship is provided by the association to assist a continuing student who demonstrates academic merit.

◆ The James Harrison Parker Memorial Endowed Scholarship was established for the purpose of providing student educational assistance. The recipient must be a junior or senior degree candidate in environmental engineering, coastal engineering, oceanography or biological sciences. The student must demonstrate financial need and have a minimum grade point average of 3.0. Preference may be given to a student who has been active in the local Boys and Girls Club. (FAFSA)

◆ The Alfred B. Rollins Jr. Scholarship was established in 1985 by the Old Dominion University Alumni Association to honor this former president of the University. The award assists a student who demonstrates financial need and is in his/her senior year of study. (FAFSA)

◆ The C.S. Sherwood/Portsmouth Community Trust Scholarship was established by the Distribution Committee of The Portsmouth Community Trust. Recipients must be graduates of a Portsmouth, Virginia public high school in the upper 20 percent of their graduating class, be of good character and demonstrate financial need. (FAFSA)

◆ The Sherwood/Portsmouth Scholarships are funded annually by a trust established by the late Calder Sherwood III, a professor emeritus in the departments of Chemical Sciences and Physics/Geophysical Sciences. Professor Sherwood served on the Old Dominion University faculty for 38 years. The scholarships are awarded to graduates of public high schools in Portsmouth, Virginia who demonstrate financial need. (FAFSA)

◆ The John and Grace Staley Memorial Scholarships are made possible by an endowment from the estate of Grace Staley to assist one male and one female student who successfully completes the University Ladders program. The recipients must have an advisor’s recommendation.

◆ The Tidewater ITEA Chapter Scholarship is funded by an endowment from the International Testing and Evaluation Association, Tidewater Chapter. The scholarship is awarded to a student with a declared major in engineering or physical science (including computer science) who has attained at least sophomore status (through the junior or transfer) and has a grade point average of 3.00 or better. The student must be a U.S. citizen, and shall not be receiving financial assistance through any other ITEA entity. When possible, preference will be given to applicants who have a high interest in test and evaluation.
The Town-N-Gown Scholarship has been established by Town-N-Gown, an association dedicated to promoting cooperation between the Hampton Roads community and the University in order to promote better understanding in fulfilling the aims and ideals of each. The scholarship recipient rotates annually from the following: (1) resident of the greater Hampton Roads area, (2) a member of or dependent of active duty military personnel and (3) a dependent of an Old Dominion University faculty or staff member.

The Hugh L. Vaughan Scholarship has been established by an endowment made by Mr. Hugh L. Vaughan to assist handicapped students. Preference is given to blind students. Recipients must be native-born Virginians.

The Virginia-Pilot Scholarship Fund was established as an annual scholarship to provide funds to undergraduate students with “last dollar” financial need. Recipients must be returning students who reside in Southside Hampton Roads. A minimum of half-time enrollment is required. (FAFSA)

The Wachovia Bank, N.A. Endowed Scholarship is established by an endowment that was given to Old Dominion University by Mr. and Mrs. Robert F. Wildermann to assist a student who meets Old Dominion University’s minimum academic requirements and has financial need. Preference is given to students who enroll part-time. (FAFSA)

The Lewis and Lisa Warren Endowed Student Internship was established to provide the opportunity for outstanding students to receive a scholarship financing career-oriented work experience, as a supplement to their academic education. The recipient must be a junior or senior majoring in natural sciences or creative arts.

The Lewis and Virginia Webb Jr. Scholarship was established in 1975 by the Old Dominion University Alumni Association to honor this former president of the University and his wife. It is awarded to the rising junior with the highest grade point average at the end of his/her sophomore year of study.

The Jane L. and Robert H. Weiner International Affairs Scholarship is made possible through an endowment established by Mr. and Mrs. Weiner to assist a student who will be studying abroad through the International Student Exchange Program (ISEP). Preference will be given to students who will study in a third world or developing country for the purpose of fostering international understanding and peace and who demonstrate academic achievement and financial need. (FAFSA)

The Calvert S. Whitehurst Scholarship is funded by an endowment established by Mr. Robert B. Kendall and augmented by the Whitehurst Scholars Foundation Scholarship Program of the University. The endowed recognizes the contribution of both Mr. Calvert S. Whitehurst, President of Old Dominion University and Mr. Whitehurst, former member of the U.S. Congress. The scholarship is awarded to a student with financial need who demonstrates academic potential. (FAFSA)

The Fritz and Marcy Wildermann Scholarship was established in 1980 by Mr. and Mrs. Robert F. Wildermann to assist a student who meets Old Dominion University’s minimum academic requirements and has financial need. (FAFSA)

The Robert F. and Nancy M. Wildermann Endowed Scholarship was established by an endowment in 2001 by Nancy M. Wildermann. The scholarship will be awarded to a full-time student whose intended major is in the College of Sciences or Frank Batten College of Engineering and Technology.

The Lewis and Virginia Webb Jr. Scholarship was established for a graduating high school senior who is affiliated with the Virginia Junior Academy of Science and who is an entering freshman at Old Dominion University. The recipient must be a full-time student whose intended major is in the College of Sciences or Frank Batten College of Engineering and Technology.

Veterans and Dependent Benefits

Information about the administration of education assistance under the Veterans Administration may be obtained from the VA website: www.vba.va.gov. Students wishing to use their VA benefits at Old Dominion University may find further information on the University Registrar’s web page: http://www.odu.edu/webroot/orgs/AF/REG/registrar.nsf/pages/MS4H+Home.

Termination of Aid

Failure to remain in good academic standing will result in automatic withdrawal of financial aid by the University. Failure to comply with the conditions of a financial aid award will cause its termination and the return of any unexpended funds as well as repayment, in some cases, of funds already utilized.

Financial Aid Deferment

A deferment is an extension granted by the University which allows a student receiving scholarships, grants, or student loans to delay payment of tuition and fees. Fall semester deferments expire on November 1, Spring semester deferments expire on April 1, and Summer semester deferments expire on August 1. Students who have officially accepted an offer of financial aid by submitting a signed award acceptance letter and demonstrating intent to comply with any and all verification requirements and loan eligibility requirements at least one week prior to the first day of classes for the semester will be granted a deferment automatically.

Some types of aid cannot be deferred, including but not limited to Federal Work Study (which must be earned by employment and for which payment is made directly to the student), Federal PLUS loans, room scholarships, book scholarships, board scholarships, and payments by third parties (contractual arrangements, private scholarships, etc.). NOTE: Federal Direct student loan deferments are calculated at the net value of the loan (less the federally-set loan origination fee). If the amount of the financial aid deferment is less than the student’s tuition and other charges for the semester, the student is responsible for paying the excess charges (total bill minus anticipated deferment) by the stated tuition deadline for that semester.

Students are responsible for paying any outstanding balance not covered by the amount of aid deferred. Late charges and other actions may be levied in the event of failure to meet financial obligations. For additional information, contact the Office of Finance.

Regulations governing the administration of student financial aid are subject to unanticipated change. Information provided herein is as accurate as possible on the date of printing.

Other Financial Aid Resources

The Parker Lesley Endowed Fund has been established for students who demonstrate need for special circumstances. Special circumstances are defined as emergency travel, supplies, equipment, etc. (ESSAY) (757) 683-5524

The James Stamos Scholarships in Voice and Piano are made possible by a bequest from Mr. Stamos to assist several students who are majoring in either voice or piano. Information concerning audition requirements is available from the Music Department. Contact Mr. Dennis Zeisler, chair of the department. (AUDITION) (757) 683-4061

The Student Activities Scholarships in music are awarded to students who participate in one or more Music Department activities including concert choir, band, orchestra, Madrigal Singers and brass choir. Information concerning audition requirements is available from the Music Department. Contact Mr. Dennis Zeisler, chair of the department. (AUDITION, PARTICIPATION) (757) 683-4061

The Viburnum Acting Endowed Scholarship Fund was established by the Viburnum Foundation to provide monetary awards to acting students. (AUDITION)

The Virginia Junior Academy of Science Scholarship has been established for a graduating high school senior who is affiliated with the Virginia Junior Academy of Science and who is an entering freshman at Old Dominion University. The recipient must be a full-time student whose intended major is in the College of Sciences or Frank Batten College of Engineering and Technology.

Financial Aid for Graduate Students

For information on financial aid for graduate students and graduate assistantship guidelines, refer to the section of this catalog on Academic Information for Graduate Students.
## Synopsis of Degree Programs

<table>
<thead>
<tr>
<th>COLLEGE</th>
<th>DEGREE*</th>
<th>MAJORS</th>
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<tbody>
<tr>
<td><strong>ARTS AND LETTERS</strong></td>
<td>Bachelor of Arts¹</td>
<td>African American and African Studies*** Artificial Intelligence Art History Asian Studies Communication</td>
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<td>Criminal Justice English Foreign Languages Geography History</td>
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<td>Interdisciplinary Studies International Studies Music Philosophy</td>
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<td></td>
<td>Political Science Sociology Studio Art Theatre and Dance Women’s Studies</td>
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<tr>
<td></td>
<td>Bachelor of Science²</td>
<td>African American and African Studies*** Communication</td>
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<td>Criminal Justice Geography Interdisciplinary Studies</td>
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<td>Political Science Professional Writing**</td>
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<td></td>
<td>Bachelor of Fine Arts²</td>
<td>Acting Fine Arts</td>
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<td></td>
<td>Bachelor of Music²</td>
<td>Composition Performance</td>
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<td>Master of Arts</td>
<td>Applied Linguistics Applied Sociology</td>
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<td>Master of Fine Arts</td>
<td>Creative Writing Visual Studies</td>
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<td>Master of Music Education</td>
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<td></td>
<td>Doctor of Philosophy</td>
<td>English International Studies Criminology and Criminal Justice***</td>
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<tr>
<td><strong>BUSINESS AND PUBLIC ADMINISTRATION</strong></td>
<td>Bachelor of Arts¹</td>
<td>Economics</td>
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<td>Bachelor of Science²</td>
<td>E-Commerce Systems</td>
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<td></td>
<td>Bachelor of Science in Business Administration²</td>
<td>Accounting Decision Sciences Economics Accounting Information Systems and Technology</td>
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<td>Financial Management International Business Management</td>
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<td>Master of Arts</td>
<td>Economics</td>
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<td>Master of Public Administration</td>
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<td>Master of Science</td>
<td>Accounting E-Commerce Systems</td>
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<td>Master of Taxation</td>
<td>Business Administration</td>
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<td>Master of Urban Studies</td>
<td>Public Management and Urban Policy</td>
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<td></td>
<td>Doctor of Philosophy</td>
<td>Business Administration</td>
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<tr>
<td></td>
<td></td>
<td>Public Management and Urban Policy</td>
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<tr>
<td><strong>EDUCATION</strong></td>
<td>Bachelor of Science¹</td>
<td>Human Services Speech-Language Pathology and Audiology</td>
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<td></td>
<td>Bachelor of Science²</td>
<td>Occupational and Technical Studies Physical Education Recreation and Tourism Studies</td>
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<td>Master of Science</td>
<td>Occupational and Technical Studies</td>
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<td>Master of Science in Education</td>
<td>Biology Chemistry Counseling Early Childhood Education Educational Leadership Elementary Education</td>
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<td>English Physical Education Reading</td>
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<td>Counseling Educational Leadership</td>
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<tr>
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<td>Doctor of Philosophy</td>
<td>Community College Leadership Counseling Curriculum and Instruction Early Childhood Education Educational Leadership Higher Education</td>
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<td>Human Movement Science Instructional Design and Technology Literacy Leadership</td>
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<td></td>
<td></td>
<td>Occupational and Technical Studies Special Education</td>
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<tr>
<td><strong>ENGINEERING</strong></td>
<td>Bachelor of Science in Engineering</td>
<td>Civil Engineering Electrical Engineering Engineering Mechanical Engineering</td>
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<td>AND TECHNOLOGY</td>
<td>Engineering Technology ²</td>
<td>Technology</td>
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| HEALTH SCIENCES | Bachelor of Science in Dental Hygiene ³ | | | | |
| Bachelor of Science in Environmental Health ² | | | | |
| Bachelor of Science in Health Sciences ³ | | | | |
| Bachelor of Science in Medical Technology ² | | | | |
| Bachelor of Science in Nuclear Medicine Technology ² | | | | |
| Bachelor of Science in Nursing ² | | | | |
| Master of Public Health | Community Health | Dental Hygiene |
| Master of Science in Nursing | | |
| Doctor of Philosophy | Health Services Research |
| Doctor of Physical Therapy | | |

| SCIENCES | Bachelor of Science ¹ | Biochemistry Biology | Chemistry Mathematics | Ocean and Earth Science Physics | Psychology |
| Bachelor of Science in Computer Science ² | | | | | |
| Master of Science | Biology Chemistry | Computational & Applied Mathematics | Computer Science Ocean and Earth Sciences | Physics Psychology |
| Doctor of Philosophy | Applied Experimental Psychology Biomedical Sciences Chemistry | Computational & Applied Mathematics Computer Science | Ecological Sciences Human Factors Psychology | Industrial/Organizational Psychology Oceanography Physics |
| Doctor of Psychology | Clinical Psychology |

* Diplomas will indicate the name of the degree only, not the major
** Planned for initiation in 2006
*** Planned for initiation in 2007
¹ Traditional B.A. or B.S. degree for General Education Requirements.
² Professional B.A. or B.S. degree for General Education Requirements.
Academic Information

University College

University College is Old Dominion University’s portal to entering undergraduate students and a facilitator of their progress through the college and into their careers. University College coordinates existing University resources and develops new initiatives that promote academic excellence and enhance the success of undergraduate students, and especially first-year and transferring undergraduate students. The college supports students, faculty, staff, and administrators who share the responsibility of making Old Dominion University an exciting, challenging environment for learning.

The University College is the central resource for first-year student orientation, academic advising, major and career exploration, learning communities, tutoring, placement testing, experiential learning evaluation, developmental course offerings, continuance, transfer articulation agreements, transfer student services, student success programs, and the coordination of the undergraduate general education program.

Academic Advising for Undergraduate Students

http://www.odu.edu/advising

All degree-status undergraduate students are required to have their courses of study approved prior to each registration. This approval may be from a faculty advisor, professional advisor, TELETECHNET site director, or distance learning representative. However, these individuals have the discretion to give approval for selected students to register for several semesters during one advising contact. Entering freshmen and campus transfer students who are undecided on a major are assigned an advisor in the Center for Major Exploration (CME) (1504 Webb Center). All freshmen and campus transfer students who are decided on a major are assigned to an academic advisor in their college or department of interest at the beginning of their initial term of enrollment. Campus students who become undecided after an initial assignment to an advisor are referred to the Center for Major Exploration for advising and major/career counseling assistance. Distant students who are undecided about a major should consult with a site director or campus representative.

Acceptance of a student for advising purposes does not guarantee acceptance into the department as a major. When eligible, students must officially declare the major and be accepted by the department as a major.

Advisors will make every effort to give effective guidance to students in academic matters and to refer students to those qualified to help them in other matters, but the final responsibility for meeting all academic requirements for a selected program rests with the student.

First-semester advising is available at Preview summer orientation for all incoming students. Preview is required for all incoming freshman students and campus freshman-level transfers and is strongly encouraged for all other incoming campus transfer students. Distant students consult with their advisor or distance learning representative for first-semester advising.

All students are encouraged to contact their advisor regularly to evaluate their academic progress and discuss career and course options for the following semesters. Students are urged to consult with their academic advisor before making any changes to their approved schedules. Students who find themselves in academic difficulty or on academic warning should also consult with their academic advisors.

The director of undergraduate services coordinates the campus advising system through the college advising coordinators, associate deans, the chief departmental advisors (CDAs), faculty advisors, the Center for Major Exploration, the Career Management Center, and the director of TELETECHNET advising.

The Academic Advising Mission Statement and Goals

In keeping with the University’s mission, the primary purpose of the Old Dominion University academic advising program is to assist students in the development of meaningful educational plans that will be compatible with career aspirations and will empower them to meet their full potential.

Academic Advisor Goals and Teaching Outcomes:

GOAL 1. To help students explore and clarify individual academic and career goals, and to promote understanding of University values as articulated in the University’s mission statement.
GOAL 2. To assist students in developing suitable educational plans and programs of study which promote academic success.
GOAL 3. To help students select appropriate courses and other educational opportunities.
GOAL 4. To help students review and evaluate progress toward established educational goals and completion of requirements within individual programs of study.
GOAL 5. To develop student awareness and understanding that decision-making in the advising process is based on student responsibility.
GOAL 6. To encourage students to use University support services and related resources as needed (University Catalog, Career Management Center, Counseling Center, Disability Student Services, Writing Tutorial Services, etc.).
GOAL 7. To participate in advisor training sessions, keeping current on University policies and procedures.

Student Goals and Learning Outcomes in the Academic Advising Process:

GOAL 1. To define academic and career goals.
GOAL 2. To take full responsibility to gather the information needed for the successful completion of all graduation requirements, including, but not limited to, course scheduling, program planning, and understanding the academic advising process.
GOAL 3. To seek the academic and career information needed to learn how to meet educational and career goals.
GOAL 4. To read and understand the University’s policies and procedures in relation to meeting University, College, and Departmental graduation requirements.
GOAL 5. To be prepared with accurate information and relevant materials when contacting the academic advisor.
GOAL 6. To consult with the academic advisor on a mutually agreed upon schedule to review course choices, discuss academic and career goals, and assess progress towards degree completion.

Academic Testing

The University Testing Center is part of Academic Skills Programs and is located at the corner of 48th Street and Parker Avenue. Personnel from the Testing Center administer University placement tests, College-Level Examination Program (CLEP) exams, DANTEST, the Miller Analogies Test (MAT), and correspondence tests, and coordinate entrance and certification test administrations. For information on testing, please see the web site at www.odu.edu/testing.

Academic Skills Testing. All incoming students, including transfer students, will be tested for proficiency in writing. The test results determine the appropriate writing course for each first-year student. A passing score on the Writing Sample Placement Test (WSPT) is a prerequisite for registration for English 110C.

All entering undergraduate students, including transfer students (with or without credit for freshman composition), must pass the Writing Sample Placement Test. Transfer students with credit for English 110C will not lose that credit.

A transfer student with credit for English 110C who has not passed the WSPT may not register for a second semester at the University until a plan to correct writing deficiencies, approved by the coordinator of the Writing Center, is in place. A student who has not passed the WSPT after two semesters as a degree-seeking student at the University will not be permitted to register until the test is passed.

A passing score on the WSPT is a prerequisite for registration for the Exit Examination of Writing Proficiency.

All incoming freshman students and transfer students without credit for a general education mathematics course are tested for proficiency in mathematics with the Computerized Adaptive Placement Assessment and Support System (COMPASS) placement test. Students with low scores on the COMPASS test are placed in developmental math courses and must pass the developmental courses to enroll in MATH 101M, 102M, 162M, or STAT 130M. Once students have enrolled in developmental or credit math courses, they may not take the COMPASS test except on the recommendation of the director of the Developmental Mathematics Program or the chair of the Department of Mathematics and Statistics.
All students who have studied a foreign language in high school for three or more years and who wish to continue in that same language must take the CEEB Foreign Language Achievement Test. Students with less than three years of foreign language study in high school may take the CEEB Foreign Language Achievement Test if they wish; otherwise, they must begin with the 101F course. This policy does not apply to students who have advanced placement credit. Foreign language courses below the 300 level are not open to native speakers.

Students whose native language is not English and who have satisfied English language proficiency requirements (see the section of this catalog on English Proficiency Requirements for Non-Native Speakers of English) are exempt from the foreign language requirements for General Education, including exemption from foreign language placement testing. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

Exemptions. Students may satisfy the requirement for the first semester of General Education written communication based on their performance on one of two national examinations. Three hours of credit for English 110C will be earned if the student receives either: (1) a score of 3, 4, or 5 on the Advanced Placement Examination in English Language and Composition; or (2) a score of 50 or higher on the College-Level Examination Program (CLEP) English Composition with Essay Examination.

Students with superior scores on the COMPASS test receive credit for MATH 162M, or both 162M and 163, thus fulfilling the General Education Requirement. Students desiring credit by examination for STAT 130M should apply to the Mathematics and Statistics Department.

Students may be exempt from the General Education Foreign Language requirement (without credit) in one of the following ways: (1) presentation of three high school credits in one foreign language; (2) presentation of two high school credits in each of two foreign languages; or (3) presentation of a score of 500 or above on the CEEB Foreign Language Achievement Test or its equivalent. Credit is granted for scores of 3, 4, and 5 on Advanced Placement (AP) language exams in French, German, Latin, and Spanish; and literature exams in French and Spanish. No more than nine credits will be awarded if both AP and literature exams are submitted. Credit is also granted for scores of 4, 5, 6, and 7 on the A2 and B2 exams in French, German, Latin, and Spanish of the International Baccalaureate (IB). Contact the Testing Center for additional information. Students receiving B.A. degrees must demonstrate foreign language proficiency through the 202 or 212 level regardless of high school credits completed.

All placement tests described above are administered by the University Testing Center. Contact information can be found at the center’s website at www.odu.edu/testing.

Experiential Learning Credit Options at the Undergraduate Level

Old Dominion University offers a program for assessing college-level knowledge gained through work, life experience and self-study prior to attempting a specific ODU course. Students may initiate assessment of prior learning through a variety of assessment tools, including departmental examinations, portfolios, external examinations, performance assessment, or documented training programs, as determined by academic departments. The program, Experiential Learning, facilitates the assessment of such learning. A student may earn a maximum of 60 semester hours at the undergraduate level through experiential learning credit. However, in unusual situations when a student can demonstrate a more extensive knowledge base that would be applicable to a degree program, the student can apply to the Office of Experiential Learning for an exception to the 60-credit-hour maximum. The director will forward suitable requests to the appropriate department. Experiential learning credit may be granted through the following mechanisms:

1. **External Examinations.** Satisfactory scores on the College-Level Examination Program (CLEP), Defense Activity for Non-Traditional Education Support (DANTES), International Baccalaureate (IB), Advanced Placement (AP) and professional certification examinations evaluated by the American Council of Education (ACE) for college-level credit. It is strongly recommended that students who wish to challenge particular courses do so through CLEP or DANTES examinations for which Old Dominion University awards academic credit. Qualifying scores through the Advanced Placement Examinations Program or Admissions Testing Program of the Educational Testing Service (ETS) are approved by departments. CLEP, DANTES, AP and IB scores received should be reported to the Office of Admissions.

2. **Departmental Examinations.** Upon approval of the chair or dean (designee) of the college in which the course is offered, a student may take a comprehensive examination in an academic course in which he or she can demonstrate proficiency and upon passing the examination receive credit for that course. A request for testing should be made through the Experiential Learning Office, which forwards the request to the chair of the department involved. A course may be tested through departmental examination one time only.

3. **Credit for Training.** Military and professional training is evaluated and recommended for college credit by the American Council on Education (ACE). The relevant academic department will recommend specific academic credit for posting to the student’s record.

4. **Portfolio Development.** Upon approval of the chair or dean (designee) of the college in which the course is offered, a student may develop a portfolio for a course or courses offered by Old Dominion University to gain college-level credit. Portfolios are submitted to the director of experiential learning.

The following regulations for experiential learning credit will apply:

1. All experiential learning options will be granted with credit.
2. Experiential learning credit will be granted upon the written recommendation of the chair of the department or designated faculty member having jurisdiction over the courses involved with the chair’s approval.
3. The applicability of experiential learning credit toward specific degree program requirements is subject to departmental approval.
4. A student may not fail a course at Old Dominion University and later receive credit for the same course through an experiential learning option.
5. A student may not enroll in a course for credit or audit at Old Dominion University and subsequently seek credit through an experiential learning option.
6. No letter grades will be entered on the student’s transcript for experiential learning credit; this credit will be treated in the same way as transfer credit: a “P” (Pass) will be assigned and it will not count in the student’s grade point average.
7. A student must request experiential learning credit as early as possible.
8. Experiential learning credit does not count toward the University’s residency requirement. A student earning experiential credit must meet the minimum residency requirements of 25 percent of the total number of credits required for the degree at Old Dominion University which shall include 12 residency hours of upper-level courses in the department of the declared major. The student should be aware that some program residency requirements exceed the University minimum residency requirements.
9. A student in a certificate or endorsement area may earn a maximum of six credit hours through experiential learning credit to apply to a certificate, endorsement or teacher licensure program. Experiential learning hours gained in these programs would be applicable to approved degree programs at Old Dominion University. In an approved undergraduate degree program, a student who has previously earned six credit hours of experiential learning credit for a certificate area may be eligible to attempt additional experiential learning credit toward a degree program.

The privilege of seeking experiential learning credit is available to both full-time and part-time degree status students only. A student should consult with the degree program advisor, site director, distance learning representative, and the Office of Experiential Learning at the beginning of his or her academic career at Old Dominion University to determine how experiential learning may be applicable to the degree. For further information, visit the Experiential Learning web site at http://web.odu.edu/experiential or email xlearn@odu.edu.

For information about experiential learning options for graduate students, please see the section of this Catalog on Experiential Learning at the Graduate Level.

**Procedures for Portfolio Development**

Students wishing to receive academic credit through portfolio development should do the following:

A. Consult the Office of Experiential Learning for guidelines on preparing a portfolio documenting “experiential learning” experiences relating to the course for which credit is sought.

B. Submit the portfolio to the Office of Experiential Learning and include appropriate fees.
CAP is a series of career-related events and services designed to include a practical work experience, which may take the form of an internship, cooperative education experience or a class containing a real-world, hands-on project. Classes meeting the specifications for the guaranteed practicum are clearly noted in the Courses of Instruction section of this catalog as “(Qualifies as a CAP Experience).”

Services provided by the CMC under CAP include career counseling, job fairs, an on-campus recruiting program, professional seminars and job search assistance, special career events, student employment program, electronic job postings through eRecruiting, and a virtual career center. Services are available in person, on-line or from a distance through the Cyber Career Center.

Community College Transfer Programs

Old Dominion University offers a number of programs articulated with area community colleges. These programs begin with two years of course work at the community college and are completed at Old Dominion University with a baccalaureate degree. They are designed to minimize loss of credit due to transfer and to take maximum advantage of the lower tuition at the community colleges. Further information can be obtained from the community colleges or at www.odu.edu/advising.

Interinstitutional Study Program with Norfolk State University

Old Dominion University students have the opportunity to elect courses at Norfolk State University through a student exchange program agreed to by the two institutions.

The registrar of each institution will register a student for courses at the other institution if the student presents a properly signed form listing the course or courses to be taken at the other institution. The student exchange will be honored both in the regular session and in the summer session and applies to both undergraduate and graduate students. All credits earned by students will be considered as resident credit at the home institution for degree purposes. (Courses taken at NSU under this policy will be considered the same as Old Dominion University courses; all other courses are subject to transfer credit policy limitations.)

Regular bus service is provided between campuses but is not available for evening classes.

Virginia Tidewater Consortium Exchange Program

Old Dominion University students may also take courses at any of the following Consortium institutions: Christopher Newport University (Newport News), College of William and Mary (Williamsburg), Eastern Shore Community College (Melfa), Eastern Virginia Medical School (Norfolk), Hampton University (Hampton), Joint Forces Staff College (Norfolk), Norfolk State University, Paul D. Camp Community College (Franklin), Regent University (Virginia Beach), Thomas Nelson Community College (Hampton), Tidewater Community College (all campuses), and Virginia Wesleyan College (Norfolk).

Cross-registration is subject to the following regulations:
1. Cross-registration is limited to degree-seeking students with cumulative grade point averages of 2.00 or better.
2. Cross-registration credit is limited to 30 semester hours.
3. Cross-registration in major courses requires the permission of the department chair.
4. Cross-registration is limited to courses not available to students at the home institution during the current semester. Exceptions to this requirement must be made by the chair of the department offering the course.

For further information, contact the Office of the University Registrar, Alfred B. Rollins Jr. Hall.

Academic Common Market

Old Dominion University, through a number of its undergraduate and graduate programs, participates in the Southern Regional Education Board’s Academic Common Market. Eligible residents of participating states may enroll (following admission to degree status) as Academic Common Market students at in-state tuition rates. Evidence of legal domicile must be presented
to the Office of the Registrar, Rollins Hall. Information on available programs may be obtained from the Office of Academic Affairs.

**Writing Proficiency Program and Policies**

[www.odu.edu/writingcenter](http://www.odu.edu/writingcenter)

In response to a growing concern for the quality of students’ writing, a comprehensive writing program was initiated at Old Dominion University in 1978. The program is implemented through the Writing Center as well as by all faculty members, since the University recognizes that an effective writing program is an ongoing process that forms an integral part of the student’s overall academic preparation. The Writing Center offers workshops for campus students who need to improve their writing skills. The Writing Center also offers videotapes and materials for check-out by distance learners when requested.

**Undergraduate Writing Program Requirements**

Entrance Examination—Writing Sample Placement Test (WSPT). All incoming students, including transfer, will be asked for proficiency in writing. The test results determine the appropriate writing course for placement of each first-year student. A passing score on the Writing Sample Placement Test (WSPT) is a prerequisite to registration by campus students for English 110C and English 126.

All entering undergraduate students, including transfer students (with or without credit for freshman composition), must pass the Writing Sample Placement Test. Transfer students with credit for English 110C will not lose that credit.

A transfer student with credit for English 110C who has not passed the WSPT may not register for a second semester at the University until a plan to correct writing deficiencies, approved by the coordinator of the Writing Center, is in place. A transfer student who has not passed the WSPT after two semesters as a degree-seeking student at the University will not be permitted to register until the test is passed.

A passing score on the WSPT is a prerequisite to registration for the Exit Examination of Writing Proficiency.

Exit Examination of Writing Proficiency. All students enrolled in undergraduate degree programs, including students acquiring a second baccalaureate degree, must pass the University’s Exit Examination of Writing Proficiency. The test is administered under the auspices of the exit exam coordinator, who establishes when the test will be given throughout the year.

Students are strongly advised to take the exam after 58 credit hours earned. Therefore, if they need assistance with improving their writing skills, they can be advised of services available to help them attain writing proficiency prior to the anticipated date of graduation. A fact sheet on the Exit Examination of Writing Proficiency is available at the Writing Center, all academic department offices, and online at [www.odu.edu/writingcenter](http://www.odu.edu/writingcenter). Registration sessions and exam dates are listed in the Guide to Enrollment each semester and online at [www.odu.edu/testing](http://www.odu.edu/testing).

**Distance Learners.** Students may contact their site directors for information on the WSPT and the Exit Examination. For those students not associated with an ODU site, please contact the Testing Center website at [www.odu.edu/testing](http://www.odu.edu/testing) or the Office of Distance Learning at 1-800-968-2638.

**Attendance Policy**

Regular classroom attendance is expected of all students. Course grades are not only based on written assignments and exams, but also general participation and topical discussion during class periods. As discussions cannot be reproduced, many times absences cannot truly be made up. Excessive absences therefore have a negative effect on the student’s learning and performance. Students are responsible for all class work, and a student who misses a class is expected to have the initiative necessary to cover properly the material missed. Students must meet all course deadlines and be present for all quizzes, tests, and examinations.

An attendance policy that is consistent with departmental policy or guidelines will be established for each class by the instructor. Syllabus information will include a statement of the attendance policy for each course and the effect, if any, of nonattendance on grades. Reasonable provisions should be made by the instructor for documented representation at University-sponsored athletic or academic functions and documented illness. The granting of provisions for other documented absences is left to the discretion of the faculty member.

Due to the nature of asynchronous courses, students are expected to participate in class, but in formats that do not require attendance at regular intervals.

**Extended illness.** The student should notify the Office of Student Affairs when the student is going to be absent from classes for more than one week because of an illness. Student Affairs will notify the student’s course instructors of the absence on his or her behalf.

**Class Attendance by Guests**

Statement: The propriety for non-student presence in the classroom will vary dependent upon the nature of curricular offerings, dangers inherent to certain classrooms and labs, the optimum classroom environment for each class, and the preferences of each instructor. Guidelines specifying whether non-student guests will be permitted in the classroom, which are consistent with departmental policy, will be established for each class by the instructor and included in the syllabus for the course. These guidelines will apply to each site at which the class is offered.

**Assignment Submissions**

Coursework is to be delivered to the instructor using the method specified. Electronic and postal delivery may be required.

**Submission of Written Work To More Than One Class**

In general, it is not acceptable for a piece of work such as a term paper to be submitted to more than one class for credit. In cases where submission of the same paper is appropriate, prior approval must always be obtained.

An example of a situation in which the same paper might appropriately be submitted would be one in which a student was enrolled in two classes, in both of which a given research topic was not only of interest to the student but was completely appropriate to both classes. In such circumstances, the student would approach the instructors of the two classes and obtain approval to submit the same term paper to both classes, based on prior agreement concerning the depth of the study, amount of material covered, and the length of the paper to be submitted (which should be longer than a paper submitted to one class).

**System of Grading**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
<td>Superior</td>
<td>Excellent</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
<td>Superior</td>
<td>Excellent</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
<td>Good</td>
<td>Fair</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
<td>SATisfactory</td>
<td>Poor</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>SATisfactory</td>
<td>Poor</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
<td>Passing</td>
<td>Not Used</td>
</tr>
<tr>
<td>D+</td>
<td>1.30</td>
<td>Passing</td>
<td>Not Used</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>Passing</td>
<td>Not Used</td>
</tr>
<tr>
<td>D-</td>
<td>0.70</td>
<td>Passing</td>
<td>Not Used</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Failing</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>WF</td>
<td>0.00</td>
<td>Unofficial</td>
<td>Withdrawal</td>
</tr>
<tr>
<td>P</td>
<td>None</td>
<td>Pass</td>
<td>See below</td>
</tr>
<tr>
<td>F/F</td>
<td>None</td>
<td>Fail</td>
<td>See below</td>
</tr>
<tr>
<td>O</td>
<td>None</td>
<td>Audit</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>None</td>
<td>Incomplete</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>None</td>
<td>Incomplete not Subject to Time Limit</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>None</td>
<td>Official Withdrawal</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>None</td>
<td>Progress but not Proficiency</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>None</td>
<td>No Grade Reported</td>
<td></td>
</tr>
</tbody>
</table>

The grades of WF and W indicate withdrawal from a course only under those conditions described in the sections entitled Class Schedule Change Procedure and Grading Policy for Withdrawal From Classes. A grade of I indicates assigned work yet to be completed in a given course or absence from the final examination and is assigned only upon instructor approval of a student request. The I grade may be awarded only in exceptional circumstances beyond the student’s control, such as illness, and only after 80% of the time allocated for the course has elapsed and substantial progress has been made toward completion of course requirements with the exception of
courses that do not fit within the traditional semester calendar. In cases of exceptional circumstances beyond the student’s control, it is the responsibility of the student to approach the instructor to request an I grade and to provide documentation, including a written statement of when the work will be completed, to support the request. The authority to award an I grade rests with the instructor whose decision is final. Students whose requests for I grades are approved must not re-register for the class until the I grade has been resolved. The I grade becomes an F if not removed through the last day of classes of the spring semester; I grades from the spring semester and the summer session become F’s if not removed by the last day of classes of the fall semester. An I grade may be changed to a W only in very unusual circumstances and when the student’s situation has changed since the I grade was awarded. In these cases, the request for a change to a W must be in writing, documented, and approved by the instructor, department chair and dean. Students will not be allowed to graduate until all grades of I have been resolved.

In the case of courses that do not fit within the traditional semester calendar, the faculty member assigns the I grade. The time periods for the removal of I grades before they become grades of F are the same as those stated in the preceding paragraph.

A grade of II indicates incomplete work not subject to the time limits described above for I grades. The II grade can be used only in those courses directly related to the research for and preparation of the graduate thesis/dissertation.

The use of plus and minus grades is at the discretion of the instructor. A grade of Z indicates that no grade has been reported by the instructor and will convert to a grade of F if not removed through the last day of classes of the following semester. (excluding the exam period) according to the following schedule: Z grades from the fall semester become F’s if not removed by the last day of classes of the spring semester; Z grades from the spring semester and the summer session become F’s if not removed by the last day of classes of the fall semester. Students will not be allowed to graduate until all grades of Z have been resolved.

The grade point average is calculated by dividing the accumulated number of grade points earned by the accumulated number of credit hours attempted. Grades of F and WF and repeats are included, but official withdrawals, audits, and grades on noncredit courses, nondegree credit courses, and pass/fail degree courses are not included.

For graduation, an undergraduate student must have a minimum grade average of C (grade point average of 2.00) in all courses taken and a grade point average of at least 2.00 in the major except for those programs requiring grade point averages above a 2.00.

A 3.00 average will be required for the awarding of a graduate degree or certificate. A student whose average falls below 3.00 following six or more graduate hours attempted shall be placed on probation or suspended in accordance with the continuance regulations for graduate students.

Grades in courses accepted for transfer credit are not counted in the computation of grade point averages.

Grades are available to students through the secure website or interactive voice response system. Grades are mailed to students only if a written request is submitted to the Office of the Registrar.

Progress Report. The University believes that regular assessment of students and feedback to them is essential to effective teaching and learning. Therefore, faculty members will provide students with evaluation of their progress in a course prior to midterm. Faculty teaching 100- and 200-level undergraduate courses will provide specific feedback regarding progress in the course. Feedback may be accomplished by returning substantial graded assignments or by posting an interim grade via Leo Online where reasonable and appropriate. Quarterly progress will be submitted by the end of the fourth week of classes in the fall and spring semesters, and the equivalent time frame in the summer sessions. Providing timely information to students on graded work makes students aware of their performance so they can determine whether to seek additional help from the faculty member, tutorial services when available, their academic advisor and/or withdraw from the course prior to the established deadline for withdrawal.

Grade Forgiveness

Under the Grade Forgiveness Policy, undergraduate students seeking a baccalaureate degree may improve their grade point average (GPA) by repeating a course taken previously. The repeated course must be the same course as taken previously and must be completed through Old Dominion University. The registrar automatically applies the Grade Forgiveness Policy to all eligible course repeats at the end of each semester. The Grade Forgiveness Policy became effective for the Fall 1997 semester. Courses repeated prior to the Fall 1997 semester are not eligible for grade forgiveness. Grade forgiveness will not be processed after a student graduates.

Grade Forgiveness Policy

Undergraduate students are subject to the following conditions and requirements:

1. Students who receive a grade of C– or lower (grades of C-, D+, D, D-, F, and WF) may repeat the course to improve the overall grade point average. A course may be repeated once with grade forgiveness applied. The Grade Forgiveness Policy will not be applied to courses for which a grade of C or higher was ever earned. Additional courses that are not eligible for grade forgiveness include courses taken under the pass/fail option, courses taken under the audit option, courses for which a grade of W was the only grade awarded, or courses that currently are incomplete (I grade).

2. The Grade Forgiveness Policy applies only to the repeat of the same course (same number, same title, same credit value, and, for topics courses, same subtitle and same credit value). Exceptions will be made where the course number or title is the only change and the change is directly related to the research for and preparation of the graduate thesis/dissertation.

3. The Grade Forgiveness Policy will not be extended to courses originally taken elsewhere, including Norfolk State University and institutions with which Old Dominion University has consortia arrangements. In addition, courses repeated at other institutions will not be used to forgive Old Dominion University courses.

4. Students may not be able to repeat a course in the following cases: entrance prerequisite not met, inadequate credit for admission to a course, the prerequisites are enforced, major or sequence requirements have been changed, or the curriculum has been revised. In such cases the decision of the assistant vice president for undergraduate affairs in consultation with the appropriate academic department will prevail. Exceptions are granted only in rare instances. In any course or program where enrollment demand exceeds the resources to offer sufficient openings or sections to meet that demand, the academic unit may give registration priority to students taking the course for the first time.

5. Students may elect to use both grade forgiveness and the Adjusted Resident Credit (ARC) policy. However, students cannot use grade forgiveness for individual courses for which adjusted resident credit already has been applied.

6. Students who are cataloged may not use the provisions of this policy to repeat for forgiveness a course taken prior to the date of graduation. Once a bachelor’s degree has been awarded, a student may not raise the undergraduate grade point average by repeating a course taken as an undergraduate.

7. Under this policy, only the second grade earned, whether higher or lower than the original grade, will be calculated in the grade point average for the purposes of graduation, certification, and degree completion. Any repeats of a course after grade forgiveness has been applied will be averaged with other course work. All grades will remain on the student’s permanent record, but the record of a previous grade in the course will be marked to indicate that the course has been repeated. Academic suspensions will not be removed from student transcripts and Dean’s List status will not be added after grade forgiveness is applied to the student record in cases where the grade point average is improved sufficiently to change the student’s status for the semester in question.

8. An enhanced grade point average using the Grade Forgiveness Policy does not determine eligibility for graduation with honors. To determine eligibility for graduation with honors, the student’s complete record, including grades (grade points and hours) for courses that have been forgiven, will be evaluated to calculate the final grade point average. If the student’s overall average is sufficient, graduation with honors will be posted to the student’s record.

9. In cases where the student repeats a course in which a grade of C or better was awarded, all grades received, including the original grade, and all hours earned will be used for calculation of grade point averages. The course will count only one time toward graduation certification and degree completion.

10. Students receiving financial aid should consult with their Financial Aid representative to determine how use of this policy may affect financial aid status.

11. Other schools, including professional and graduate schools, may not honor this policy on repetition of courses with forgiveness.
Grade Appeals

Grade Appeal Procedure

1. The purpose of the grade appeal procedure is to serve the needs of graduate and undergraduate students who believe that they were unjustly awarded a final course grade by a faculty member through prejudice or caprice. This policy applies to the final grade for the award of academic credit and does not apply to graduate and undergraduate examinations that are administered as part of the degree progression and certification processes (such as comprehensive examinations and candidacy examinations at the graduate level). The basis for a grade appeal is the student’s charge that the final grade was awarded through prejudice or caprice. The burden of proof rests with the student.

2. Students must initiate the appeal within the same time limitations that exist for removing a grade of I from a record (see the policy on System of Grading).

3. The student will consult with the instructor first for an explanation of the method of evaluation and to determine whether an error has been made.

4. If the student is not satisfied with the results of the conference with the instructor and the student wishes to pursue the appeal, the case must be presented in writing for a first-level appeal. The student's grade appeal letter should (1) state specific reasons and give examples of faculty prejudice or caprice, (2) show that prejudice or caprice affected the awarding of the final course grade, and (3) be presented as a complete package and include all supporting documentation.

   A. The student will submit the grade appeal letter to the chair of the department.

   B. If the instructor is the chair, the student will submit the grade appeal letter to the dean.

   C. If the instructor is the dean, the student will submit the grade appeal letter to the chair of the department in which the dean is teaching the course.

5. If it is concluded at the first-level appeal that there is no cause for complaint, the person to whom the appeal was submitted will notify the student in writing that the appeal is denied. The student may submit a second-level appeal as detailed below.

   A. If the chair initially concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the dean. The student should request in writing that the chair forward the grade appeal package to the dean to initiate the second-level appeal.

   B. If the instructor is the chair and the student has appealed directly to the dean and the dean concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs. The student should request in writing that the dean forward the grade appeal package to the provost and vice president for academic affairs to initiate the second-level appeal.

   C. If the instructor is the dean and the student has appealed to the chair of the department in which the dean is teaching the course and the chair has concluded in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs. The student should request in writing that the chair forward the grade appeal package to the provost and vice president for academic affairs to initiate the second-level appeal.

6. If the person to whom the second-level appeal is submitted concludes that there is no cause for complaint, the student will be notified in writing that the grade appeal process is complete and no further appeal is allowed.

7. If during the first- or second-level appeal process it is concluded that there may be valid cause for the complaint, the person to whom the appeal has been submitted should consult with the instructor and student and attempt to mediate the dispute. Among the alternatives available for resolution of the case will be the assignment of the grade of P if the chair, the instructor, and the student express their agreement in writing. If mediation fails, the person to whom the appeal has been submitted will offer to form a committee to carry out an independent investigation and a hearing will be held.

A. The person to whom the appeal has been submitted will appoint a committee from the department or college. The committee will consist of two faculty and one student. Both the instructor and the student will have the right to challenge, for valid cause, any or all of the members of the committee, and in that event replacements will be appointed and no further challenge will be permitted. The committee will hear the instructor, the student, and other pertinent witnesses. The hearing will be taped, but the tapes will be erased after one year following disposition of the case. The committee, after careful deliberation, will make its recommendation to the person to whom the appeal was submitted, who will relay the information to the instructor and the student.

B. If the committee finds that there is no cause for complaint, the grade appeal process is complete and no further appeal on the merits of the case is allowed. Only one hearing on the merits of the case is allowed.

C. If the committee finds on behalf of the student and recommends a change of grade and the instructor refuses to change the grade, then the person to whom the appeal was submitted will consult with the student about the advisability of accepting a P grade. Should the student consent to acceptance of a P grade, the person to whom the appeal was submitted is authorized to change the contested grade and will so inform the registrar. A P grade established under this policy will be given irrespective of the University policy on hours permitted for P grades or restrictions on when a P grade is permissible and will not prevent progression in the degree program or courses for which this course is a prerequisite.

D. If either the instructor or the student believes that the established procedures for the appeal of grades have not been followed, an appeal for a rehearing may be to the person identified as the second level of appeal. The only basis for appeal will be the failure to have been provided due process as prescribed by the policy.

Guidelines and Procedures for Grade Adjustments for Nonacademic Reasons

1. Errors in the assignment of grades (e.g., a C received instead of an A) must be brought to the attention of the faculty member immediately upon receipt of the grade report. If confirmed, the instructor will submit a grade change through the chair to the registrar.

2. Administrative errors (e.g., drop/add submitted but not processed) should be brought to the attention of the registrar immediately upon receipt of the grade report.

3. Other nonacademic reasons for adjustment that may be reviewed are as follows:
   a. Change of an I to a W only if the I grade was assigned unilaterally by the instructor; a research project is irrevocably destroyed; or the student is incapacitated to the point where course work cannot be completed within a reasonable time. If approved, the grade carried at the time the I was assigned will determine the nature of the change in accordance with the withdrawal policy in effect for the term in question.
   b. Extension of the I time limitation normally will not be approved except for reasons beyond the student’s control and only if the supervising faculty member is available and willing to supervise the work beyond the normal time limit. Students should make the request of the instructor, who should submit approval, via the chair, to the registrar in order to retain the I. The letter should designate the expiration date of the extension.

   Except where noted otherwise, all requests for review in section 3 must be submitted in writing to the university registrar, normally within the same time limits that exist for removing I grades. The requests should provide full and complete details. In no case will a change be made without supporting evidence and approval of the instructor as determined from remarks on the grade sheet or direct statement. All inquiries of the faculty must be made by the office of the dean rather than the student.

4. All requests for changes will be reviewed as expeditiously as possible. Students should realize that the process can be lengthy in certain cases, and are therefore advised to submit requests as soon as possible after the end of the term in question.
5. Changes to a record will be approved only if all financial responsibilities to the University have been met by the student.

Audit Status

The audit grading status is available for students who would like to enroll in a course for the knowledge gained or personal satisfaction, not for academic credit. Any course that is elected to be carried as an audit will be subject to the normal fees and regulations of the University. Regular attendance is expected, but neither tests nor examinations are required. No grade will be recorded, except that an instructor may assign a grade of W & to a student who misses an appreciable portion of the classes. The student's record will be marked "audit" by the course so elected. A student may not audit a course and subsequently seek advanced placement credit for the same course. A student may audit a course and register for the same course for credit in a subsequent semester. Any course elected for audit cannot be changed to that of credit status after the end of the "add" registration period. Registration for the audit option must be selected by the end of the drop/add period in the given semester. Students receiving financial aid should be aware that registering for audit status may affect their financial aid eligibility. Selection of the audit status is accomplished through the normal registration procedures.

Academic Credit For Extracurricular Activities

Extracurricular activities may be approved for credit for undergraduate students by academic departments, based on objectives, criteria, and evaluative procedures formally determined by the department and the student before the semester in which the activity is to take place. Such credit is subject to the review of the provost and vice president for academic affairs.

Guidelines

The following guidelines regarding the administration of the policy on granting credit for extracurricular activities will provide university-wide standards on this matter. Within these standards individual departments may establish credit activities appropriate to their particular discipline.

1. A department may grant credit for extracurricular activities that fall within the academic interests of the department.
2. The extracurricular activity for which credit is to be granted must have demonstrable academic value.
3. A student desiring academic credit for extracurricular activity shall, prior to the semester the credit is to be granted, formally petition the chair of the department, describing the proposed project in detail and justifying its academic value.
4. If the department chair considers that a petition has merit, the chair will refer the student to a faculty member with expertise in that area. The student and the proposed faculty supervisor will refine the student's project. The faculty member will then make a recommendation to the chair concerning the validity of the project, the amount of credit to be awarded, and the grading system to be employed (pass/fail or letter grade). The recommended plan will include a description of the nature of the supervision and methods of evaluation to be used.
5. A recommended project approved by the chair will then be sent to the dean for approval.
6. If the project is approved, the student will then register for the appropriate course number and credit hours. Each department interested in granting credit for such activity will establish courses numbered "377, 378" for one to six credits each semester and titled "Extracurricular Studies."
7. After completion of an approved project, the student will submit a report to the faculty supervisor. This report will be retained by the faculty supervisor for examination by the department chair and/or other interested persons.
8. The faculty supervisor will review the results of the project and submit the appropriate grade to the registrar.
9. The burden of justifying a project and documenting the results rests on the student. It is also to be emphasized that credit will not be given retroactively.

Student-Elected Pass/Fail Course Option For Undergraduate Students

1. The option to select courses for pass/fail credit is open to the undergraduate student who has been accepted by a department as a major.
2. Courses within the student's major or minor, or courses necessary to meet a departmental, school, or college requirement, or University General Education Requirement, may not be taken under this option.
3. A maximum of 12 hours of student-elected pass/fail credit may be applied to the student's baccalaureate degree unless in teacher education programs. Majors in teacher education programs may apply only three hours of student-elected pass/fail credit.
4. Instructors will have knowledge of which students in their courses are enrolled for pass/fail credit.
5. A student receiving a P will receive credit for the hours, but will not receive grade points, and the hours will not be counted in the computation of the grade point average. A student receiving an F will not receive credit for the course and there will be no penalty, although the failure will appear on his or her transcript.
6. A student electing the pass/fail option for a particular course cannot change his or her registration and elect to take the course for grade point credit after the end of the "add" period. Similarly, courses cannot be elected as pass/fail after the end of the "add" period.
7. All prerequisites must be met for any course taken under the pass/fail option.

Repeating Courses

Normally, undergraduate students may not repeat courses in which they have previously earned a C or better or in which they have received transfer credit. Exceptions to this should be made by the department chair or, in the case of graduate students, by the dean of the college in which the graduate student is enrolled, and should be allowed only under the following conditions:

1. A student has a long delay (usually more than five years) between an introductory course (or the first half of a two-course sequence) and subsequent study, so that repeating the course is advisable for future success in the field.
2. A department requires that grades higher than C be earned in particular courses and requires a cumulative grade point average greater than 2.00 and stipulates that students who earn less than the desired grades or grade point average retake the courses.

None of the credit hours earned in courses that have been repeated for credit under these conditions will be applicable toward the total hours required for the degree. Grades earned in both the original course (if C or above) and the repeated course will, however, be used in the calculation of the cumulative grade point average.

The Grade Forgiveness Policy does not apply when courses are repeated in which a grade of C or higher was earned originally nor does the Grade Forgiveness Policy apply to transfer courses. Please refer to the Grade Forgiveness Policy in this Catalog for information about repeating courses in which grades below C were earned.

Duplicate Courses

An undergraduate student who has taken two courses that are designated by the department as duplicate may apply only one toward a degree. Courses considered to be duplicate are so designated in the course descriptions found elsewhere in this catalog. For example, a student receiving credit for Biological Sciences 115N cannot receive credit for Biological Sciences 108N.

Declaration or Change of Major, Minor, or Cluster for Undergraduate Students

Upon entrance to the University, students are assigned either to an advisor in Advising Services or to an advisor in their college or department of interest. Distant students will utilize the site director or distance learning representative as their main advisor, with a college advisor on campus assigned as the final authority. Acceptance of a student for advising purposes does not guarantee acceptance into the department as a major. Acceptance of a student as a major in a program cannot occur until all requirements for acceptance have been met. These requirements vary depending upon the major. Specific inquiries concerning requirements should be made to the academic college, school or department involved, or the site director or distance learning representative. In
all cases a student must officially complete English 110C before declaring a major.

A student must be accepted as a major in an academic program before the student may become a degree candidate or apply for graduation. Students cannot receive a degree in an academic program unless they have met all requirements for acceptance and have been accepted into that academic program. Nondegree students may not declare majors until admitted to degree status. Students with additional requirements upon entrance to the University, due to lower than average SAT scores or previous grades, must complete these requirements prior to declaration of a major.

Students must contact the department of the intended major or their site director or distance learning representative to formally declare a major. Upon meeting the University, college, and departmental/school requirements for declaring the major and/or minor, the academic advisor, site director, or distance learning representative in the interest area will notify the Office of the University Registrar or Distance Learning to officially declare the major and/or minor or upper-division general education cluster.

Academic Calendar and Course Scheduling

The academic calendar consists of fall semester, which begins one week prior to Labor Day Weekend, and ends 16 weeks later. Classes will be held on Saturday and Sunday of Labor Day weekend, but classes are canceled for Labor Day. A Fall Break is scheduled for mid-October (Columbus Day Weekend) and runs from Saturday through Tuesday of that weekend. Thanksgiving break begins after classes on Tuesday prior to the holiday, and classes resume on the following Monday. Graduation is scheduled on the Sunday after exams have been administered.

Spring semester begins one week prior to the Martin Luther King holiday weekend. Classes are canceled for MLK weekend (Saturday-Monday) and resume on Tuesday following the holiday. Spring Break is scheduled eight weeks after the start of classes, from Monday through Saturday. Classes resume on the following Sunday and continue until Tuesday of week 15 into the semester, with the exception of Easter Sunday. A reading day is held the Wednesday after classes end, with exams beginning on Thursday and continuing to the following Thursday. Graduation is scheduled for the Saturday after exams have been administered.

Summer term is 14 weeks, with varying sessions allowing for course durations of one week, two weeks, and so on, up to 14-week timeframes. The term ends no later than mid-August.

Note: Asynchronous courses may or may not follow these terms. The University will determine the duration of each course, and students may opt for self-paced study, based on the concept of anytime/anyplace learning.

Registration

There are several registration options available to students: registration via the world wide web at www.leonline.odu.edu, on campus preregistration, on-campus continuous registration, and off-campus registration.

Eligible students are encouraged to preregister to improve their chances of obtaining satisfactory schedules of classes. Preregistration is reserved for currently enrolled degree-seeking students. Open registration begins immediately following the preregistration period.

Refer to the Guide to Enrollment published before each term for details concerning eligibility, procedures, requirements, and dates. The course schedule is available at www.leonline.odu.edu by March 1 for summer and fall semester classes and by October 1 for spring semester classes.

Summer Sessions and Weekend Courses

Old Dominion University offers a 14-week summer program, including two four-week sessions, two six-week sessions, two seven-week sessions, and one 14-week session, starting in the middle of May and ending in the middle of August. The exact dates are listed in the Guide to Enrollment. More than 1,000 graduate and undergraduate classes are offered on campus and off campus during the summer months.

Old Dominion also offers weekend courses. Offerings during the weekend include undergraduate, graduate and certificate programs as well as courses for general education requirements, teacher recertification courses and classes for personal and professional development. Information on specific courses is available in the Guide to Enrollment.

Normal Course Load for Undergraduate Students

The University considers the carrying of 12 or more semester hours to be full time for undergraduate students; 15 hours is considered a normal course load. Students seeking to enroll in more than 18 credit hours must have a 3.00 or better overall grade point average. In addition, they must obtain the recommendation of their advisor and written permission from the dean of the college in which their major program resides. Students without a declared major must obtain the recommendation of their advisor and written permission from the Office of the Provost to enroll in more than 18 credit hours. Otherwise, the actual course load is entirely the prerogative of the student.

During the summer session, an undergraduate student is considered to be full time if he or she is enrolled in nine hours. A student may not enroll in more than nine hours in a six- or seven-week session or four hours in a four-week session. No student may enroll in more than 15 hours during the summer sessions without written permission of his or her advisor.

Course Numbering

Courses in which the leading number is zero, e.g. 050, are nondegree credit courses primarily in developmental studies.

Courses numbered 100 are primarily for freshmen, 200 for sophomores, 300 for juniors, and 400 for seniors. All 300- and 400-level courses require junior standing or permission of the instructor.

Courses at the 500, 600, 700, and 800 levels are exclusively for graduate credit. Courses at the 500 level are available for graduate credit only and correspond to undergraduate 400-level courses. However, a different grading scale is used for 500-level registrants; additional and higher quality work is required in 500-level courses.

General Education undergraduate courses are designated by the fourth digit in the course number. At the lower division, the following designations are used: for skills courses, C=Composition, D=Computing, F=Foreign Language, M=Mathematics and R=Oral Communication; for Perspectives courses, A=Fine and Performing Arts, H=History, K= Natural Science (beyond the eight-credit “N” sequence), L=Literature, P=Philosophy, N=Natural Science, S=Social Science, and T=Technology. Writing intensive courses are designated by a W in the fourth digit.

Topics course numbers include 195, 196, 295, 296, 395, 396, 495, 496, 595, 596, 695, 696, 795, 796, 895, and 896. These numbers are to be used to designate topics courses taught as a class. These courses should be shown in the course schedule with a section designation and room assignment. The particular topic for that semester should also be listed. Where a particular topic is offered more than two or three times, it should be approved as a regular course offering and given its own course number.

Individual and Tutorial course numbers include 397, 398, 497, 498, 597, 697, and 897. These numbers are to be used to designate courses involving individual or tutorial study within a discipline. These individually arranged courses will require prior approval by the department chair and/or instructor, and will be shown in the course schedule with the designation “I/TA.”

Cooperative Education course numbers are 367, 667, and 867.

Internship course numbers are 368, 668, and 868.

Practicum course numbers are 369, 669, and 869.

Extracurricular Activities course numbers are 377 and 378. These numbers are reserved for departments interested in granting credit for extracurricular activities at the undergraduate level.

Honors course numbers include 126, 127, 128, 226, 227, 228, 387, 388, 487, and 488. These numbers are reserved for departments interested in offering honors courses at the undergraduate level.

Seminar, Colloquium, and Capstone course numbers include 690, 691, 692, 693, 890, 891, 892 and 893.

Research/Project course numbers are 698 for the master’s level and 898 for the doctoral level.

The Thesis course number is 699 and is reserved for the master’s thesis. The Dissertation course number is 899 and is reserved for doctoral dissertation courses.

The Continuous Enrollment course number 999 is available for the purpose of maintaining active status at the doctoral level. This may be a discipline-specific 999 course or GRAD 999.

Once a course number has been deactivated it may not be reused for a different course for a period of six academic years.
Withdrawal From Classes or From the University

Class Schedule Changes and Drop/Add Procedure

Students may drop classes within the first seven calendar days after classes have started and may add classes up to 11 calendar days after classes have started (for full semester classes).

Once registered, a student must drop or add classes via the secure website at www.leonline.odu.edu or submit a completed drop/add form to the Office of the University Registrar or to the distance site office (for TELETECHNET students). The date the form is received in the Office of the University Registrar, the distance site office or processed via LEO determines tuition adjustments, if applicable. Drop/add forms, if needed, can be downloaded from the Registrar’s Office website: www.odu.edu/registrar. Forms are also available from the student’s advisor, department chair, dean, or the distance site office (for TELETECHNET students).

Signatures of advisors are required for freshmen adding courses. Students enrolled in degree programs in which sequencing is critical are urged to consult with their academic advisors before scheduling changes. In such programs, dropping of courses without prior consultation with academic advisors may necessitate additional time to complete University and/or departmental degree requirements.

See the academic calendar in this Catalog or the Guide to Enrollment for deadlines for adding or dropping classes. For information regarding the refund schedule, see the chapter on Financial Information or go to the Office of Finance’s web page.

Policy for Dropping and Withdrawing From Classes

Dropping Classes. Prior to the start of and during the first seven calendar days of the semester, a student may drop a course; this means no grade will be assigned and no reference entered on the student’s permanent academic record. Please refer to the Guide to Enrollment for the dates to drop classes in nonsemester courses.

Withdrawal from Classes. After the first seven calendar days of the semester, a student may withdraw from any course through the end of the eighth week of a regular semester. Please refer to the Guide to Enrollment for the dates to withdraw from classes in nonsemester courses. A grade of W will be assigned during this period. Students who withdraw through the end of the eighth week are encouraged to contact their instructor, advisor, site director, or distance learning representative, and financial aid counselor to discuss the implications of withdrawing.

Withdrawal from a course after the eighth week of a regular session (or its equivalent in a nonsemester course) is usually not permitted. However, in the event of an illness or other severe hardship beyond the student’s control, the student should submit, no later than the last day of classes, a written petition for permission to withdraw from the course to the dean of the college offering the course. If permission is granted by both, a grade of W will be recorded. If permission is not granted by both, the student will not be allowed to withdraw from the course. Any appeal of decisions should be brought to the dean of the college offering the course.

A student who stops attending classes without withdrawing from the course will receive a grade of F, in which case a grade of F will be assigned. The grade of WF will carry no grade points, and will be computed in the grade point average as a grade of 0.

Drop and Withdrawal Deadlines. Specific deadline dates for dropping and withdrawing from courses are found in the Guide to Enrollment that is published by the Office of the Registrar and available on the University’s web site.

Administrative Withdrawal From the University

During the course of any semester, there will be situations, such as severe illness, death in the immediate family, or disciplinary actions, which will require that the University initiate an administrative withdrawal to assist a student or to implement a University-imposed sanction. The following procedures will be used:

1. The request for withdrawal is initiated either by the student because of an extenuating personal situation or by the University because of a disciplinary situation.
2. This action will normally be handled by the vice president for student affairs or designee. If the student initiates the withdrawal, the vice president’s office will determine what verification is necessary and document the situation.
3. A request will be submitted to the Office of the University Registrar to withdraw the student from all classes.

4. The student’s instructors will be notified. If the student is withdrawing after the last day to withdraw from classes without penalty, part of this notification will include the opportunity for the faculty member to raise objections if the student’s classroom performance is such that a withdrawal (W) would not be appropriate.
5. If a faculty member objects, the faculty member will inform the registrar and the student will receive an “F” in the class.
6. The request for withdrawal must be initiated by the student not later than the end of the semester following the term for which administrative withdrawal is sought.

Transcripts

Transcripts are provided by the Office of the University Registrar and are issued only upon the written request of the student. They should be requested at least five business days before the date needed. Students picking up transcripts must present valid identification. No transcripts will be issued if the student has an outstanding debt at the University. All grades, disciplinary and academic suspension actions, degrees received, and degree honors are included on the transcript.

An official transcript carries the University Seal and an authorized signature.

Official transcripts are usually mailed directly to educational institutions, employers, etc. Any transcript mailed to or given directly to a student will be marked, “Issued to Student.” Partial transcripts are not issued; each transcript must include the student’s complete record at Old Dominion University.

A transcript of work completed at any high school or at any college other than Old Dominion University must be obtained directly from that institution.

There is a charge of $5.00 for each transcript issued. Unofficial advising transcripts may be accessed by the student’s advisor of record through www.leonline.odu.edu.

Regulations for Continuance: Undergraduate Students

Notification of Academic Status

The University makes every reasonable effort to notify undergraduate students of their academic status. A first class letter is mailed to each outstanding debtor at the University. If this is not returned, notices (with or without a notation of academic warning and suspension) placed on academic continuance reviews the records of all students who do not maintain a 2.00 grade point average (GPA). It is strongly recommended that all students with a cumulative GPA below 2.00 be limited to a semester enrollment of no more than four hours.

1. ACADEMIC WARNING. All undergraduate students receive one semester (fall, spring, summer) of academic warning after the cumulative grade point average drops below 2.00. Following the one-semester academic warning, an undergraduate student remains on academic warning as long as the following condition pertains:
   - The student achieves a 2.0 semester grade point average for courses taken each semester until attaining good academic standing (2.0 or above).

2. ACADEMIC SUSPENSION. Following a one-semester academic warning, an undergraduate student will be suspended at the end of the fall, spring or summer term if the cumulative grade point average remains below 2.00 AND the semester grade point average falls below 2.0. Students suspended at the end of the fall term must separate from the institution for spring term; students suspended at the end of the spring term must separate from the institution for summer and fall terms; students suspended at the end of the summer term must separate from the institution for the fall term. Students who have served a first suspension and are suspended a second time must separate for a full calendar year (three consecutive terms).
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<thead>
<tr>
<th>ACADEMIC STATUS</th>
<th>GRADE POINT AVERAGE REQUIREMENTS</th>
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<tr>
<td>Good Standing</td>
<td>2.00+ cumulative GPA</td>
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<tr>
<td><strong>Academic Warning</strong></td>
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<td>(1st occurrence)</td>
<td>1.99 or less cumulative GPA</td>
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<tr>
<td>**Initial term of academic</td>
<td>difficulty; student eligible to</td>
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<td>difficulty; student eligible to</td>
<td>enroll</td>
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<td><strong>Academic Warning</strong></td>
<td>1.99 or less cumulative GPA AND</td>
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<td>(2nd and subsequent occurrences)</td>
<td>2.0 or above term GPA</td>
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<td>term(s) of academic</td>
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<tr>
<td>**First Suspension (see below)</td>
<td>1.99 or less cumulative GPA AND</td>
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<td>**If suspension occurs during the:</td>
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<td>cumulative and term GPA</td>
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<td>are below 2.0; student NOT</td>
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<td>eligible to enroll</td>
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<td><strong>Second Suspension</strong></td>
<td>1.99 or less cumulative GPA AND</td>
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<td>(1 calendar year)</td>
<td>1.99 or less term GPA</td>
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<td>**Second term of academic</td>
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<td>cumulative and term GPA</td>
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<td>suspension; student NOT</td>
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<td><strong>Final suspension</strong></td>
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<td>1.99 or less term GPA</td>
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<td>suspension; student NOT</td>
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<td>eligible to enroll</td>
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- If the student has pre-registered for a subsequent semester, all registration will be administratively dropped if the suspension appeal is denied (see suspension appeal below). A tuition refund will be sent four to six weeks after the appeal decisions have been posted for suspension appeals that are denied. Students who choose not to appeal the academic suspension must drop all courses before tuition deadline.
- All academic status notices appear on the student’s transcript. Additionally, notice of whether an appeal was filed and the outcome of the appeal will also appear.

### Guidelines for filing a suspension appeal:

**2006 – 2008 Suspension Appeal Deadlines:**

<table>
<thead>
<tr>
<th>Suspension Posted</th>
<th>Appeal Application Deadline</th>
<th>Appeal Decision Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2007</td>
<td>May 15, 2007</td>
<td>May 18, 2007</td>
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<tr>
<td>May 2008</td>
<td>May 18, 2008</td>
<td>May 22, 2008</td>
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<tr>
<td>August 2008</td>
<td>August 27, 2008</td>
<td>August 29, 2008</td>
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1. All students have the right to appeal their suspension if extenuating circumstances warrant such action. All appeals must be submitted in writing with the Suspension Appeal Form or through the web site (http://www.odu.edu/advising) by the deadline posted above. Suspension Appeal Forms must be delivered to the director of academic continuance. Late appeals will not be reviewed.

2. Appeals must be based on circumstances of recent origin that were beyond the control of the student and for which official withdrawal from the course(s) was not an option. Appeal letters must be legible and authored by the suspended student, whether submitted through the mail, in person, or through the website, and in order to be reviewed they must:
   - Document the extenuating circumstances such as work, poor study environment, finances, illness, or personal relationships that have adversely affected performance: i.e. physician’s statement, letter from employer, letter from family members, letter from faculty or academic advisor.
   - Explain how the extenuating circumstances caused each semester of grades below the 2.0 minimum grade point average.
   - State reasons why official withdrawal was not requested.
   - Present a plan of action for subsequent enrollment, should the appeal be granted.

3. Because there is no face-to-face meeting with appeal committee members, appeal letters must provide sufficient detail and explanation regarding the aforementioned points.

4. Students whose appeals are granted are REQUIRED to participate in a college or University retention program in the next enrolled semester. Information about these retention programs will be provided with the notification that the appeal was granted.

5. Students who fail to appeal the spring semester suspension may submit an appeal during the summer appeal process. Appeals submitted after the suspension has been served will not be accepted.

### Returning from Academic Suspension

1. A student returning from a first suspension is required to contact his/her academic advisor prior to registration for the returning semester.

2. A student returning from a second suspension will be considered for readmission after completing the appropriate one calendar year separation and completing the appropriate application obtained through the Office of Admissions or through the web at http://www.odu.edu/admissions. The student must include a formal letter explaining the circumstances that put the student in academic difficulty and what plans the student has made to ensure success. The deadlines to reapply for admission are as follows:
   - Fall semester – second Friday in August
   - Spring semester – third Friday in December
   - Summer semester – fourth Friday in April

Readmission requests received after the deadline will not be guaranteed readmission consideration until the subsequent semester or term. No readmission application will be reviewed without the letter. Each returning student must earn at least a 2.00 GPA for each semester. If the 2.0 semester GPA is not met, the returning student will be suspended again. Students returning from a second suspension should acquaint themselves with the options available under the Adjusted Resident Credit (ARC) policy.

3. Students who are suspended for a third time are no longer eligible to attend Old Dominion University or any of its satellite campuses.

4. All students readmitted after serving a one calendar year separation must attend a workshop conducted by the Office of Continuance prior to the start of classes to complete the readmission process. Students who fail to attend a workshop will be dropped from all classes if they are registered and their readmission will be revoked for the semester. Students in this situation will be eligible to reapply for the next semester, but must begin the readmission process again.

5. Students who are suspended while under Non-degree Admission status, and who reapply and are readmitted, should be aware that they are readmitted to the non-degree status. Non-degree students are not eligible for financial aid.

6. Students readmitted to the University from suspension or due to a successful suspension appeal do not automatically qualify for financial aid. Please refer to the Financial Aid section of the catalog for the Financial Aid Continuance policy. All students who are suspended should contact their financial aid counseling team immediately to discuss their options. It is important that students are aware from the outset that a minimum of six credit hours with a GPA of 2.00 or more is a prerequisite to the appeal to re-establish financial aid eligibility. The six credit hours must be completed during one term (semester).

### Adjusted Resident Credit

Any undergraduate student who leaves Old Dominion University for at least one calendar year will be given the option of requesting a grade-point-average status equivalent to that of a student admitted as a transfer according to the following conditions and regulations.

The following conditions governing eligibility will apply:
1. Prior to the one year’s absence, the student must have a cumulative grade point average less than 2.00. Upon returning to the University, the student must earn a minimum of 30 credits at Old Dominion University to be eligible for a degree. This must include twelve hours of upper-level courses in the department of the declared major.

2. The student must have separated from the institution for at least one calendar year. A term in which the student received W grades cannot be counted as part of the calendar year separation.

3. Upon return, a full-time student must have attained a 2.00 grade point average for all work attempted in the first semester or upon completion of the first 12 semester hours, if part-time. Nondegree credit work shall not be counted toward fulfillment of this requirement.

4. Upon satisfying the above requirements, the student must submit the application for Adjusted Resident Credit, at which time a 2.00 grade point average for all work attempted since his or her return must have been earned.

5. This option will be available only once during the student’s career at Old Dominion University and must be elected by the end of the second semester following qualifications as described in paragraphs 3 and 4 above. (In all cases, the Adjusted Resident Credit option must be elected and the student’s record adjusted prior to graduation.) Upon written petition by the student and recommendation of the department chair, waivers of the time limit to elect Adjusted Resident Credit and the requirement that students have less than a 2.00 grade point average can be made by the dean of the college in which the student’s major program resides.*

6. Consultation and approval by the appropriate department and approval of the dean(s) of the college(s) in which the student’s major program resides will be required. Once an application is approved and submitted, the student will not be permitted to change status for the purpose of computing the cumulative grade point average or application of credit toward graduation.

7. All grades received at the University will be part of the individual’s official transcript and will be used to determine honor awards. However, computation of a new grade point average for graduation and continuance will be based on work performed subsequent to reinstatement.

8. Under this option: (1) eligible students will receive degree credit only for those courses in which grades of C (2.00) or better were earned prior to readmission; (2) likewise, hours attempted for courses in which grades of C-, D+, D, D- or F were received prior to readmission will not be considered in computing the student’s new cumulative grade point average; and (3) grade points earned for any course completed prior to readmission will not count in determining the student’s new cumulative grade point average.

9. In cases of dual jurisdiction, University continuance regulations will prevail.

Students wishing to avail themselves of this policy may receive procedural information from the Office of the Registrar.

Classification of Undergraduate Students

A sophomore must have completed 26 semester hours. A junior must have completed 58 semester hours. A senior must have completed 90 semester hours. Auditors are those students who desire to attend classes but do not plan to receive credit. Grades are not retained for these students.

Transfer students will receive classifications based upon credit hours accepted by this institution.

Classification of students will be determined at the end of each semester.

Final Examinations

The University firmly believes that a comprehensive evaluation of a student’s achievement in a course is a vital part of the educational process. Final examinations, if given, are to be given at the time and in the location given in the Guide to Enrollment. Upon request of the instructor, exceptions to this regulation may be made only by the dean.

In the event that a final examination is changed to other than that of the scheduled time, provisions will be made by the instructor for any student who cannot comply with the schedule change.

* Waivers of the requirement that students have less than a 2.00 grade point average can be made only in those programs that require greater than a 2.00 for admission.

Any student who has three examinations scheduled in one calendar day and is unable to resolve the problem informally with the instructor or instructors may petition the dean for relief.

All examinations are to be retained for one year by the faculty members. Students have the privilege of requesting conferences with the instructors in regard to their final grades.

Students enrolled in asynchronous video streaming, CD Rom, or like courses that may not follow the traditional semester timetable will be required to adhere to the examination schedule set by the professor. In addition, students not associated with a distant learning site, higher education center, or with main campus will need to secure a Proctor to administer all tests, quizzes, and final exams. A postal fee will be incurred by the student for this service. For more information on proctoring, contact the Office of Distance Learning at 1-800-906-2638.

The Dean’s List

The Dean’s List is announced at the end of each term. Any undergraduate student taking 12 or more hours of degree credit for grade point credit who attains a grade point average of 3.40 or higher with no grade below C (2.00) is placed on the Dean’s List. The student must also receive a passing grade on any nondegree credit courses in which he or she is enrolled. Students who receive grades of I are not placed on the Dean’s List.

Graduation with Honors

Baccalaureate Degrees. Baccalaureate degrees with honors are conferred in accordance with the following cumulative grade point averages on work attempted at Old Dominion University:

<table>
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<tr>
<th>Honors</th>
<th>Minimum Number of Credit Hours</th>
<th>Minimum Number of Grade-Point Graded Hours</th>
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</thead>
<tbody>
<tr>
<td>Cum Laude</td>
<td>3.40-3.65</td>
<td>60</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.66-3.85</td>
<td>60</td>
</tr>
<tr>
<td>Summa Cum Laude</td>
<td>3.86-4.00</td>
<td>60</td>
</tr>
</tbody>
</table>

These designations apply only to candidates who have completed 60 or more credit hours of work at Old Dominion University. At least 54 of the hours must be in grade-point graded courses. Honors designations will be posted to students’ records and appear on the diploma.

Candidates who transfer to Old Dominion and thus do not qualify for honors designations because they have not completed 60 hours at Old Dominion University but who have 45 or more graded hours at Old Dominion University with a cumulative grade point average of 3.66 or higher will be recognized as graduates with distinction. This information will be posted to students’ records and appear on the diploma.

To determine eligibility for graduation with honors or with distinction, the student’s complete record, including grades and hours for courses that have been taken during their time at the University, must be reviewed. Hours earned through the use of departmental honors may be included in determining the student’s overall average for graduation.

Departmental Honors. Undergraduate students may earn the designation of departmental honors on their diplomas. Minimum University standards for departmental honors are:

• Minimum cumulative GPA of 3.25;
• Minimum GPA in the major of 3.50;
• Completion of at least two 300- or 400-level courses designated by the department to be honors courses; and

ACADEMIC INFORMATION 55
• Completion of at least 60 credit hours at Old Dominion University, 54 of which must be in grade-point graded courses.

Undergraduate students who meet all the criteria for departmental honors except the credit-hour requirement may earn the designation of with distinction on their diplomas with the completion of a minimum of 45 graded hours at Old Dominion University.

Candidates who have used grade forgiveness or adjusted resident credit should be aware that the enhanced grade point average determined by use of these procedures does not determine eligibility for departmental honors. To determine eligibility for departmental honors, the student’s complete record, including grades and hours for courses that have been forgiven or adjusted, will be evaluated to calculate the final grade point average. If the student’s overall average is sufficient, departmental honors will be posted to the student’s record.

Credit earned under the Experiential Learning credit options (advanced placement, University exams, departmental exams, external exams such as CLEP and DANTES, portfolio review, and training) does not apply to the 45 credit hours required for departmental honors.

For students in approved accelerated degree programs, all graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine departmental honors.

Individual departments may set other eligibility standards in addition to the University standards. Interested students should contact the Honors College for more information.

**Contract Honors Courses.** Students with a grade point average of at least 3.25 may transform any upper-division course into an Honors course on an individual basis. With the advice and consent of the instructor, students take one or more courses that can be converted into Honors.

No grade below B is accepted for Honors designation. In addition, contract honors courses may be used to meet requirements for departmental honors. Interested students should contact the Honors College for additional information.
Requirements for Undergraduate Degrees

Overall Requirements for Baccalaureate Degree

A candidate for a baccalaureate degree must present a minimum of 120 semester hours (except where otherwise noted in degree program descriptions). A minimum overall cumulative grade point average of C (grade point average of 2.00) must be made in all courses taken, and an overall cumulative grade point average of at least 2.00 must be attained in the major except in those programs requiring a grade point average above 2.00. Grades in all courses taken, including failing grades, are counted when calculating a student’s cumulative grade point average. Grades in all courses taken in the major, including failing grades, are counted when calculating a student’s grade point average in the major. Students completing a minor must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the minor.

A student who seeks a bachelor’s degree from Old Dominion University must, in addition to meeting other requirements of the University, earn a minimum of 25 percent of the total number of credits required for the degree, for example 30 credits in a 120-credit degree program, through on- or off-campus instruction. This must include a minimum of 12 hours of upper-level courses in the department of the declared major. Some program residency requirements exceed the University minimum. The responsibility for meeting the requirements for a degree rests with the student.

University General Education Requirements

All students receiving baccalaureate degrees from Old Dominion University shall complete the University’s General Education program. At the lower division (freshman and sophomore), the program’s designed courses develop the skills (Goals 1-2 below) needed for later study and the perspectives (Goals 3-4) needed to understand the various approaches to knowledge at work in the University. At the upper division (junior and senior), an in-depth multidisciplinary experience broadens the student’s ability to apply the skills and perspectives at a more advanced level.

College Requirements

Students should consult with the department of their major for further information regarding the following.
1. Major programs may require specific Skills or Perspectives courses.
2. When requirement hours vary, major programs specify the number.
3. In addition to the University General Education Requirements, college requirements must be met. For example, the College of Arts and Letters and the College of Business and Public Administration require foreign language proficiency at the fourth-semester level for the Bachelor of Arts degree.

General Education and Experiential Learning

All lower-level requirements within this program may be met by credit awarded to students who are able to demonstrate appropriate experiential learning that fulfills the objectives of the particular skills and perspective requirements. Though not all learning and experiences are worthy of being recognized with the reward of academic credit, the principle that supports the policy is that many valid learning experiences worthy of such credit do take place outside of the traditional classroom setting. For procedures to meet General Education Requirements in this manner, please consult the section of this Catalog on Experiential Learning Credit Options at the Undergraduate Level, visit the Experiential Learning web site at http://web.odu.edu/experiential, or email xlearn@odu.edu.

General Education Philosophy

The General Education program at Old Dominion University represents the common core of the baccalaureate degree. It prepares students for pursuing a major, for broadening their views of life, and for understanding an increasingly global and diverse world. It provides students with the basic skills and intellectual perspectives to engage in the search for knowledge. The General Education program develops analytical and critical thinking skills and the ability to make reasoned judgments. Students will also discover that learning is a complex, multifaceted, and lifelong endeavor.

General Education Goals and Objectives

The Goals (1-5) and particular objectives of General Education are as follows:

1. Develop and demonstrate effective uses of language.
   A. Develop written communication skills.
   B. Develop oral communications skills.
   C. Develop ability to use a foreign language.
   D. Develop written communication skills in the major at the upper-division level.
2. Develop mathematical and computer literacy.
   A. Develop basic mathematical competence.
   B. Develop computer competence.
3. Develop an understanding of the natural sciences and technology and their contributions to human culture.
   A. Understand the concepts and methods of the natural sciences.
   B. Understand the nature of technology and/or its impacts on society and the environment.
4. Develop an understanding of human behavior, society and culture, with specific attention to technology, international perspectives and issues related to ethnicity, race and gender.
   A. Develop an understanding of history and the ability to think critically about the past.
   B. Think critically about beliefs, values, and moral issues that have shaped human society.
   C. Critically analyze the fine and performing arts and their contribution to culture.
   D. Critically analyze literature and its contribution to culture.
   E. Develop an understanding of behavioral, political, economic, and social systems.
5. Integrate knowledge at the advanced level.
   Option A. Complete a second major or a minor.
   Option B. Complete a focused study of a specific issue from different disciplinary perspectives.
   Option C. Complete one of the focus areas in international business and regional courses.

Students may not use courses in the discipline of their declared major to fulfill University General Education Requirements, except where such requirements are limited specifically to their major field.

Since the skills and perspectives are needed for major courses and upper-division General Education, students should meet those requirements during their freshman and sophomore years.

Transfer Policies for General Education Requirements

Students who have received an Associate in Arts (A.A.), Associate in Science (A.S.), or Associate in Arts and Sciences (A.A. and S.) degree from Richard Bland College or the Virginia Community College System (including the A.S. and A.A. & S. in general studies as modified by Old Dominion University) have met all General Education requirements except those specified as major or college requirements and the upper-division requirement that is met through completion of a second degree or major, a minor, or an approved focus area cluster. Students who have received an Associate in Applied Science (A.A.S.) degree from the Virginia Community College System in specific articulated programs (to include 37 specified general education credits) have met all General Education requirements except those specified as major or college requirements and the upper-level requirement. College-parallel programs at other community colleges or systems (consistent with the degree requirements of degrees from the Virginia Community College System) are also accepted as meeting lower-division General Education requirements and are reviewed by the assistant director of admissions or staff in distance learning. Transfer students should be aware that even though University General Education Requirements may have been met, college, school and/or departmental requirements must still be met. Students must earn a grade of C

* Modifications are as follows: (1) the general studies degree must have been received on or after April 1993, (2) Northern Virginia Community College general studies degree holders must have MTH 151 or higher, and (3) Blue Ridge Community College general studies degree holders must have MTH 151 or higher and eight hours of science with a lab.
Lower-Division Requirements  
(freshman and sophomore years)

NOTE: Wherever so advised below, students should consult their major program for more specific and timely information: either the students’ assigned advisor, the chief departmental advisor (CDA) or the departmental chair.

I. Skills. Completion of course work in the skills areas ensures that all students possess the basic tools with which to pursue their major interests.

A. Written Communication—six hours.

- ENGL 110C and ENGL 111C or 131C. Students are advised to consult the department of their major program. Students will also demonstrate written communication skills in the major by taking a Writing Intensive (W) course at the upper-division level.

Criteria for Writing Intensive courses include:

a. Students demonstrate, in a series of individual (not group) assignments, their mastery of writing a subject in a discipline, through the writing of formal documents.

b. For each writing assignment, the instructor provides feedback to the student, evaluating content and writing style (organization, development, logic, coherence and mechanics).

c. Types of documents for writing assignments include laboratory reports, critiques of performances, proposals, case studies and others appropriate to a particular discipline.

d. Writing assignments comprise more than half of the overall course grade.

B. Oral Communication—three hours.

- COMM 101R, 103R and 112R. Students may meet this requirement by completing an oral communication course appropriate to the student’s program of study or through significant presentations required within major courses. Students are advised to consult the department of their major program.

Majors approved to meet this requirement through major courses are: College of Arts and Letters - all art majors, communication—theatre emphasis, foreign languages, geography, and all music majors except the B.A. program and the music education program; College of Education - speech language pathology and human services; College of Engineering and Technology - civil engineering, environmental engineering, computer engineering and mechanical engineering; College of Health Sciences - medical technology, nursing, nuclear medicine technology, dental hygiene, and health sciences; and College of Sciences - biology, biology secondary education option, chemistry, biochemistry, mathematics, statistics, ocean and earth science, physics, and physics secondary education option.

C. Mathematics—three hours.

- MATH 101M, 102M, 162M, STAT 130M. For the appropriate course, the major program should be consulted. Some programs require more advanced 200-level courses.

Students should strive to complete the mathematics General Education requirement within their first 30 hours at Old Dominion University and are expected to have completed the requirement before the end of their first 60 hours at the University. Students should be aware that waivers of the mathematics General Education requirement are not granted, and all students are required to complete this requirement before graduating.

D. Foreign Languages—zero to six hours (does not apply to students earning high school diplomas before December 31, 1985).

- ARAB 111F
- CHIN 111F
- FR 101F-102F
- GER 101F-102F
- HEBR 111F
- ITAL 101F-102F
- JAPN 111F
- LATN 101F-102F
- PRTG 101F-102F
- RUS 101F-102F

* The College of Arts and Letters, however, requires foreign language proficiency at the fourth-semester level for its students pursuing Bachelor of Arts degrees.

111F courses are six credit hours each. Students may meet this requirement by successfully completing the third level in one foreign language or the second level in each of two foreign languages in high school or by completing a single foreign language at the 102F or 111F level or equivalent work from another institution. Students who have had some foreign language experience but are unable to be exempted from this requirement may complete just the 121F course in the case of Spanish or the 102F course in foreign languages if scores on the CEEB Foreign Language Achievement Test so indicate.

The College of Arts and Letters and the College of Business and Public Administration require foreign language proficiency at the fourth-semester level for students pursuing Bachelor of Arts degrees.

Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

American Sign Language is not accepted by Old Dominion University to meet General Education or college requirements in foreign language.

E. Computer Skills: various levels of computer knowledge are specified by the major programs in courses developed for this purpose (CS 101D, 149D, and OTS 251D) or as part of other required courses. A departmental exam is available in the Computer Science Department for students desiring to challenge CS 101D. For the appropriate course, the major program should be consulted.

Majors approved to meet this requirement through major courses are: College of Arts and Letters - all art majors, English, English teacher preparation, foreign languages teacher preparation, history teacher preparation, IDS early childhood and special education, IDS elementary education, and all music majors; College of Business and Public Administration - economics (B.S.B.A. only), decision sciences, finance, international business, information systems and technology, management, maritime and supply chain management, and marketing; College of Education - speech language pathology and health and physical education teacher preparation; College of Engineering and Technology - all majors; College of Health Sciences - all majors except the Bachelor of Science in Health Sciences; and College of Sciences - biology teacher preparation, computer science, earth science education, mathematics, statistics, physics, and physics teacher preparation.

II. Perspectives. Courses in the perspectives develop the students’ critical and analytical thinking abilities. They also develop understanding of the various approaches to knowledge, the contributions various academic disciplines can make to solving specific problems, and the effective use of the English language. Courses in the perspectives also develop and reinforce written communication skills and include relevant insights into technology. In addition, courses within each perspective focus on objectives unique to that perspective.

A. Foundation to Perspectives—three hours**

New Portal to Appreciating Our Global Environment. Required for all first-year students and transfer students with fewer than 12 transfer credits. May be substituted for one three- or four-hour course from Perspectives B-G to be determined by the academic department or program. Refer to the information below or consult the major program for specific approved substitutions. The goals for this foundation course are to (1) provide students with multidisciplinary perspectives on environmental issues; (2) raise students’ awareness of the interdependence of various perspectives and issues; (3) introduce students to leading scholars, policy makers, and thinkers focusing on global environmental issues; (4) require students to engage in critical thinking as they address environmental issues; and (5) have students produce a relatively brief but rigorous research paper on an environmental issue of their choice.

The College of Arts and Letters has approved the following substitutions. Students in the interdisciplinary studies-teacher preparation major must substitute GEN 101 for the philosophy perspective. Students pursuing majors leading to a Bachelor of Music degree must substitute GEN 101 for the second laboratory course.

** GEN 101, NewPAGE, is approved as a general education requirement for first-year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.

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science course. Students pursuing majors leading to the Bachelor of Arts and Bachelor of Fine Arts degrees in art must substitute GEN 101 for the third natural science or technology course. Students pursuing a Bachelor of Arts in international studies must substitute GEN 101 for the second or third natural science/technology course. Students pursuing a Bachelor of Arts in Asian studies, Bachelor of Arts or Bachelor of Science in political science or a Bachelor of Arts in criminal justice must substitute GEN 101 for a history course or the second or third natural science or technology course. Students pursuing a teaching track in political science must substitute GEN 101 for the third natural science/technology course. Students pursuing a Bachelor of Arts or Bachelor of Science in geology must substitute GEN 101 for a history course or the third natural science/technology course. Students pursuing a teaching track in political science must substitute GEN 101 for the third natural science/technology course. Students pursuing a teaching track in foreign languages or history must substitute GEN 101 for the second or third natural science or technology course. Students pursuing a degree in women’s studies may substitute GEN 101 for either one history, one social science or the second natural science course. All other majors in the College of Arts and Letters may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course. Students should consult their advisors for additional information.

All majors in the College of Business and Public Administration (except the B.A. in economics) may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature, or philosophy. Students pursuing the Bachelor of Arts in economics may substitute GEN 101 for a course in the fine and performing arts, history, literature, philosophy, or social science perspective areas. Students should consult their advisors for additional information.

The Darden College of Education has approved the following substitutions. Students in the speech-language pathology and audiology major may substitute GEN 101 for a course in the fine and performing arts, literature or philosophy perspective areas. All majors in the departments of Occupational and Technical Studies must substitute GEN 101 for the literature perspective. Students majoring in human services may substitute GEN 101 for a course in the natural science and technology perspective area. Students majoring in recreation and tourism studies, exercise science, and health and physical education teacher preparation may substitute GEN 101 for a course in the fine and performing arts, history, literature, or philosophy perspective areas. Students majoring in sport management may substitute GEN 101 for a course in the fine and performing arts, literature, natural science and technology, or philosophy perspective areas. Students should consult their advisors for additional information.

All majors in the Batten College of Engineering and Technology may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature, philosophy or social science. Students should consult their advisors for additional information.

All majors in the College of Health Sciences may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature, philosophy or social science. Students should consult their advisors for additional information.

The College of Sciences has approved the following substitutions. Students majoring in biology may substitute GEN 101 for a course in the history or social science perspective areas. Students majoring in chemistry, biochemistry, and physics must substitute GEN 101 for a course in the social science perspective. Students majoring in computer science may substitute GEN 101 for a course in the history, philosophy or social science perspective areas. Students majoring in mathematics may substitute GEN 101 for a course in the fine and performing arts, history, literature, health and physical education teacher preparation, and all majors in occupational and technical studies; College of Engineering and Technology—all majors; College of Health Sciences—all majors; and College of Sciences—biology, chemistry, biochemistry, computer science, ocean and earth science, and physics.

G. Social Science—three or six hours.

For appropriate hours, major programs should be consulted.

* Students in professional degree programs complete three hours and students in traditional degree programs complete six hours. Professional and traditional degree designations can be found on the Synopsis of Degree Programs chart in this Catalog.
The goals of this perspective are to develop the ability to make reasoned ideological, ethical or scientific judgments, promote an understanding of the perspectives, contributions and concerns of women and minorities, and encourage understanding of both Western and non-Western cultures and their values, in addition to American culture and institutions. If six hours are required, the courses must be from different disciplines.

Courses that meet the social science perspective are ANTR 110S; COMM 200S; CRJS 215S; ECON 205S, 201S, 202S; GEOG 100S, 101S; POLS 100S, 101S; PSYC 201S, 203S; SOC 201S; WMST 201S.

NOTE: For General Education requirements that can be met through the major (computing, oral communication, and the second requirement in natural science and technology), students who complete the required courses in their major that meet these requirements and then change to a major that does not meet the requirement through courses in the major will have met the requirement for the new major.

**Upper-Division Requirements**

(junior and senior years)

Students can complete this requirement by Option A, B, or C.

Option A: Any University-approved minor,* second degree, or second major. 

Option B: Cluster: advanced study in a focus area; ** nine hours of upper-division courses on a specific issue, viewed from multidisciplinary perspectives. Three hours can be in the major.

Cluster Coordinator: Lucien X. Lombardo, Professor of Sociology and Criminal Justice

Option C: International Business and Regional Courses

Courses in each focus area must be selected from a predefined approved cluster containing no more than nine courses (27 hours). Each nine-course cluster must contain at least one course from the natural or social sciences and at least one course from the humanities. Students may choose these courses or from the other courses in the cluster. For students completing an upper-division cluster, six hours must be taken through Old Dominion University. Approved clusters are as follows.

1. Administrative Leadership and Ethics for Professional Roles

   **Cluster Focus:** The intent of the Administrative Leadership and Ethics for Professional Roles cluster is to develop management-related skills. The cluster is designed to improve the student’s professionalism through an understanding of applied ethics, effective communication, processes in organizations, applied psychology, and legal issues in the workplace. An appreciation for the qualities of leadership, the functions of administration, and a sensitivity for ethical decision making will allow the student to apply for a wider variety of positions.

   COMM 351 Interpersonal Communication in Organizations

   HLTH 425 Leadership and Management for Health Professionals (or equivalent course in the discipline including CHP 450, DNTH 416, ENVH 402W, MEDT 403W, NED 475W, NURS 480W, and NURS 490W)

   MGMT 325 Contemporary Organizations and Management

   MGMT 350 Employee Relations or

   MKTG 414 Ethics and Social Issues in Administration

   PHIL 303 Business Ethics or

   PHIL 345 Bioethics

   PSYC 303 Industrial/Organizational Psychology

2. Aesthetics in Art and Science

   **Cluster Focus:** This cluster focuses on the interaction of aesthetics, perception, and science. It will help prepare a student to understand the trends in technology of art leading into the next century. Different courses discuss themes including: the science and aesthetics in music and visual art; the relationship between stimulus, physiology, and psychology of perception; the relationship between perception and underlying physical phenomena; the role of aesthetics in science and science in aesthetics; the science underlying technology in art; and analysis of concepts fundamental to describing and evaluating works of art.

   ARTS 304 Color

   MUSC 410 Psychology of Music

   PHIL 324 Philosophy of Art

   PHYS 311 Color in Nature and Art

   PHYS 332W Physics of Music and Musical Reproduction

   PSYC 413 Perception

3. The Designed World

   **Cluster Focus:** This cluster explores the interwoven historical, cultural, aesthetic, technological, and technical dimensions of the designed world. That virtually all aspects of the human-built world are designed is a generally accepted belief; however, it is not given the careful scrutiny it deserves. Creative planning and critical analysis of design dynamics are emphasized within the context of these course offerings.

   ARTH 320W History of Design

   ARTH 435W Modern Architecture

   ARTH 439 Art Between the Wars: 1919-1939

   GEOG 310 Geography of the City or

   GEOG 412 Cities of the World

   OTS 386 Architecture

   OTS 422 Fashion Design and Coordination

   PSYC 344 Human Factors

   PSYC 413 Perception

4. Environmental Management

   **Cluster Focus:** Continuing environmental degradation is a worldwide problem threatening the quality of life and its viability. The problem can only be understood and addressed by drawing upon the resources of multidisciplinary approaches. The multidisciplinary perspective of this cluster focuses on the human dimensions of the human-environment equation and includes geographical and ecological approaches, scientific and technological methodologies, planning and public policy issues, and ethical, political, economic, and legal considerations.

   CEE 458 Sustainable Development

   ECON 447 Natural Resources and Environmental Economics

   ENVH 402W Environmental Health Administration and Law

   GEOG 310 Physical Science in Aesthetics

   GEOG 306T: Natural and Technological

   PHIL 344T Environmental Ethics

5. Explorations in Conflict and Resolution

   **Cluster Focus:** Taking courses in this cluster allows students to study how conflict develops, identify factors which lead to conflict, explore how conflict is experienced, and learn processes and techniques which attempt to regulate and resolve conflict. Some courses provide specific contexts where conflict emerges: i.e., between nations (war), between institutions (government and the media), between groups (ethnic conflict), or between interests (those involved in economic development). Other courses take broad approaches which cut across a variety of forms and contexts of conflict (e.g., violence from suicide to genocide) or general principles involving processes of conflict and conflict resolution. These latter courses serve as synthesizing courses and provide information on the regulation and resolution of conflict.

   COMM 421 Communication and Conflict Management

   CRJS 401W Understanding Violence

   ECON 454W Economic Development

   ENGL 472 America in Vietnam: The Government and the Media in Conflict

   GEOG 320 Political Geography

   HIST 410 War as a Human Experience

6. Health and Wellness

   **Cluster Focus:** The Health and Wellness cluster explores personal involvement in and commitment to health and wellness and the factors that influence the health status of individuals and society. This cluster fosters an appreciation for personal responsibility for health and strategies to enhance and preserve the individual’s and the public’s health. Societal health and the factors that impact on the health and wellness of a community and the individual’s role in health policy are examined. Students gain an awareness of the cultural, psychological, sociological and ethical issues affecting and effected by the health and wellness of individuals and the society in which they live.

   CHP 400 Philosophy of Health

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This cluster develops an understanding of human
8. Understanding the World of Children
Cluster Focus: The cluster on Understanding the World of Children develops students’ understanding of the world of children from a “child-centered” perspective. This perspective challenges approaches in the various disciplines that have traditionally denied children their human rights and dignity. In place of the traditional perspectives, courses in this cluster frame the study of children within childrens’ understanding of the world and the value of children to our world.
COMM 427 Children and Communication
CRJS 403W Violence in the World of Children
ESSE 476 Practical Applications in the World of Children
PSYC 351 Child Psychology
SOC 402 Child Welfare

9. The Urban Community
Cluster Focus: This cluster encourages an interdisciplinary approach to the problems and crucial issues that emerge from urban environments. Students gain an understanding of the issues associated with the convergence of diverse populations in urban locations and acquire an appreciation of the complexities of the interlocking and contingent nature of urban problems. This will be accomplished through an examination of the topical areas of common space, diversity, urban services, disorder, and work.

CHP 415W Critical Issues in Community Health
CRJS 355 Crime and the Community
ECON 445 Urban Economics
GEOG 310 Geography of the City or GEOG 412 Cities of the World
HIST 303 The City in Western Civilization
PSYC 431 Community Psychology

10. World Cultures: Values and Visions
Cluster Focus: This cluster develops an understanding of human behavior in different cultures. In order to interpret information from other countries and ethnic groups, students need to learn that certain common notions such as perceptions of personhood, the organization of time and space, and the appropriate organization and behavior of social groups vary from country to country. This cluster will explore different cultural perspectives and value systems. Students should emerge with a more sophisticated understanding of their own and others’ cultures.

ENGL 371W Communication Across Cultures or
COMM 400W Intercultural Communication
IT 425W Information Systems for International Business
MKTG 361 International Business Operations
MKTG 411 Multi-National Marketing
PHIL 354 Comparative Philosophy: East and West
PSYC 420 Cross-Cultural Psychology or
ANTR 320 The Sexes in Cross-Cultural Perspective
WMST 401W Women: A Global Perspective

Foreign language and culture: FR 320, or GER 355, or GER/FLET 445/COMM 444, or JAPN/FLET 310W, or SPAN 320, or SPAN 321

Study Abroad: Any study abroad course at the 300-400 level that offers three credits can fulfill one course requirement for cluster 10. In cases where a study abroad course fits the themes of another cluster, students may request approval from the university cluster coordinator to use that study abroad course.

Option C: International Business and Regional Courses
This option requires ECON 450: International Economics and six hours of approved courses from a selected regional focus described below.

Asian Focus (six hours selected from the following)
ASIA 460 Major Issues in Asia (interdisciplinary)
GEOG 453 Asia
HIST 332 South Asia Since Independence
HIST 336 The Emergence of New China
HIST 439 Politics and Society in East Asia Since 1945
POLS 338W Politics of East Asia
POLS 437 International Relations in East Asia

European Focus (six hours selected from the following)
GEOG 451 Europe
FLET 410W Berlin-Paris: Crucibles of European Ideas (also cross listed as FR 410 & GER 410)
HIST 316 Cold War in History
HIST 321 History of Modern Germany
HIST 406 History of European International Relations: Twentieth Century
POLS 314 Western European Politics
POLS 332 Western Europe in World Affairs

Latin American Focus (six hours selected from the following)
GEOG 454W Latin America
HIST 373 U.S. – Latin American Relations
HIST 470 Democracy and Development in Modern Latin America
HIST 371 Modern Mexico
HIST 372 Central America and the Caribbean Since 1800
POLS 337 Latin American Politics
SPAN 321 Spanish American Civilization

For more information contact Bruce M. Seifert, Department of Business Administration.

Student Technology Skills
It is assumed that students entering Old Dominion University have basic productivity software proficiency, possess e-mail skills, and know how to navigate the Web. Some courses, particularly online courses, will require technology proficiency at levels higher than this. It is the student’s responsibility to ensure that he or she possesses the technology skills and proficiency required for each enrolled course or program of study.

A Survey of Interdisciplinary Programs at Old Dominion University

Undergraduate Majors
Interdisciplinary Studies
Individualized Integrated Degree Program
Zoological Parks Management
Early Childhood (PK-3)
Elementary Education, Special Education
Elementary (PK-6) Education
Music Business/Production
Work and Professional Studies
Asian Studies
International Studies
Professional Writing
Women’s Studies
Social Studies Education
Environmental Engineering
Environmental Health
Health Sciences

Undergraduate Minors
African American Studies
Asian Studies
European Studies
International Studies
Japanese Studies

REQUIREMENTS FOR UNDERGRADUATE DEGREES 61
**General Education Requirements**

1. **LOWER DIVISION (32-54 Credit Hours)**

   **A. Skills**

   1. **Written Communication**—six hours
      ENGL 110C and ENGL 111C or 131C
   2. **Oral Communication**—three hours
      COMM 101R, 103R, 112R
   3. **Mathematics**—three hours
      MATH 110M
   4. **Foreign Language**—three to six hours
      ARAB 111F
      CHIN 111F
      FR 101F-102F
      GER 101F-102F
      ITA 101F-102F
      JPN 111F
      LAT 101F-102F
      RUS 101F-102F
      SPAN 101F-102F, 121F
   5. **Computer Skills**—three hours
      CS 101D, 103D, 112D
      OTS 251D

   **B. Perspectives**

   1. **Foundation to Perspectives**—three hours
      GEN 101
   2. **Fine and Performing Arts**—three hours
      ARTH 112A; ARTS 122A
      COMM/ THEA 270A
      MUSC 264A
      DANC 185A
      THEA 341A
   3. **History**—three hours
      HIS 101H, 102H, 103H, 104H
   4. **Literature**—three hours
      ENGL 112L, 144L
      FLET 100L
   5. **Philosophy**—three hours
      PHIL 110P, 120P, 150P
   6. **Natural Science and Technology**
      a. **A. Skills**
         Biol 108-109N, 115N-116N
         Chem 101N-102N, 115N-116N
         OEAS 106N-107N, 110N-112N, 111N-112N
         Phys 101N-102N, 103N-104N, 111N-112N, 231N-232N
         3 or 4 hours
         An additional “N” course (in discipline different from the one chosen to satisfy the eight-hour requirement)
         OEAS 122K, 302K
         Hist 386K/SCI 302K
         ARTH 352T
         Chem 351T
         Comm 472T
         GEOL 306T
         Hist 304T, 389T
         It 360T
         MUSC 335T
         OTP 303T
         OTS 110T, 370T
         PHIL 347T, 355T, 383T
         WMST 390T
      b. **Approved course in the major**
   7. **Social Science**—three hours
      ANTR 110S

   —Students in professional degree programs complete three hours, and students in traditional degree programs complete six hours. Professional and traditional degree designations can be found on the Synopsis of Degree Programs chart in this Catalog.

   **II. Upper Division (Six-Nine Credit Hours Minimum)**

   **Option A**—Any approved minor, “second degree, or second major.”

   **Option B**—Advanced study in a focus-area cluster, “n” nine hours, three of which can be in the major.

   Administrative Leadership and Ethics for Professional Roles
   Aesthetics in Art and Science
   The Designed World
   Environmental Management
   Explorations in Conflict and Resolution
   Health and Wellness
   Impacts of Technology
   Understanding the World of Children
   The Urban Community
   World Cultures: Values and Visions

   **Option C**—International business and regional courses

   **Honors Courses that Meet General Education Requirements**

   **A. Skills**

   1. **Written Communication**
      ENGL 126C, 127C
   2. **Oral Communication**
      COMM 120R
   3. **Computer Skills**
      CS 126D

   **B. Perspectives**

   1. **Fine and Performing Arts**
      MUSC 126A; ARTS 126A; ARTH 127A
   2. **History**
      Hist 126H, 127H
   3. **Literature**
      ENGL 127L
   4. **Philosophy**
      PHIL 126P, 127P, 227P
   5. **Natural Science and Technology**
      BIOL 122N-123N, 126N-127N
      CHEM 126N-127N
      OEAS 126N-127N
      Phys 126N-127N, 226N-227N
   6. **Social Science**
      ANTR 226S; COMM 226S; CRJS 226S; ECON 226S, 227S; GEOG 126S; POLS 126S-127S; PSYC 226S, 227S; SOC 226S; WMST 226S

   —Bachelor of Science in Business Administration majors pursuing a minor or second major in the College of Business and Public Administration (CBPA) must also take six hours of 200-400 level courses outside the CBPA. Students majoring in Economics who pursue a minor or second major in the College of Business and Public Administration fulfill upper-division general education requirements and do not need to take the six hours of 200-400 level courses outside the CBPA.

   —All international business majors must take the specific cluster courses that have been designated for their region. Refer to the international business and regional courses section of this Catalog or contact the area coordinator for these courses.

   —Courses listed are open only to students in the Honors College.
Activity credits required by a student’s major department will not be counted against the credit limitation, nor will the credits earned in courses numbered 377-378 that involve extracurricular studies.

Second Baccalaureate Degree

The University will permit a student to acquire a second baccalaureate degree, provided that he or she: (1) pursues a different course of study; (2) meets all University, college, school, and departmental requirements (credits earned for the first degree may be applied, if suitable, toward the second degree); and (3) completes a minimum of 30 semester hours at Old Dominion University that are beyond the requirements for the first degree. A minimum of 150 credit hours is required for students earning two baccalaureate degrees from Old Dominion University. If the degrees are to be awarded simultaneously, an application for graduation and degree certification must be submitted through the respective advisors for each degree program.

Prior to undertaking the second degree, the student must have his or her accumulated credits evaluated and the second degree program approved in writing by the appropriate chief departmental advisor/chair and dean. The student is responsible for initiating and coordinating any action relating to the programs, whether pursuing the two degrees concurrently or successively. The University, as a general rule, will not permit a student to pursue more than two baccalaureate degrees.

Students who have earned a baccalaureate degree at another regionally accredited institution but who wish to acquire a second baccalaureate degree from Old Dominion University will be considered to have fulfilled University General Education Requirements for the second degree.

Students earning two degrees from Old Dominion University have also met general education requirements. All second degree students must meet the college/departmental requirements for both degrees even if some of these requirements are also general education courses.

Students who received their first degree from Old Dominion University should be aware that grades in all undergraduate courses (for both the first and the second degree) will be included in the cumulative grade point average. Students wishing to earn a second major rather than a second degree should see the “Second Major” section of the catalog for information.

Second Major

The University permits an undergraduate student to pursue a second major. A student pursuing two majors must meet all the degree requirements of one major and at least the departmental requirements of the other. (Most professional degree majors require completion of both the departmental/school and the college requirements.) Requirements for both majors must be completed prior to receiving the baccalaureate degree. The student will receive one baccalaureate degree. Both majors will appear on the transcript. The degree awarded will be determined by the major to which University and college requirements are applied. Prior to undertaking the second major, the student must have the program approved by the appropriate chief departmental advisor/chair and dean.

Completion of a second major will meet the upper-division General Education Requirements.

Students wishing to earn a second degree rather than a second major should see the “Second Baccalaureate Degree” section of the catalog.

Activity Credits

The University sets a limit of 12 credit hours earned in activity courses that may be applied to any undergraduate degree. The individual college will determine the maximum number of such credits that students may apply in fulfillment of their particular degree requirements. In unusual circumstances, activity credit beyond the established college maximum will require the approval of the appropriate dean. In any case, the total number authorized by the college shall not exceed the limit set by the University.

Activity courses are generally defined as those that are not predominantly academically oriented and that are service, skill, recreational, or craft in nature, such as performing ensembles and organizations in music, one-credit health and physical education service courses, theatre arts activity courses, and certain military and naval science courses. All activity courses shall be identified specifically in the catalog and the class schedule booklet and can be recognized by the “+” symbol following the course number.

Activity credits required by a student’s major department will not be counted against the credit limitation, nor will the credits earned in courses numbered 377-378 that involve extracurricular studies.
Minors

In addition to the completion of courses in the area of the major field, a candidate for a baccalaureate degree may complete a minor. The completion of a minor is optional. The minor may be chosen to support the major, to offer greater job opportunities to the student on graduation, or to provide recognition of study in a second academic area. Completion of a University-approved minor will meet the upper-division General Education Requirements.

For completion of a minor, an undergraduate student must have the following: (a) a minimum of 12 credit hours in a specified minor, normally at the 300 and 400 upper-level, (b) an overall grade point average of 2.0 or above in all courses specified as a requirement in the minor exclusive of prerequisite courses, (c) and six credit hours in the minor from Old Dominion University. No course that is introductory or foundational, or that meets a lower level General Education requirement, may be included, although such courses may be prerequisites for courses in the minor. Minors meeting those requirements may be proposed by departments and programs and must be approved by the appropriate college committee and dean, by Faculty Senate Committee A and by the provost and vice president for academic affairs. Interdisciplinary minors must be reviewed by all colleges and departments involved prior to submission to Committee A of the Faculty Senate.

Specific minor requirements may be found in the section on Colleges, Schools and Departments of Instruction in this catalog.

Procedures. Students who wish to pursue a minor must declare the minor with and be advised by the department offering the minor, their site director, or the distance learning representative. Students completing a minor should present the minor for certification when submitting applications for graduation. Following are approved academic minors:

Arts and Letters
- African-American Studies
- American Studies
- Art History
- Asian Studies
- Communication
- Criminal Justice
- Criminal Justice—Law and Society Specialization
- English
- European Studies
- Film and Video Studies
- Foreign Languages and Literatures
  - French
  - German
  - Spanish
- Geography
- Geography—Environment and Resources Specialization
- History
- International Studies
- Japanese Studies
- Jewish Studies
- Latin American Studies
- Middle Eastern Studies
- Music Composition
- Music History
- Music Performance
- Philosophy
- Philosophy—Applied Ethics Specialization
- Philosophy—Religious Studies Specialization
- Philosophy—Political and Legal Studies Specialization
- Political Science
- Political Science—Public Law Specialization
- Sociology
- Sociology—Social Welfare Specialization
- Studio Arts
- Theatre and Dance—Theatre Specialization
- Theatre and Dance—Dance Specialization
- Women’s Studies

Business and Public Administration
- Accounting

Business Administration
- Decision Sciences
- Economics
- Financial Management
- Information Systems and Technology
- Insurance and Financial Services
- International Business
- Management
- Marketing
- Military Leadership
- Real Estate

Education
- Exercise Science
- Fashion Merchandising
- Health Education
- Human Services
- Marketing Education
- Recreation and Tourism Management
- Secondary Education
- Special Education
- Speech-Language Pathology and Audiology
- Sport Management
- Therapeutic Recreation
- Training and Development

Engineering and Technology
- Aerospace Engineering
- Civil Engineering
- Civil Engineering Technology—Construction
- Civil Engineering Technology—Geomatics
- Computer Engineering
- Electrical Engineering
- Electrical Engineering Technology
- Engineering Management
- Environmental Engineering
- Global Engineering
- Mechanical Engineering—Mechanics
- Mechanical Engineering—Thermal Sciences
- Mechanical Engineering Technology
- Military Leadership
- Modeling and Simulation
- Motorsports Engineering

Health Sciences
- Community Health
- Environmental Health
- Gerontology
- Medical Technology
- Occupational Safety

Sciences
- Biochemistry
- Biology
- Chemistry
- Computer Science
- Geology
- Mathematics—Actuarial Mathematics Option
- Mathematics—Applied Mathematics Option
- Mathematics—Statistics/Biostatistics Option
- Oceanography
- Physics
- Psychology
- Web Programming

Graduation Information

Application for Graduation for Undergraduate Students

Each undergraduate student must file an application for graduation for the appropriate degree.

All degree requirements must be completed no later than the last day of exams for the term in which graduation is anticipated.

Commencement ceremonies are managed through the Office of the Dean of Students. Information is posted to the commencement website at http://www.odu.edu/AO/student_serv/commencement.

The Office of the University Registrar sends an e-mail letter to all currently enrolled, degree-seeking undergraduate students who have earned at least 102
academic credits, inviting them to apply for graduation. This e-mail will be sent during September for May candidates and during February for August and December candidates. Students who expect to graduate during a specific term and who have not received a letter from the Registrar’s Office inviting application for graduation should e-mail the Registrar’s Office from their ODU e-mail account (XXX@odu.edu) and should include the following information: name, degree, major, minor or cluster, date of intended graduation, name as it should appear on diploma, and delivery instructions for the diploma.

Students will be notified of their graduation status prior to the end of the drop/add period of the expected final semester.

Students planning to graduate should consult the chief departmental advisor or site director in order to ensure that requirements for the major are being met. Students who have elected a minor must consult a representative in the minor department to ensure that minor requirements are being met.

In addition to departmental academic requirements specific to the major, minor, concentration, or degree program, the following requirements must be completed prior to conferral of the degree: senior assessment and passing score for the Exit Examination of Writing Proficiency.

Students are responsible for monitoring their own progress toward degree completion and for meeting all graduation requirements. Transcripts are available for on-line review at www.leoonline.odu.edu and students are encouraged to monitor the following specific requirements: General Education, foreign language, transfer work evaluation, and upper-level requirements. Students are also reminded that advising in the major department is extremely important to the successful completion of the degree being sought.

Completion of Requirements for Undergraduate Students

Undergraduate students may choose to graduate under the Catalog in effect at the time of their first enrollment (part-time or full-time) or any subsequent Catalog provided that the students graduate within six years from the date of the first enrollment. For example, students beginning in the fall 2006 semester may use any Catalog in effect from fall 2001 through the end of the 2012 summer session, students beginning in spring 2007 may use any Catalog in effect from spring 2007 through the end of the fall 2012 semester, and students beginning in summer 2007 may use any Catalog in effect from spring 2007 through the spring 2013 semester. If students do not graduate within this six-year period, they may choose to graduate under any Catalog in effect within the six-year period preceding the date of graduation. For example, students graduating in spring 2007 may use any Catalog in effect from spring 2001 through spring 2007, students graduating in summer 2007 may use any Catalog in effect from fall 2001 through summer 2007, and students graduating in fall 2007 may use any Catalog in effect from spring 2002 through fall 2007.

In all cases, students must have been duly admitted to the University and an academic program of study and meet all of the requirements for graduation in one catalog. Students may not “tailor make” their own degree requirements by selecting partial requirements from more than one catalog.

Graduate Credit for Old Dominion University Undergraduates

An Old Dominion University undergraduate degree-seeking student with senior standing and a 3.00 or better grade point average in the major field of study may be allowed to take for graduate credit, upon approval of the appropriate department chair and graduate program director, up to six hours of course work each semester. Graduate credit taken prior to completing the undergraduate degree will not be used to fulfill undergraduate degree requirements. The combined undergraduate and graduate hours taken during the semester must not exceed 18. The proper request form, Request of Old Dominion University Undergraduate to Take Graduate Courses, is available in the Office of the Registrar. This option is not open to undergraduate students with senior standing at institutions other than Old Dominion University.

Accelerated Degree Programs. Students enrolled in accelerated degree programs at Old Dominion University, approved by the provost and listed below, may take up to 21 hours of graduate credit which may be applied toward the undergraduate degree. Of these 21 hours of graduate credit, up to 12 can be applied toward both the undergraduate and graduate degrees, with this option being available only to those students who have satisfied all admission and continuation requirements of the specific accelerated programs. All graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine graduation with honors. Students in accelerated degree programs will be formally admitted to the graduate program following receipt of the baccalaureate degree.

Approved accelerated bachelor’s to master’s degree programs are as follows.

- Bachelor of Arts or Bachelor of Science to Master of Business Administration
- Bachelor’s in Communication to Master of Arts in Humanities
- Bachelor of Arts in English to Master of Arts in English
- Bachelor of Arts in English to Master of Arts in Applied Linguistics
- Bachelor of Arts in History to Master of Arts in History
- Bachelor’s in Interdisciplinary Studies (Individualized Integrative Studies) to Master of Arts in Humanities
- Bachelor of Arts in International Studies to Master of Arts in International Studies
- Bachelor’s in Women’s Studies to Master of Arts in Humanities
- Bachelor’s in Engineering or Technology to Master’s in Engineering
- Bachelor’s in Engineering or Technology to Ph.D. in Engineering
- Bachelor of Science in Health Sciences to Master of Science in Community Health
- Bachelor of Science in Dental Hygiene to Master of Science in Dental Hygiene
- Bachelor of Science in Environmental Health to Master of Science in Community Health
- Bachelor of Science in Nursing to Master of Science in Nursing
- Bachelor of Science in Computer Science to Master of Science in Computer Science
Colleges, Schools, and Departments of Instruction

College of Arts and Letters

Chandra de Silva, Dean
Janet E. Katz, Associate Dean
Robert Wojtowicz, Interim Associate Dean for Research and Graduate Studies

The special commitment of the College of Arts and Letters is to the ideals of the liberal arts. Its curriculum is designed to introduce students to the full range of human experiences through the study of cultural heritage, forms of artistic and literary expression, patterns of social and political behavior, and methods of critical inquiry.

The College of Arts and Letters comprises the Departments of Art, Communication and Theatre Arts, English, Foreign Languages and Literatures, History, Music, Philosophy and Religious Studies, Political Science and Geography, Sociology and Criminal Justice, Interdisciplinary Studies, and Women’s Studies; the Institute of Humanities; the Institute for the Study of Race and Ethnicity; the Institute of Asian Studies; the Institute for Applied Ethics; Community Dance Programs; the Old Dominion University Community Music Academy; the Social Science Research Center; the Center for Regional and Global Study; and the Filipino American Center.


In addition to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science degrees offered by the above departments, the College of Arts and Letters offers a variety of accelerated and graduate degree programs. Accelerated programs allow students to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree making it possible to earn both a B.A. or B.S. and an M.A. in five years. Accelerated programs are available in applied linguistics, English, history, international studies, and humanities; concentrations in humanities are available in communication, individualized interdisciplinary studies, or women’s studies.


Both undergraduate and graduate programs in the College of Arts and Letters are structured to make possible close personal contact between students and faculty and thus to meet the needs of individual students. Arts and Letters faculty members are dedicated to good teaching, proud of their achievements in research, and committed to enhancing in every way possible the exciting and stimulating environment that is Old Dominion University.

Undergraduate Degree Requirements

Arts and Letters requirements for all undergraduate degrees include all of the General Education Requirements. In addition, all Arts and Letters majors must take ENGL 111C and must obtain a minimum grade of C in both English 110C and ENGL 111C before declaring a major and in order to graduate.

Students earning a Bachelor of Arts degree must also complete the following foreign language requirement: Proficiency established at the fourth-semester level through one of the following:

a. Successful completion of the 202 or 212 course at Old Dominion University (or equivalent at another institution).

b. Exemption through fourth semester granted for acceptable scores on achievement tests.

c. Advanced placement with up to nine hours credit at the 300 level for acceptable scores on the advanced placement test taken at the conclusion of advanced placement courses in high school.

d. Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

Students who have taken three or more years of a foreign language in high school but have not been granted advanced placement as explained in item c above must take the College Entrance Examination Board (CEEB) achievement test before continuing in the same language at Old Dominion University. An achievement test score of under 500 normally requires that such students begin with the 121F course in Spanish or the 102F course in other foreign languages.

Additional major requirements are listed under the various departments. The requirements for the Bachelor of Fine Arts and Bachelor of Music degrees are listed under art and music respectively. The requirements for the Bachelor of Science degree with a major in communication, criminal justice, geography, political science, sociology, interdisciplinary studies and women’s studies will be found under political science and geography, sociology and criminal justice, communication and theatre arts, interdisciplinary studies, and women’s studies.

Students wishing to take a major or minor in the College of Arts and Letters must register with the appropriate department. The College of Arts and Letters allows a maximum of six hours of activity credit. Activity credit beyond the established maximum may be given in unusual circumstances only and will require the approval of the dean of the College of Arts and Letters. Activity credit required by a student’s major department will not be counted against the credit limitation.

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment, GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course.*

The College of Arts and Letters has approved the following substitutions. Students in the interdisciplinary studies-teacher preparation major must substitute GEN 101 for the philosophy perspective. Students pursuing majors leading to a Bachelor of Music degree must substitute GEN 101 for the second laboratory science course. Students pursuing majors leading to the Bachelor of Arts and Bachelor of Fine Arts degrees in art must substitute GEN 101 for the third natural science or technology course.

Students pursuing a Bachelor of Arts in international studies must substitute GEN 101 for the second or third natural science/technology course. Students pursuing a Bachelor of Arts in Asian studies, Bachelor of Arts or Bachelor of Science in political science or a Bachelor of Arts in criminal justice must substitute GEN 101 for a history course or the second or third natural science or technology course. Students pursuing a teaching track in political science must substitute GEN 101 for the third natural science/technology course. Students pursuing a Bachelor of Arts or Bachelor of Science in geography must substitute GEN 101 for a history course or the third natural science/technology course. Students pursuing a B.A. in history may substitute GEN 101 for one social science perspective course or the second or third natural science or technology course. Students pursuing a teaching track in geography must substitute GEN 101 for the second or third natural science/technology course. Students pursuing a B.A. in history may substitute GEN 101 for one social science perspective course or the second or third natural science or technology course. Students pursuing a teaching track in foreign languages or history must substitute GEN 101 for the second or third natural science or technology course. Students pursuing a Bachelor of Arts in women’s studies must substitute GEN 101 for either one history, one social science or the second natural science course.

All other majors in the College of Arts and Letters may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course. Students should consult their advisors for additional information.

* GEN 101 is approved as a general education requirement for first-year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.
Center for Family Violence Education and Research

The Old Dominion University Center for Family Violence Education and Research (CFAVER) is an interdisciplinary group of professionals with a common interest in empowering communities with education and information concerning family violence. The center’s aim is to educate and promote an understanding of the various forms of family violence, including child abuse, sibling abuse, partner abuse, and elder abuse. Strategies to increase awareness about these problems include conducting interdisciplinary research focusing on different types of family violence, developing public awareness campaigns to educate members of the public about family violence, evaluating programs and processes used with family violence victims and offenders, and building relationships with various agencies responsible for family violence case care.

Institute for Applied Ethics

The Institute for Applied Ethics seeks to raise awareness and stimulate discussion of the ethical dimension of matters of public concern within the campus community and the larger Hampton Roads community; to strengthen moral community and foster a commitment to ethical ideals in public life; to facilitate reflection on the ethical standards that govern the professions; and to highlight the unique and valuable contribution that philosophical reasoning can make to practical decision making.

Institute for the Study of Race and Ethnicity

In support of the mission of Old Dominion University to place special emphasis upon understanding the perspectives of women, minorities, and non-Western cultures, the Institute for the Study of Race and Ethnicity (ISRE) seeks to develop, promote and implement academic, research and public service programs that focus on the study of race and ethnicity in the region, the nation, and globally. The political, social, economic, and cultural experiences of African Americans, Filipino Americans and other communities of color are emphasized in the work of the institute. ISRE seeks to establish itself as a major archive and research center in Virginia and the southeastern region of the United States by providing archival resources through its Resource Center and engaging in the collection, analysis, and dissemination of data and research.

Bachelor of Arts and Bachelor of Science – African American and African Studies Major

A Bachelor of Arts and Bachelor of Science in African American and African Studies are planned for implementation in 2007 pending approval of the State Council for Higher Education in Virginia. Please contact the Department of Political Science and Geography for additional information.

Minor in African-American Studies

The minor in African American studies is administered by the Institute for the Study of Race and Ethnicity. Students who wish to qualify for the program must submit a minor declaration form to the African American studies program office.

A variety of African American studies courses are offered through a number of departments and programs in the University. Interdisciplinary in nature, the African American Studies minor provides an opportunity for students to investigate the history and culture of people of African descent and their current political, social, and economic interaction in society. The minor in African American studies includes the following:

1. AAS 100 Introduction to African American Studies (prerequisite course; does not count toward the grade point average required for the minor)
2. A minimum of six hours of 300/400 level humanities courses from among the following:
   - DANC 391 African American Perspectives in Dance
   - ENGL 465 African American Literature
   - HIST 361 African American History to 1865
   - HIST 362 African American History since 1865
   - HIST 455 African American Historiography
   - MUSC 460 History and Aesthetics of Jazz
3. A minimum of six hours of 300/400 level social science courses from among the following:
   - CRJS 450 Blacks, Crime, and Justice

4. With the approval of the director, other courses that focus on the African American experience can also fulfill the requirements of the minor.
5. No course taken to satisfy the requirement of the minor can be from a student’s major field.
6. Students must maintain a 2.00 cumulative grade point average in the courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses. A minimum of six hours in upper-level courses in the minor must be courses offered by Old Dominion University.

Minor in American Studies

American studies offers a unique opportunity to explore the culture and society of the United States from a perspective that is inherently interdisciplinary. A minor in American studies provides a structured program to encourage students to cross traditional academic boundaries and to integrate the arts, humanities, and social sciences.

The minor in American studies is an effective program complement for those majoring in the related fields of art, music, dance and theatre; communication, English, and foreign languages; history, geography, and political science; philosophy; sociology, and criminal justice; as well as interdisciplinary majors in women’s studies, ethnic studies, and international studies. The minor is also effective for international students, who may wish either to better understand American culture or to acquire an expertise useful in their home countries.

All students minoring in American studies must take AMST 300 (3 hours) and 12 hours of designated courses divided into two fields (the arts and the humanities, and the social sciences), for a total of 15 hours. Please note that some courses listed below require prerequisites. Students may not use more than one course from the minor to satisfy program requirements in another major or minor.

Designated course listings for the minor in American studies are as follows:

1. AMST 300, Perspectives in American studies
2. At least one course (but no more than two from any single department) in the arts and the humanities, chosen from the following:
   - ARTH 325 American Art before 1865
   - ARTH 326 American Art after 1865
   - ENGL 340 American Drama
   - ENGL 342 Southern Literature
   - ENGL 345 American Literature to 1860
   - ENGL 346 American Literature from 1860
   - ENGL 446 Studies in American Drama
   - ENGL 447 The American Novel to 1920
   - ENGL 448 The American Novel 1920 to Present
   - ENGL 465 African American Literature
   - ENGL 466 W Asian-American Literature
   - ENGL 472 America in Vietnam
   - FLET 473 Contemporary Latina Literature
   - MUSC 460 History of Jazz
   - THEA 441 American Theatre
3. At least one course (but no more than two from any single department) in the social sciences, chosen from the following:
   - COMM 434 African American Rhetoric
   - COMM 473 Television and Society
   - COMM 479 American Film History
   - GEOG 350 Geography of the U.S. and Canada
   - HIST 345 Native American History
   - HIST 346 Colonial and Revolutionary America
   - HIST 348 The Early Republic, 1787-1850
   - HIST 351 The Civil War and Reconstruction
   - HIST 353 America’s Response to Industrialism, 1877-1929
   - HIST 355 The United States, 1945-1991
   - HIST 357 America in the 1960s
   - HIST 361 African-American History to 1865
   - HIST 362 African-American History since 1865
   - HIST 363 Women in U.S. History
   - HIST 445 History of Early American Thought
   - HIST 446 History of Modern American Thought
Minors in European Studies, Japanese Studies and Latin American Studies

European Studies. The minor in European Studies will focus on different aspects of European culture, language, politics, geography, philosophy, and history. Students may declare a minor in European Studies upon successful completion of French, German, or Spanish 311 or 312W or the equivalent. An additional 12 credits at the 300- or 400-level must be taken from the following program areas: Art, English, Foreign Languages and Literatures, History, Music, Philosophy, and Political Science and Geography (see two options).

Option 1:
   a. Two courses from the Department of Foreign Languages and Literatures above 312W. One course must be outside the language of proficiency, or can be a FLET course with a European emphasis.
   b. Two courses from related disciplines outside of the Department of Foreign Languages and Literatures.

Option 2:
   a. Three courses from the Department of Foreign Languages and Literatures above 312W. One course must be outside the language of proficiency, or can be a FLET course with a European emphasis.
   b. One course from related disciplines outside of the Department of Foreign Languages and Literatures.

Credits can also be earned by studying abroad in Europe. The student’s course of study will be determined in consultation with an advisor from the Department of Foreign Languages and Literatures.

Japanese Studies. The minor in Japanese Studies will focus on the study of several aspects of Japanese culture, language, politics, geography and history. Students may declare a minor in Japanese Studies upon successful completion of JAPN 311 and JAPN 312W or the equivalent. An additional six credit hours must be taken from two different programs in the following areas: Japanese, Political Science, History, and Philosophy.

Credits can also be earned by studying abroad in Japan. The student’s course of study will be determined in consultation with an advisor from the Department of Foreign Languages and Literatures.

Latin American Studies. The minor in Latin American Studies will focus on the study of several aspects of Latin American culture, language, politics, geography and history. Students may declare a minor in Latin American Studies upon successful completion of SPAN 311 or 312W or the equivalent. (Proficiency in Portuguese will also be accepted.) An additional 12 credit hours at the 300 or 400 level must be taken from at least three of the following program areas: International Political Science, Spanish, History, and Geography.

Minor in Middle Eastern Studies

The minor in Middle Eastern Studies focuses upon the study of several aspects of Middle Eastern culture, language, politics, geography and history. The minor consists of 15 hours of course work. Students can elect Track I which would include as a prerequisite three hours of 202-level Arabic, French, Hebrew or any other language used in research in the region; this course is not included in the grade point average for the minor. Languages such as Farsi and Turkish could meet this requirement upon the taking of a proficiency examination. Students can also choose Track II, which is a non-language option.

All students must take one core course from the following: GEOG 455, POLS 466 or MIDE 300.

The remaining nine hours for Track I or 12 hours for Track II can be taken from the following list of courses: COMM 337, 405, MIDE 395, 410, 495, SOC 353, ENGL 467, ARAB 395-396, REL 350, 352, HIST 396.

Courses not taken to satisfy the core requirement, topics courses offered in addition to the courses listed above, which focus upon the Middle East, and credit earned by studying abroad in the Middle East may also be included in the minor requirements.

For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. For further information, contact the director of the Middle Eastern Studies minor at 683-3835.

Minor in Film and Video Studies

A minor in film and video studies consists of 18 hours of course work taken from a minimum of three academic fields. Courses taken for the minor cannot be used to fulfill other degree requirements. The requirements are as follows.

   a. COMM/THEA 270A is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor.
   b. ENGL 312 (The Film) - 3 hours.
   c. One internationally-oriented course from the following: FLET 300 (Understanding European Film), COMM 471W (International Film History), ENGL 425 (Film Directors in Context), WMST 490 (Women in World Cinema), FR 469 (History of French Cinema), SPAN 469 (Hispanic Film), GER 445 (New German Film), or approved topics courses - three hours.
   d. Nine hours chosen from the courses listed above or from THEA/COMM 370 (The Video Project), THEA/COMM 380 (Video Documentary I), COMM/THEA 479 (American Film History), ENGL 424 (Short Works in Narrative Media), THEA/COMM 480 (Video Documentary II), COMM/THEA 485 (The Moving Image), or approved additional courses.

For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. For more information, contact the Department of Communication and Theatre Arts at 683-3828.

Jewish Studies Minor

The minor in Jewish Studies requires that students take JST/REL 350, Judaism, as well as a three-hour independent study (JST 497) supervised by the coordinator of Jewish Studies, plus an additional six hours of approved course work at the 300-level or above, for a total of 12 hours. Students interested in the Jewish Studies minor are encouraged to take HEBR 111F to fulfill the University foreign language requirement.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete
The Institute for Jewish Studies and Interfaith Understanding

Rabbi Lawrence Forman, D.Min., D.D., Institute Director (Lforman@odu.edu)

In 2002, with a $300,000 matching grant from the Dudley Cooper Trust, Old Dominion University announced the establishment of an Institute for Jewish Studies and Interfaith Understanding dedicated to the idea that interfaith understanding involves both an appreciation of Judaism’s historic role in the development of western civilization and an understanding of the cross-cultural development of the world’s religions. To this end, the institute coordinates lectures, symposia and reading groups related to Jewish history and thought as well as Judaism’s continuing dialogue with Christian, Islamic, and Asian faith traditions. Presenting information about the world’s religious and ethnic diversity in a University setting of open dialogue to thoughtful students, young and old, can enrich overall understanding of the issues and challenges that confront us as we enter a new century.

Institute of Asian Studies

Old Dominion University seeks to promote an expanded awareness and understanding of the nations and cultures of Asia, to support and encourage research on Asia, and to make resources available to foster better understanding and more effective interaction between organizations and individuals in the Hampton Roads area and those in Asia. To achieve these goals, the Institute of Asian Studies coordinates special programs and administers a major and minor in Asian studies. It also facilitates cooperative relationships with higher education institutions and other organizations within the United States and throughout Asia. The institute director works closely with the Office of International Programs regarding scholarships and study abroad programs and opportunities.

B.A. or B.S./M.B.A. Five-Year Program

This program allows students to complete B.A. or B.S. and M.B.A. degrees in five years. Students who have been formally accepted into the program complete a business core during their senior year. The business core fulfills the upper-division General Education requirements as a minor. All students interested in pursuing the five-year program should plan their undergraduate course of study with the requirements of the program, as explained below, clearly in mind.

Entrance Requirements

A potential candidate should have:
1. Achieved a minimum Graduate Management Admission Test (GMAT) score of 550.
2. Completed all lower-level General Education requirements.
3. Completed at least 24 credit hours at Old Dominion University with a grade point average of at least 3.00.
4. Achieved a minimum index of 1200. The index is computed as 200 times the Old Dominion University grade point average plus the GMAT score.
5. Achieved senior standing at Old Dominion University.
6. Completed a calculus course, equivalent to MATH 200 (calculus for business and economics).

Admissions Procedure

Students interested in the program should plan to take the GMAT at least two semesters prior to the semester in which they plan to enroll. Students planning to enroll in the fall of their senior year should take the GMAT during the fall of their junior year. Applications should be submitted to the M.B.A. Program Office at the beginning of one full semester (fall, spring) prior to planned enrollment.

Students interested in the program should discuss their plans with the M.B.A. program director as early as possible. The M.B.A. program director will act as their advisor. The M.B.A. Program Office is located in 111 Constant Hall. The phone number is 683-3585.

Business Core - M.B.A. Courses

Students accepted into the five-year program must complete the following courses from the M.B.A. core during their senior year: ACCT 601, ECON 604, MGMT 602, MKTG 603, FIN 605, and DSCI 600. These credit hours will count toward the undergraduate degree and will meet upper-level General Education requirements. Students must maintain a 3.00 grade point average in these courses.

Requirements for the M.B.A.

After students have satisfactorily completed their undergraduate requirements, they must complete 30 hours in the M.B.A. program to include the requirements beyond the core, electives and the capstone course. More specific information about M.B.A. requirements is available from the M.B.A. program director.

Career Advantage Program and Guaranteed Practicum

The Career Advantage Program (CAP) was introduced in 1995 and is administered by the Career Management Center (CMC) in partnership with the academic colleges.

CAP is a series of career-related events and services designed to include a practical work experience (Guaranteed Practicum), which in the College of Arts and Letters may take the form of an internship, cooperative education experience or a class containing a real-world, hands-on project. Classes meeting the specifications for the guaranteed practicum are noted in the Courses of Instruction section of this catalog as “Qualifies as a CAP Experience.”

For more information students should contact their CMC Liaison or Co-op and Internship Coordinator in the satellite office in the Batten Arts and Letters Building or in the Career Management Center.

Career Management Center

The Old Dominion University College of Arts and Letters has residing within the Batten Arts and Letters building a Career Management Center satellite office. This office is staffed during posted hours during the summer and academic year. The staff links Arts and Letters students with the University-wide Career Advantage Program (CAP) through individual consultations, classroom presentations, operation of the Cooperative Education and Internship programs, and instruction on how to use the electronic job search and referral systems of the Career Management Center. The CMC staff serves as a primary outreach to employers and provides coordination of employer recruitment activities for the college. The staff also provides coordination and assistance in conducting college specific events such as the Communications Alumni Panel, the Geography and Political Science Department Career Day, the Sociology and Criminal Justice Career Fair, and employer panels focused on issues relevant to students in the College of Arts and Letters.

ART

To be named, Chair
Ken Daley, Chief Departmental Advisor
Office Telephone: (757) 683-4047

Bachelor of Arts–Art History Major

Elizabeth Lipsmeyer, Program Director

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied in the major by ARTH 351W)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level in French, German, Italian, Latin or Spanish; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (ARTS 279 may be used)</td>
<td>3</td>
</tr>
</tbody>
</table>

COLLEGE OF ARTS AND LETTERS 69
Major Courses (42 hours)

ARTH 211  Ancient/Medieval Art  3
ARTH 212  Renaissance/Modern Art  3
ARTH 351W  Research Methods in Art History  3
ARTH 360  Asian Art or an ARTH 395/495 topics course in a non-Western subject area  3
ARTS  Studio Arts Elective  6
ARTS  Electives  24

Students pursuing graduate work leading to teaching, museology, art criticism or dealing in works of art will be counseled on course selection. For students considering graduate work in art history, 18 hours of German or French are strongly recommended. Students who wish to distinguish themselves in the major may opt for the thesis elective, ARTH 480, Senior Thesis, in their final year of study.

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, no less than a grade of C in major courses, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Arts–Art Education Major

Richard Nickel, Program Director

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, in the professional education core and overall, with no grade less than a C in the content area and C- in the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuation. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major with no grade less than C and the professional education core with no grade less than a C- for continuation in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website or the Office of Teacher Education Services and Advising, Education Building 152. The PRAXIS II Art Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core with no grade less than a C in the major and C- in the professional education core; and completion of a minimum of 123 credit hours.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements found in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://education.odu.edu.

The curriculum is as follows:

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied in the major by ARTS 406 and 407 but students are encouraged to take COMM 101R)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (Satisfied in the major by ARTS 279)</td>
<td>3</td>
</tr>
</tbody>
</table>

Foundation to Perspectives – GEN 101 New PAGE

Fine and Performing Arts (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—ARTH 121A and ARTS 122A may not be used to satisfy this requirement)  3

History  3

Literature  3

Philosophy  3

Natural Science and Technology  11-12

Eight credit hours of Natural Science with labs in sequence. Additional 3-4 credit hours of Natural Science or Technology met by GEN 101.

Social Science  6

*Students majoring in art history must substitute GEN 101 for the third course in the natural science and technology perspective.

Minor in Art History

A student who wishes to complete a minor in art history must receive the approval of the chief departmental advisor and the program director. ARTH 211 and 212 are prerequisite courses for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor for BA and BS students are 12 hours selected from ARTH 300- and 400-level courses. BFA students must complete three hours from ARTH 320W, 350W, 351W or 435W and 12 hours selected from ARTH 300- and 400-level courses. A reading knowledge of French, German, Italian or Spanish is strongly advised.

For completion of the minor a student must have a minimum overall cumulative grade point average of 2.00 and no grade lower than a C in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses. Transfer students must complete a minimum of six hours in ARTH 300- and 400-level courses through courses offered by Old Dominion University.

Bachelor of Arts–Art Education Major

Richard Nickel, Program Director

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, in the professional education core and overall, with no grade less than a C in the content area and C- in the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuation. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major with no grade less than C and the professional education core with no grade less than a C- for continuation in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website or the Office of Teacher Education Services and Advising, Education Building 152. The PRAXIS II Art Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

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<td>Mathematics</td>
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</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (Satisfied in the major by ARTS 279)</td>
<td>3</td>
</tr>
</tbody>
</table>

Foundation to Perspectives – GEN 101 New PAGE

Fine and Performing Arts (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—ARTH 121A and ARTS 122A may not be used to satisfy this requirement)  3

History  3

Literature  3

Philosophy  3

Natural Science and Technology  11-12

Eight credit hours of Natural Science with labs in sequence. Additional 3-4 credit hours of Natural Science or Technology met by GEN 101.

Social Science  6

*Students majoring in art education must substitute GEN 101 for the third course in the natural science and technology perspective.

Art Requirements (45 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 211  Ancient/Medieval Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 212  Renaissance/Modern Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 325, 326, 351W, or 435</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 350  W Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>Two courses from ARTS 202, 203, and 204</td>
<td>6</td>
</tr>
<tr>
<td>ARTS 211  Introduction to Photography</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 231  Fundamentals of Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 241  Fundamentals of Painting</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 251, 252, or 253  Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 261  Intro to Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 263  Introduction to Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 279  Fundamentals of Digital Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 281  Crafts I: Fibers or ARTS 291 Crafts I: Metalworking/Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 331  Drawing: Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

License in Art Education

A total of 78 hours in art and professional courses is required in addition to the General Education Requirements. A minimum of 123 credits is required for the degree.

Professional Education (33 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 305  Elementary Art Education</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 406  Secondary Art Education</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 407  Middle and Secondary School Practicum</td>
<td>3</td>
</tr>
<tr>
<td>ECI 301  Social Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 408  Reading and Writing in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ECI 485  Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>ESSE 406  Special Needs Children-General Ed</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413  Fundamentals-Human Growth and Development</td>
<td>3</td>
</tr>
</tbody>
</table>
Art Education Licensure Only

Candidates who have already earned an undergraduate degree in studio art or art history may seek licensure only. Information on applying for licensure can be obtained from the Darden College of Education or the art education program director. A minimum of 36 hours of art and professional courses (including student teaching) from Old Dominion University is required. Before registering for classes candidates must present a portfolio for review by the art education program director. The director will determine which transferable courses will meet the program requirements and which art and professional courses must be completed for licensure. A minimum cumulative grade point average of 2.75 is required for continuance and licensure.

Bachelor of Arts–Studio Art Major

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (may be satisfied in the major by ARTH 350W or 351W)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (ARTS 279 may be used)</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—ARTH 121A and ARTS 122A may not be used to satisfy this requirement)</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>8</td>
</tr>
<tr>
<td>Additional 3-4 credit hours of Natural Science or Technology met by GEN 101.</td>
<td>11-12</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in studio art must substitute GEN 101 for the third course in the natural science and technology perspective.

Major Courses (45 credits)

| ARTS 202 | Two Dimensional Design | 3 |
| ARTS 203 | Three Dimensional Design | 3 |
| ARTS 231 | Fundamentals of Drawing | 3 |
| ARTS 241 | Fundamentals of Painting | 3 |
| ARTS 251, 252, or 253 | Printmaking | 3 |
| ARTS 261 | Intro to Sculpture or ARTS 263 Intro to Ceramics | 3 |
| ARTS 279 | Fundamentals of Digital Art | 3 |
| ARTS 331 | Drawing: Composition | 3 |
| ARTS 304 | Color | 3 |
| Two ARTS Studio Arts Electives | 6 |
| ARTH 211 | Ancient/medieval Art | 3 |
| ARTH 212 | Renaissance/Modern Art | 3 |
| ARTH 350W | Art Criticism or 351W Research Methods in Art History | 3 |
| ARTH 400/401 | Electives | 6 |
| ARTS 202 | Two Dimensional Design | 3 |
| ARTS 203 | Three Dimensional Design | 3 |
| ARTS 211 | Intro to Photography | 3 |
| ARTS 231 | Fundamentals of Drawing | 3 |
| ARTS 241 | Fundamentals of Painting | 3 |
| ARTS 251, 252, or 253 | Printmaking | 3 |
| ARTS 261 | Intro to Sculpture or ARTS 263 Intro to Ceramics | 3 |
| ARTS 279 | Fundamentals of Digital Art | 3 |
| ARTS 281 | Crafts 1: Fibers or 291 Crafts 1: Metalsmithing/Jewelry | 3 |
| ARTS 304 | Color | 3 |
| ARTS 331 | Drawing: Composition | 3 |
| ARTS 400 OR 401 | Senior Show/Design Portfolio (satisfies oral communication requirement) | 3 |
| ARTS 406 OR 407 | Design Portfolio | 3 |
| ARTH 350W | Art Criticism or 351W Research Methods in Art History | 3 |
| ARTS 202 | Two Dimensional Design | 3 |
| ARTS 203 | Three Dimensional Design | 3 |
| ARTS 211 | Intro to Photography | 3 |
| ARTS 231 | Fundamentals of Drawing | 3 |
| ARTS 241 | Fundamentals of Painting | 3 |
| ARTS 251, 252, or 253 | Printmaking | 3 |
| ARTS 261 | Intro to Sculpture or ARTS 263 Intro to Ceramics | 3 |
| ARTS 279 | Fundamentals of Digital Art | 3 |
| ARTS 281 | Crafts 1: Fibers or 291 Crafts 1: Metalsmithing/Jewelry | 3 |
| ARTS 304 | Color | 3 |
| ARTS 331 | Drawing: Composition | 3 |
| ARTS 400 OR 401 | Senior Show/Design Portfolio (satisfies oral communication requirement) | 3 |
| ARTS 406 OR 407 | Design Portfolio | 3 |

UPPER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Option A.</th>
<th>Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, no less than a grade of C in major courses, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.</td>
<td></td>
</tr>
</tbody>
</table>

Minor in Studio Arts

A student who wishes to complete a minor in studio arts must receive the approval of the chief departmental advisor. A total of 12 hours in studio art 300- and 400-level courses is required. These courses must have prerequisites which must be met by lower-level studio art courses chosen as electives. Normally the total number of prerequisite electives should not exceed nine hours. Students who wish a studio arts minor should consult with the chief departmental advisor before their sophomore year to determine the specific courses and prerequisites which must be met to complete the minor. There are no specific minors in concentration areas such as painting, photo and print media, and graphic design. However, course selection will be done on an individual basis and may be focused upon a specific area of interest.

For completion of the minor a student must have a minimum overall cumulative grade point average of 2.00 and no grade lower than a C in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses. Transfer students must complete a minimum of six hours in ARTS 300- and 400-level courses through courses offered by Old Dominion University.

Bachelor of Fine Arts

LOWER DIVISION GENERAL EDUCATION

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (may be satisfied by ARTH 350W or 351W, ARTS 400 or 401, or ARTS 406 or 407)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (fulfilled with ARTS 279)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—ARTH 121A and ARTS 122A may not be used to satisfy this requirement)</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence. Additional 3-4 credit hours of Natural Science or Technology met by GEN 101.</td>
<td>11-12</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the BFA major must substitute GEN 101 for the third course in the natural science and technology perspective.

Foundation and Studio courses (required of all BFA students)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 211</td>
<td>Ancient/medieval Art</td>
</tr>
<tr>
<td>ARTH 212</td>
<td>Renaissance/Modern Art</td>
</tr>
<tr>
<td>ARTH 350W</td>
<td>Art Criticism or 351W Research Methods in Art History</td>
</tr>
<tr>
<td>ARTH 300/400</td>
<td>Electives</td>
</tr>
<tr>
<td>ARTS 202</td>
<td>Two Dimensional Design</td>
</tr>
<tr>
<td>ARTS 203</td>
<td>Three Dimensional Design</td>
</tr>
<tr>
<td>ARTS 211</td>
<td>Intro to Photography</td>
</tr>
<tr>
<td>ARTS 231</td>
<td>Fundamentals of Drawing</td>
</tr>
<tr>
<td>ARTS 241</td>
<td>Fundamentals of Painting</td>
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<tr>
<td>ARTS 251, 252, or 253</td>
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<tr>
<td>ARTS 304</td>
<td>Color</td>
</tr>
<tr>
<td>ARTS 331</td>
<td>Drawing: Composition</td>
</tr>
<tr>
<td>ARTS 400 OR 401</td>
<td>Senior Show/Design Portfolio (satisfies oral communication requirement)</td>
</tr>
<tr>
<td>ART STUDIO ELECTIVES (ARTS) (Graphic Design concentration requires 6 hours)</td>
<td>9</td>
</tr>
</tbody>
</table>

Studio Art Concentrations

All BFA students must choose one of the following after completion of the foundation courses: 18-21 credits.

Crafts-Fibers

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 391, 481</td>
<td></td>
</tr>
<tr>
<td>Six credits from: ARTS 254, 341, 350 or 450, 481</td>
<td>6</td>
</tr>
<tr>
<td>Six credits from: ARTS 350 or 450, 363, 364, 497</td>
<td>6</td>
</tr>
<tr>
<td>ARTS 681 and either ARTS 251 or 252 must be taken from the Core.</td>
<td>6</td>
</tr>
</tbody>
</table>

Drawing and Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 271, 350, 431, 432</td>
<td></td>
</tr>
<tr>
<td>Six credits from: ARTS 302, 341, 370, 371, 373, 376, 395/495, 433, 473, 474, or 497</td>
<td>6</td>
</tr>
</tbody>
</table>

COLLEGE OF ARTS AND LETTERS 71
Transfer Requirements

A minimum of 21 studio credit hours from Old Dominion University is required for completion of the B.A. degree in either studio art or art education; a minimum of 21 credit hours in art history from Old Dominion University is required for the B.A. in Art History. Degree-holding students who are only seeking teaching licensure must complete nine hours of 300/400 level studio or art education courses and complete 12 hours of student teaching (ECI 485). For the B.F.A. degree a minimum of 36 studio credit hours from Old Dominion University is required. For a minor in either art history or studio arts, transfer students must complete six hours of courses at the 300/400 level at Old Dominion University.

Transfer students who enroll in a studio art or art education program (B.F.A. or B.A.) must submit a portfolio of work for evaluation by the chief departmental advisor or the art education program director. Determination will be made about which transferred studio or art education courses will be accepted as cognate program requirements. Appointments for transfer evaluation must be arranged prior to registration for classes.

Graduate Programs

The Department of Art offers a Master of Arts/Master of Fine Arts degree program in visual studies in conjunction with Norfolk State University. Please refer to the Graduate Catalog for more information.

ASIAN STUDIES

Bachelor of Arts—Asian Studies

Qiu Jin, Director

A total of 120 credit hours is required for the Bachelor of Arts (BA) in Asian Studies. The 120 credit hours are divided into two major categories: (1) requirements for General Education and electives and (2) 30-35 hours at the upper level required for the Asian Studies major. Each of these two categories consists of the courses as follows:

**LOWER-DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Written Communication</td>
</tr>
<tr>
<td>3</td>
<td>Oral Communication</td>
</tr>
<tr>
<td>3</td>
<td>Mathematics</td>
</tr>
<tr>
<td>12</td>
<td>Foreign Language (proficiency not met by completion of an associate degree)</td>
</tr>
<tr>
<td>3</td>
<td>Computer Skills</td>
</tr>
<tr>
<td>12</td>
<td>Foundation to Perspectives — GEN 101 (New PAGE)*</td>
</tr>
<tr>
<td>3</td>
<td>Fine and Performing Arts</td>
</tr>
<tr>
<td>6</td>
<td>History (HIST 101/H required)</td>
</tr>
<tr>
<td>3</td>
<td>Literature</td>
</tr>
<tr>
<td>3</td>
<td>Philosophy</td>
</tr>
<tr>
<td>11-12</td>
<td>Natural Science and Technology</td>
</tr>
<tr>
<td>6</td>
<td>Social Sciences (POLS 100S and ECON 201S or ECON 200S)</td>
</tr>
</tbody>
</table>

*Students majoring in Asian Studies may substitute GEN 101 for one course from the history perspective or the second or third course in the natural science and technology perspective.

**MAJOR REQUIREMENTS**

Core courses (12 credit hours):

- Research Methods (HIST 201, POLS 308, SOC 337, PSYC 317, or ECON 400)
- Capstone Seminar in Asian Studies (ASIA 461W)
- Asian Experience (study abroad or an approved practicum; consult with the director for arrangements)

Research Methods (HIST 201, POLS 308, SOC 337, PSYC 317, or ECON 400)

One of the following courses: ASIA/POLS 338W, ASIA/PHIL 353, GEOG 453, HIST 439

**Language courses (6-8 credit hours):**

- Japanese, Chinese or any Asian language from East, Southeast or South Asia, subject to approval by the program director (two courses in the Department of Foreign Languages in addition to the 12 credits required for lower-level foreign language for a B.A. degree).

**Upper-level Elective courses (15 credit hours at the 300 or 400 level):**

These courses can be elected from the list below. At least one of the elective courses must be selected from the Humanities (i.e., history, literature, religion, philosophy, art, theatre, and music) and one from Social Sciences/Business (e.g., political science, economics, business management, marketing, geography, sociology, communication, and women’s studies). No more than two courses may be taken in any one discipline. Students are strongly encouraged to take courses in more than one region of Asia. Courses are under development in different disciplines, and additional courses with an Asian content may be approved by the program director.

**Art**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 360</td>
<td>Asian Art (cross-listed with ASIA 360)</td>
</tr>
</tbody>
</table>
Asian Studies
ASIA 332 South Asia Since Independence (cross-listed with HIST 332)
ASIA 336 The Emergence of New China (cross-listed with HIST 336)
ASIA 337 Japan’s Era of Transformation (cross-listed with HIST 338)
ASIA 338W Politics of East Asia (cross-listed with POLS 338W)
ASIA 353 Asian Religions (cross-listed with PHIL 353)
ASIA 360 Asian Art (cross-listed with ARTH 360)
ASIA 395 Topics in Asian Studies
ASIA 435 Chinese Politics (cross-listed with POLS 435)
ASIA 460 Major Issues in Asia
ASIA 461W Asian Studies Capstone Seminar
ASIA 495 Topics in Asian Studies

Business Management and Marketing
MGMT 463 Study Abroad (Korea, Philippines, China and/or other Asian Countries)
MKTG 496 Topics in Business Management and Marketing (Asian content)

Communication
COMM 495/496 Topics in Communication (Asian content)
COMM 407 Communication and Culture in SE Asia

Economics
ECON 495 Topics in Economics (Asian content)

Filipino American Studies
FAST 395 Topics: The Filipino American Experience

Foreign Languages
CHIN 395 Topics in Chinese
CHIN 311 Advanced Chinese Language and Culture I
CHIN 312 Advanced Chinese Language and Culture II
JAPN 311 Advanced Japanese
JAPN 312 Advanced Japanese Language and Culture
FLET 310W Faces of Japan (Culture Class in English)

Geography
GEOG 456 Geography of South East Asia
GEOG 495/496 Topics in Geography (Asian content)

History
HIST 331 Colonialism and Nationalism in SE Asia
HIST 332 South Asia since Independence (cross-listed with ASIA 332)
HIST 336 Emergence of the New China (cross-listed with ASIA 336)
HIST 338 Japan’s Era of Transformation since 1800 (cross-listed with ASIA 337)
HIST 395 Topics in History (Asian content)
HIST 439 Politics & Society in East Asia since 1945

International Business
INBU 433 Doing Business in Asia

Philosophy and Religious Studies
PHIL 353 Asian Religions (cross-listed with ASIA 353)
PHIL 354 Comparative Philosophy: East and West
PHIL 480 Hinduism
PHIL 481 Buddhism
PHIL 482 Chinese religion and philosophy
PHIL 485 Japanese religion and philosophy
PHIL 495/496 Topics in Philosophy (Asian content)
REL 352 Islam

Political Science
POL S 336 South Asia Since Independence
POL S 338W Politics of East Asia (cross-listed with ASIA 338W)
POL S 435 Chinese Politics (cross-listed with ASIA 435)
POL S 436 Japanese Politics
POL S 437 International Relations in East Asia
POL S 495/496 Topics in Political Science (Asian content)

Psychology
PSYC 495 Topics in Psychology (Asian content)

Sociology
SOC 395 Topics in Sociology (Asian content)

Women’s Studies
WMST 495 Topics in Women’s Studies (Asian content)

REQUIREMENTS FOR GRADUATION

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minor in Asian Studies

Students who wish to qualify for the minor in Asian studies must file a program declaration with the director of the Institute of Asian Studies and complete a total of 12 credit hours at the 300-400 level. No more than two courses may be taken from any one discipline. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

In addition to the Asian studies core and Asian studies topics courses, courses with significant Asian content are offered regularly in the following disciplines: business management/marketing, communication, foreign languages, geography, history, philosophy, political science, psychology, sociology, and women's studies. Still others are offered from time to time in anthropology, art, economics, English, and other disciplines. Students are encouraged to include study abroad in Asia as part of their program.

Course listings for the Asian studies minor are as follows:
1. Asian Studies: ASIA 495*
2. Anthropology: ANTR 300
3. Business Management and Marketing: MGMT 463, 496*
4. Communications: COMM 300, 400W, 407, 495*/496*
5. Economics: ECON 450, 454, 495*/496*
6. English: ENGL 395*, 396*
7. Foreign Languages: CHIN 395, JAPN 311, 312, 495, FLET 310W
8. Geography: GEOG 453, 456, 495*/496*
9. History: HIST 332, 336, 338, 392, 395*/396*, 439, 495*, 496*
10. International Business: INBU 333, 433
11. Philosophy and Religious Studies: PHIL 353, 354, 480, 481, 482, 485, 495*/496*
12. Political Science: POLS 338W, 435, 437, 495*/496*
13. Psychology: PSYC 420, 495*
15. Women’s Studies: WMST 401W, 495*, 496*

*With significant portion of the course about Asia, to be approved by the director

COMMUNICATION AND THEATRE ARTS

Gary Edgerton, Chair

The Department of Communication and Theatre Arts offers two Bachelor of Arts majors, one in communication (with emphasis areas in corporate communication, general communication, international and intercultural communication, interpersonal and small group communication, mass media, persuasion and critical thinking, public relations, and theatre) and one in theatre/dance (with emphasis areas in either theatre, theatre-digital film making, theatre education, dance or dance education). A Bachelor of Science in communication is offered with emphasis areas in corporate communication, general communication, international and intercultural communication, interpersonal and small group communication, mass media, persuasion and critical thinking, and public relations as well as a concentration in professional communication (also available via distance learning). A Bachelor of Fine Arts in acting is also offered. Minors are offered in communication, theatre/dance with a theatre specialization, and theatre/dance with a dance specialization. Students must receive a grade of C (2.00) or better in all courses that count toward these majors and minors. All majors must fulfill the requirements of the College of Arts and Letters, and are also required to participate in the department’s senior assessment programs. Students must complete at least one-half of their hours in the major at Old Dominion University.

Bachelor of Arts or Bachelor of Science—Communication Major

Carla Harrell, Chief Departmental Advisor for Communication

LOWER DIVISION GENERAL EDUCATION

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication (COMM 101R required) 3
Mathematics (BS requires STAT 130M) 3

COLLEGE OF ARTS AND LETTERS 73
Foreign Language (Proficiency through 202 level for BA only and not met by associate degree; competence at the 102 level for BS students) 0-12
Computer Skills 3
Foundation to Perspectives – GEN 101 (New PAGE)* 3
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Eight credit hours of Natural Science with labs in sequence.
Additionally, 3-4 credit hours of Natural Science or Technology are required.
Social Science (COMM 200S may not be used to satisfy this requirement) 6
*Students majoring in communication may substitute GEN 101 for one course in the history perspective, one course in the social science perspective, or the second or third course in the natural science and technology perspective.

Departmental Requirements
Majors must have a C or better in all courses counted toward the major. At least one half of the hours completed in the major must be completed at Old Dominion University. Majors must also complete at least one writing intensive course in the major from COMM 315W, 335W, 400W, 412W, 447W, or 471W.
All B.S. students in communication with a concentration in professional communication who enter the program with the 2002-2004 catalog must maintain a C or better in all courses counted toward the major (professional communication students who are subject to an earlier catalog can retain the C-minimum).

Communication Core—(B.A. 9 hours; B.S. 18 hours – see later section for core requirements in professional communication)
COMM 101R Public Speaking (satisfies oral communication requirement) 3
COMM 200S Intro to Human Communication 3

In addition, B.A. Only:
COMM 335W Rhetorical Criticism or COMM 445W Communication Analysis and Criticism 3

In addition, B.S. Only:
COMM 302 Research Methods I 3
COMM 401 Communication Theory 3
and six hours of approved 300/400-level social science courses 6

Additional Communication Hours: 30 hours total for B.A. and 27 hours total for B.S., of which must be at the 300-400 level selected from the following concentration areas and electives.

Emphasis Areas (24 hours minimum)

It is recommended that students complete a minimum of three hours from the foundation courses in the concentration area of interest.

Corporate Communication
1. Foundations: COMM 315W, 326, 351, 395/495, 400W

International and Intercultural Communication
2. Popular Culture: COMM/FLET 300, COMM 340, COMM 444/FLET 445, COMM/WMST 450, COMM 471W, 481, COMM/WMST 495

Interpersonal and Small Group Communication
1. Foundations: COMM 314, 326, 412W

Mass Media
1. Foundation: COMM 360
4. Production: COMM/THEA 341, 342, 348, 370, 380, 385, 480, 482, 483, 486, THEA 443, or 300-400 level MCM courses at Norfolk State University

Persuasion and Critical Thinking
1. Foundations: COMM 333, 335W, 337, 445

Public Relations
3. Organizational Applications: 306, 323, 351, 403, 412W, 421, 455

Theatre (B.A. Only)
1. Foundations: THEA 342, 343, 344, 442, THEA/COMM 346, 446
2. Production: THEA 341, 345, THEA/COMM 370, 380, 480, 483, 486
4. Topics in Film: COMM/FLET 300, COMM 444/FLET 445, COMM 471W, 479, 481, COMM/WMST 495
5. Topics in Theatre: THEA 441, 445, 447
Please note: Students who are pursuing a double major in communication and theatre may use a maximum of two courses in both majors.

General Communication
24 hours of 300-400 level COMM courses from any combination of courses from the different emphasis areas, plus three additional hours from emphasis or elective hours in COMM for B.S. students and six additional hours from emphasis or elective hours in COMM for B.A. students.

Electives (to not include required courses for B.A. or B.S.)
COMM 101R Voice and Diction 3
COMM 112R Introduction to Interpersonal Communication 3
COMM 302 Research Methods I 3
COMM 368 Internship 3
COMM 369 Research Practicum 3
COMM 401 Communication Theory 3
COMM 402 Research Methods II 3
COMM 469 Communication Education Practicum 3
Please note that COMM 305 will not count in any of the emphasis areas in the B.A. or B.S. in communication.
This course is a requirement in the professional communication concentration and is only for students in that concentration.

Internships, Practica, and Special Topics Classes
Students may apply only three credit hours of COMM 368 Internship toward the major in communication. In addition, students may apply only six credits total from the following classes toward the major: COMM 368 Internship, COMM 369 Research Practicum, and COMM 469 Communication Education Practicum. Special Topics in Communication courses (COMM 395, 396, 495, 496) and Communication Tutorials courses (COMM 497) may be included in a given emphasis when and where appropriate.

B.S. in communication with a concentration in professional communication
Fred Warren, Chief Departmental Advisor for Professional Communication Concentration

The professional communication concentration is also available for distance learning students through TELETECHNET. Distant students who have completed a university parallel associate degree can complete two additional years of course work at the University’s TELETECHNET sites in order to earn a B.S. Distant students without a university parallel associate degree must complete the lower-division general education requirements.

Professional Communication Core—(12 hours)
IDS 300W Interdisciplinary Theory & Concepts 3
COMM 302 Communication Research Methods I 3
COMM 305 Foundations of Professional Communication 3
ENGL 327W Advanced Composition I 3

Organizational Foundations: 12 hours from CS 300, MGMT 325, 340, 451, MKTG 311, 402, 411, PHIL 303, PSYC 303, 343, 344, 345 (meets the upper-division general education requirement)

Additional Hours in Communication: 15 hours from COMM 303, 304, 314, 315W, 326, 333, 351, 355, 360, 368, 395, 400W, 412W, 421, 447W, 448, 456, 467, 472T, 474, 477, 481, 484, 485, 486, 489, 495, 496

Additional Hours in English: six hours from ENGL 334W, 335, 350, 368, 380, 381, 395, 396, 427W, 435W, 456, 467, 477, 481, 484, 485W, 486, 489, 495, 496

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major (met in the major for professional communication emphasis only).
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.
Accelerated B.A./B.S. in Communication and M.A. in Humanities

Please refer to the Humanities section of this Catalog for information on the accelerated program leading to a B.A. or B.S. in communication and an M.A. in humanities.

Minor in Communication

COMM 101R or 103R and 200S are prerequisite courses for the minor. The requirements for a minor in communication are as follows: twelve hours of communication courses at the 300- and 400-level (excluding COMM 367, 375, 376, 475, 476; 368 may be used only once).

For completion of a minor, a student must have a grade of C (2.00) or better in all courses taken for the minor. Students must complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Bachelor of Arts–Theatre and Dance Major

Marilyn Marloff, Chief Departmental Advisor for Dance
Erlene Hendrix, Chief Departmental Advisor for Theatre

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (Satisfied by THEA 242 for theatre majors)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level; proficiency not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (Satisfied by ECI 304 for dance education and theatre education majors)</td>
<td>3</td>
</tr>
</tbody>
</table>

Foundation to Perspectives – GEN 101 (New PAGE)*

Fine and Performing Arts (Theatre majors may not use
THEA 241A or COMM/THEA 270A; dance majors may not use
DANC 185A; theatre education majors must take THEA 241A; dance education majors must take THEA 241A)

History                                                | 6       |
Literature                                             | 3       |
Philosophy                                             | 3       |

Natural Science and Technology
Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required. (Dance education and theatre education majors should take BIOL 108N-109N to meet the eight-hour Natural Science requirement)

Social Sciences (COMM 2005 required)                   | 6       |

*Students majoring in theatre and dance may substitute GEN 101 for either one history course, one social science course or the second or third natural science/technology perspective course. Students in the theatre education or dance education concentration cannot substitute GEN 101 for the second natural science/technology perspective course.

Departmental Requirements

(students must select one concentration)

Majors must have a C or better in all courses counted toward the major. At least one half of the hours completed in the major must be completed at Old Dominion University. At least 18 hours of the total required must be at the 300-400 level.

Theatre Concentration:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 185A Dance and its Audience</td>
<td>3</td>
</tr>
<tr>
<td>THEA 189 The Creative Self</td>
<td>3</td>
</tr>
<tr>
<td>THEA 241A The Theatre Experience</td>
<td>3</td>
</tr>
<tr>
<td>THEA 244 Introduction to Scenery and Lighting</td>
<td>3</td>
</tr>
<tr>
<td>THEA 242 Acting I (meets oral communication requirement)3</td>
<td>3</td>
</tr>
<tr>
<td>THEA 247 Introduction to Stage Costumes</td>
<td>2</td>
</tr>
<tr>
<td>THEA 248 Introduction to Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>THEA 343 Theatre History</td>
<td>3</td>
</tr>
<tr>
<td>THEA 344 Theatre History</td>
<td>3</td>
</tr>
<tr>
<td>THEA 442 Principles of Directing</td>
<td>3</td>
</tr>
<tr>
<td>THEA 449W Script and Performance Analysis</td>
<td>3</td>
</tr>
<tr>
<td>THEA 499 Senior Project</td>
<td>1</td>
</tr>
<tr>
<td>THEA Activities 4 hours required; 2-4 hours must be earned through off stage production participation</td>
<td>4</td>
</tr>
<tr>
<td>THEA/DANC electives</td>
<td>11</td>
</tr>
</tbody>
</table>

Theatre Concentration – Digital Film Making Emphasis:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEA 189 The Creative Self</td>
<td>3</td>
</tr>
<tr>
<td>THEA 241A The Theatre Experience</td>
<td>3</td>
</tr>
<tr>
<td>THEA 242 Acting I</td>
<td>3</td>
</tr>
<tr>
<td>THEA 244 Introduction to Scenery and Lighting</td>
<td>3</td>
</tr>
<tr>
<td>THEA 247 Introduction to Stage Costumes</td>
<td>2</td>
</tr>
<tr>
<td>THEA 248 Introduction to Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>THEA 270A Film Appreciation</td>
<td>3</td>
</tr>
<tr>
<td>THEA 343 OR 344 History of Theatre I OR II</td>
<td>3</td>
</tr>
<tr>
<td>THEA 370 The Video Project</td>
<td>3</td>
</tr>
<tr>
<td>THEA 442 Principles of Directing</td>
<td>3</td>
</tr>
<tr>
<td>THEA 479W American Film History</td>
<td>3</td>
</tr>
<tr>
<td>THEA 499 Senior Project</td>
<td>1</td>
</tr>
<tr>
<td>THEATRE ACTIVITIES 4 hours required, 2-4 hours must be earned through off stage production participation</td>
<td>4</td>
</tr>
<tr>
<td>THEA ELECTIVES</td>
<td>11</td>
</tr>
</tbody>
</table>

Digital film emphasis area students must have a minor in film studies. Students may not use the same film courses to fulfill requirements for the major and minor.

Dance Concentration:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 350 Dance Improvisation</td>
<td>1</td>
</tr>
<tr>
<td>DANC 360 Rhythmic Analysis</td>
<td>1</td>
</tr>
<tr>
<td>DANC 370 Dance Composition</td>
<td>2</td>
</tr>
<tr>
<td>DANC 387 Dance Repertory and Performance I</td>
<td>1</td>
</tr>
<tr>
<td>DANC 388 Dance Repertory and Performance II</td>
<td>1</td>
</tr>
<tr>
<td>DANC 389W 20th Century Dance History</td>
<td>3</td>
</tr>
<tr>
<td>DANC 393 Anatomy/Kinesiology for Dance</td>
<td>3</td>
</tr>
<tr>
<td>DANC 489 Teaching Principles</td>
<td>2</td>
</tr>
<tr>
<td>DANC 499 Senior Project</td>
<td>1</td>
</tr>
<tr>
<td>THEA 241A Theatre Experience</td>
<td>3</td>
</tr>
<tr>
<td>12 credits from DANC 201, 302, 303, 404, 405, or 406</td>
<td>12</td>
</tr>
<tr>
<td>12 credits from DANC 211, 312, 313, 414, 415, or 416</td>
<td>12</td>
</tr>
<tr>
<td>Two credits from ballet, modern, or jazz</td>
<td>2</td>
</tr>
<tr>
<td>DANC/DANCE electives</td>
<td>8</td>
</tr>
</tbody>
</table>

Minimum 26 credits of technique to include 12 credits of ballet, 12 hours of modern dance and two credits of additional ballet, modern or jazz. Activities courses may not be used to fulfill these requirements.

Minimum three credits of practicum experience to include two hours of repertory and performance and one hour of senior project.

Minimum eight credits of theatre and dance electives (not to exceed four hours of technique).

As a requirement to graduate, dance majors must achieve 400-level proficiency in ballet technique and modern technique. (Specifically, dance majors must pass DANC 404 and 414.) The continued maintenance of technical proficiency is required. For further information, consult the dance handbook.

Theatre Education Concentration:

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C in the content area and C- in the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major with no grade less than C and the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests if available. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising, Education Building 152.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C in the major and minor and C- in the professional education core; and completion of a minimum of 126 credit hours.

COLLEGE OF ARTS AND LETTERS 75
Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

The curriculum is as follows:

**DANC 185A** Dance and its Audience 3
**THEA 189** The Creative Self 3
**THEA 241A** The Theatre Experience 3
**THEA 244** Introduction to Scenery and Lighting 3
**THEA 242** Acting I (meets oral communication perspective) 3
**THEA 247** Introduction to Stage Costumes 2
**THEA 248** Introduction to Stage Makeup 2
**THEA 343** Theatre History 3
**THEA 344** Theatre History 3
**THEA 442** Principles of Directing 3
**THEA 449W** Script and Performance Analysis 3
**THEA 489** Methods of Teaching Theatre 3
**THEA 490** Theatre Education Practicum 1
**THEA 499** Senior Project 1
**THEA Activities** 4 hours required; 2-4 hours must be earned through off stage production participation 4

**THEA/DANC electives:** at least three elective hours should be at the 300-400 level and focus on performance or design/theatre technology 7

**Professional Education Core:**

**ECI 301** Social Cultural Foundations of Education 3
**ECI 304** Educational Applications of Computers (meets computer skills requirement) 3
**ECI 360** Classroom Management and Discipline 2
**ECI 408** Reading and Writing in Content Area 3
**ECI 485** Student Teaching 12
**ESSE 406** Special Needs Children-General Ed 3
**ESSE 413** Fundamentals-Human Growth and Development 3

**Theatre Education or Dance Education Licensure Only:**

Candidates who have already earned an undergraduate degree in theatre or dance may seek licensure only. Information on applying for licensure can be obtained from the Darden College of Education or the theatre or dance education program advisor. Students must have completed or must complete equivalencies for all course work required for the theatre major, as well as complete all Professional Education core classes required for undergraduate theatre or dance education majors. The theatre or dance advisor will determine which transferable courses will meet the cognate program requirements and which theatre and professional courses must be completed for licensure. All content area courses must be completed with a grade of C or better, and all professional education courses must be completed with a grade of C- or better. A minimum cumulative grade point average of 2.75 overall, in the major and in the professional education core is required for continuation and licensure. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or State Board of Education-approved SAT or ACT scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

**Dance Education Concentration:**

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C in the content area and C- in the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major with no grade less than C and the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests if available. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising, Education Building 152.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C in the major and minor and C- in the professional education core; and completion of a minimum of 120-132 credit hours (depending on foreign language proficiency).

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

The curriculum is as follows:

12 credits from DANC 201, 302, 303, 404, 405, or 406 12
10 credits from DANC 211, 312, 313, 414, 415, or 416 10
**DANC 321** Introduction to Jazz Dance 2
**DANC 322** Jazz 2 2
**DANC 350** Dance Improvisation 1
**DANC 360** Rhythmic Analysis 1
**DANC 370** Dance Composition 1 2
**DANC 387** Dance Repertory and Performance 1 1
**DANC 388** Dance Repertory and Performance 2 1
**DANC 389W** Twentieth Century Dance History 3
**DANC 393** Anatomy and Kinesiology for Dance 3
**DANC 398** Principles of Teaching Dance 3
**DANC 499** Senior Project 1
**PE 217** Educational Rhythms and Dance 1
**EXSC 340** Prevention and Care of Injuries 3

As a requirement to graduate, dance majors must achieve 400-level proficiency in ballet technique and modern technique. (Specifically, dance majors must pass DANC 404 and 414.) The continued maintenance of technical proficiency is required. For further information, consult the dance handbook.

**Professional Education Core:**

**ECI 301** Social Cultural Foundations of Education 3
**ECI 304** Educational Applications of Computers (meets computer skills requirement) 3
**ECI 360** Classroom Management and Discipline 2
**ECI 408** Reading and Writing in Content Area 3
**ECI 485** Student Teaching 12
**ESSE 406** Special Needs Children-General Ed 3
**ESSE 413** Fundamentals-Human Growth and Development 3

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.

(Dance education and theatre education majors satisfy this requirement through the Professional Education core requirements.)

Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Theatre and dance majors: Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Minor in Theatre and Dance–Theatre Specialization**

For a minor in theatre arts with a theatre specialization, the student must complete a minimum of 18 THEA hours, including:

1. **THEA 241A** is a prerequisite course for the minor.
2. Minimum of 12 hours at the 300 and 400 levels, with prior agreement by the department.
3. Three additional THEA hours, to include at least one hour of theatre activities credit.

Students must have a grade of C (2.00) or better in all courses taken for the minor and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Minor in Theatre and Dance–Dance Specialization**

For a minor in theatre arts with a dance specialization, the student must complete 18 DANC hours including:

1. **DANC 185A** is a prerequisite course for the minor.
2. Minimum of 12 hours at the 300 and 400 levels with prior agreement by the department.
Bachelor of Fine Arts—Acting Major

Erlene Hendrix, Chief Departmental Advisor for Theatre

Admission

Students will be eligible to enter the B.F.A. in acting program after having completed ENGL 110C and 111C with a grade of C or better. Students will be admitted to the B.F.A. program through an audition process administered by the faculty.

LOWER DIVISION GENERAL EDUCATION

Written communication (grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral communication (satisfied in the major by THEA 242) 3
Mathematics 3
Computer Skills 3
Foreign Language 0-6
Foundation to Perspectives – GEN 101 (New PAGE)* 3
Fine and Performing Arts (satisfied in the major by DANC 185A) 3
History 3
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Social Science 3

*Students majoring in acting may substitute GEN 101 for either one history course, one social science course or the second or third natural science/technology perspective course.

Major courses (77 credit hours)

DANC 185A Dance and its Audience 3
THEA 189 The Creative Self 3
THEA 241A The Theatre Experience 3
THEA 242 Acting I (meets oral communication requirement) 3
THEA 244 Introduction to Scenery and Lighting 3
THEA 246 Stage Combat 1
THEA 247 Intro to Stage Costume 2
THEA 248 Intro to Stage Makeup 2
THEA 320 Auditioning Techniques 1
THEA 342 Acting II 3
THEA 343 History of Theatre 3
THEA 344 Theatre History 3
THEA 347 Movement for the Actor 3
THEA 348 Camera Acting 1
THEA 350 The Spoken Text 3
THEA 360 Voice for the Stage 3
THEA 368 Internship 3
THEA 442 Principles of Directing 3
THEA 443 Acting III 3
THEA 449W Script and Performance Analysis 3
THEA 460 Voice for the Stage II 3
THEA 499 Senior Project 1
THEA Activities 6 hours, of which 4 must be earned through performance and 2 must be earned through off stage production participation 6
THEA electives 13

UPPER-DIVISION GENERAL EDUCATION

Option A: Approved minor, 12-24 hours; also second degree or second major.
Option B: Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall, 121 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of senior assessment. Students must have a C or better in all courses counted toward the major. At least half of the hours completed in the major must be completed at Old Dominion University. Students must audition annually for continuation in the B.F.A. program in acting.

Bachelor of Arts—English Major

Judith Doumas, Chief Departmental Advisor

LOWER DIVISION GENERAL EDUCATION

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication (COMM 101R, 103R, 112R) 3
Mathematics 3
Foreign Language (BA students must have competence through the 202 level; competence not met by completion of the associate degree) 0-12
Computer Skills (may be satisfied with ENGL 250; teacher education majors satisfy the requirement with ECI 304) 3
Foundation to Perspectives – GEN 101 New PAGE* 3
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Eight credit hours of Natural Science with labs in sequence.
Additionally, 3-4 Natural Science or Technology are required.
Social Science 6

*Students majoring in English may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Foundation courses (22 hours)

ENGL 200 Intro to English Studies 1
ENGL 301 or 302 British Literature (1 course) 3
ENGL 340, 342, 345, or 346 American Literature (1 course) 3
ENGL 360, 363 or 493 World Literature (1 course) 3
ENGL 303 or 304 Shakespeare (1 course) 3
ENGL 459, 463, 465 or 466W Focus (1 course) 3
ENGL 325, 333, or 370 Analytics (2 courses) 6

Open Electives (6 hours)
ENGL 300- or 400-level (2 courses) 6

Emphasis Courses (15 hours)
Select one of the following options:

Creative Writing
ENGL 300 3
Select two courses from ENGL 456, 457, 458 6
Select two courses from ENGL 351, 352, 353, 451, 452, 454 6
Please consult the department advisor about the writing intensive requirement. All majors must take an English writing intensive (W) course to graduate.

Journalism
ENGL 380, 483W, 484, and 486 12
Select one course from ENGL 335, 368, 454, 485W

Linguistics
ENGL 350
Select three courses from ENGL 371W, 440, 444, 450, 477, 495/496 (linguistics-related independent study)
Select one course from approved electives at the 300 and 400 level, including Anthropology, English (especially rhetoric), Foreign Languages (not FLET), internship
Note: Linguistics emphasis students must take ENGL 370 in the Analytics portion of the core. All majors must take an English writing intensive (W) course to graduate.

Literature
Select one course from ENGL 337, 403, 421, 423, 433 Period
Select one course from ENGL 312, 336, 349, 361, 416, 432, 438, 447, 448, 460, 461, 492 General
Select one additional literature course at the 400 level
Note: Among the above 9 hours, 3 must be in pre-1800 literature and 3 must be in post-1800 literature.
Select one additional course from ENGL 301 and 302
Select one additional course from ENGL 340, 342, 345, 346
Note: Literature emphasis students must take ENGL 333 in the Analytics portion of the core. Please consult the department advisor about the writing intensive requirement. All majors must take an English writing intensive (W) course to graduate.

Professional Writing
Select 5 courses from ENGL 325, 327W, 334W, 335, 368, 381, 427W, 435W, 439W, 454, 468, 481, 486
All majors must take an English writing intensive (W) course to graduate.

Teaching
(See below, Bachelor of Arts—English Major with Teaching Licensure in English)

UPPER DIVISION GENERAL EDUCATION

Bachelor of Arts—English Major with Teaching Licensure in English

This program leads to eligibility for teacher licensure in Virginia. Licensure in English prepares students for a full range of secondary school teaching assignments. The program is accredited by the State of Virginia; in addition, Virginia has licensure reciprocity agreements with thirty other states, should the student leave Virginia.

The program combines the usual requirements of a college major and minor. Students take courses in the English department (ENGL) of the College of Arts and Letters and Educational Curriculum and Instruction department (ECI) of the Darden College of Education. Students receive a Bachelor of Arts in English.

Admission. Students wanting to be admitted to the teacher education program must complete the second level of English composition (ENGL 111C), have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising, Education Building 152. The PRAXIS II English Language, Literature and Composition Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major and professional education core; and completion of a minimum of 132 credit hours.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program descriptions included in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

Course requirements are as follows:

LOWER DIVISION GENERAL EDUCATION

See list under Bachelor of Arts in English above.

Foundation courses (22 hours)

ENGL 200 Intro to English Studies
ENGL 301 or 302 British Literature (1 course)
ENGL 345 or 346 American Literature (1 course)
ENGL 360, 363, 393, or 493 World Literature (1 course)
ENGL 303 or 304 Shakespeare (1 course)
ENGL 459, 463, 465, or 466W Focus (1 course)
ENGL 325, 333, or 370 Analytics (2 courses)

Teaching emphasis students must take ENGL 333 in the Analytics portion of the core. All majors must take an English writing intensive (W) course to graduate.

Elective courses (6 hours)

ENGL 500 or 400-level (2 courses)

Emphasis courses (15 hours)

ENGL 301 or 302 British Literature (1 additional course)
ENGL 345 or 346 American literature (1 additional course)
ENGL 327W Advanced Composition
ENGL 350 Aspects of English Language
ENGL 455 Teaching of Composition Grades 6-12

Professional Education Courses (33 hours)

ECI 301 Social Cultural Foundations of Education
ECI 304 Education Applications of Computers
ECI 360 Classroom Management and Discipline
ECI 408 Reading and Writing in Content Area
ECI 451 Developing Instructional Strategies: English
ECI 485 Student Teaching
ESSE 406 Special Needs Children-General Ed
ESSE 413 Fundamentals-Human Growth and Development

UPPER DIVISION GENERAL EDUCATION

Satisfied through professional education sequence.

Bachelor of Science—Professional Writing Major

Matthew Oliver, Advisor for Professional Writing

A Bachelor of Science in professional writing is planned for implementation in Fall 2006 pending approval of the State Council for Higher Education in Virginia. The professional writing program produces graduates capable of moving into professional and technical writing fields. Students in the program complete a core of courses in technical writing as well as in business, communication, and human resources. The program is ideal for returning students already working who are interested in expanding their management skills and/or increasing their eligibility for promotion.

Course requirements are as follows.

LOWER DIVISION GENERAL EDUCATION

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)
Oral Communication
Mathematics
Foreign Language (Proficiency through 202 required for BA and not met by associate degree)

Computer Skills

Foundation to Perspectives – GEN 101 New PAGE*
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.

Social Science 6
*Students in the professional writing major may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Core Courses required of all students (15 credit hours - required grade of C- or better)
IDS 300W Interdisciplinary Theory & Concepts 3
COMM 305 Foundations of Professional Communication 3
ENGL 325 Intro to Rhetorical Studies 3
ENGL 327W Advanced Composition I 3
ENGL 334W Technical Writing 3

Organizational Foundations (12 credit hours – required grade of C- or better - meets upper-division general education)
CS 300 Computers in Society 3
MGMT 325 Contemporary Organizations and Management 3
MGMT 340 Human Resources Management 3
MGMT 451 Organizational Behavior 3
MKTG 311 Marketing Principle & Problems 3
MKTG 402 Consumer Behavior 3
MKTG 411 Multi-National Marketing 3
PHIL 303 Business Ethics 3
PSYC 303 Industrial/Org. Psychology 3
PSYC 343 Personality Psychology 3
PSYC 344 Human Factors 3
PSYC 345 Organization Psychology 3

Additional Hours in Professional Writing (12 credit hours – required grade of C- or better)
Select four courses from the following. ENGL 335 Editing and Document Design 3
ENGL 350 Aspects of the English Language 3
ENGL 368 Writing Internship 3
ENGL 370 English Linguistics 3
ENGL 380 Introduction to Journalism and News Writing 3
ENGL 381 Public Relations 3
ENGL 395/396 Topics in English 3
ENGL 427W Writing in the Disciplines 3
ENGL 435W Management Writing 3
ENGL 468 Advanced Writing Internship 3
ENGL 477 Language, Gender and Power 3
ENGL 481 Advanced Public Relations 3
ENGL 484 Feature Story Writing 3
ENGL 485W Editorial and Persuasive Writing 3
ENGL 486 Media Law and Ethics 3
ENGL 495/496 Topics in English 3

Additional Hours in Communication (6 credit hours – required grade of C- or better)
COMM 302 Communication Research Methods 3
COMM 303 Public Relations in Communication Industries 3
COMM 304 Advanced Public Speaking 3
COMM 314 Nonverbal Communication 3
COMM 315W Communication Between the Sexes 3
COMM 333 Persuasion 3
COMM 351 Interpersonal Communication in Organizations 3
COMM 355 Organizational Communication 3
COMM 360 Understanding Mass Communication 3
COMM 368 Internship 3
COMM 395 Topics in Communication 3
COMM 400W Intercultural Communication 3
COMM 412W Intercultural Communication 3
COMM 421W Communication and Conflict Management 3
COMM 447W Electronic Media Law and Policy 3
COMM 448 International Media Systems 3
COMM 456 Organizations and Social Influence 3
COMM 472T New Media Technologies 3
COMM 474 Telecommunications Management 3
COMM 477 Media Content Management 3
COMM 478 Principles of Media Marketing and Promotion 3
COMM 495 Topics in Communication 3

UPPER DIVISION GENERAL EDUCATION
Met in the major
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major with no grade less than C- in major courses, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Certificate in Professional Writing
This certificate requires 12 hours of professional writing courses from ENGL 325, 327W, 334W, 335, 368, 381, 427W, 435W, 439W, 468, 481, and 486.

Minor in English
The English minor consists of 15 hours of 300- and 400-level courses, three hours of which must be at the 400 level. A general minor and five minors in areas of emphasis are offered. Regardless of emphasis, the curriculum is still called a minor in English.

1. English: 15 hours from sections I, II, III, IV, or V (see Courses of Instruction).
2. Creative Writing: 15 hours from section II (see Courses of Instruction).
3. Journalism: 15 hours from section IV (see Courses of Instruction).
4. Linguistics: 15 hours from section III (see Courses of Instruction).
5. Literature and Film: 15 hours from section V (see Courses of Instruction).

For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement at Old Dominion University.

Advising
To declare an English major or minor, students must see the English departmental advisor (CDA). The CDA will assign each major to a faculty advisor. Students in the Secondary Education Endorsement Program will also have an advisor in the Darden College of Education. All English majors are required to have a conference with their advisors before each semester (preferably during preregistration). The CDA will hold periodic group meetings with English majors to keep them fully informed.

Assessment Test
All students pursuing an undergraduate degree in English must be prepared to participate in an English department assessment exercise in their last semester before graduating. The CDA will provide information about this exercise.

Advanced Placement
Students seeking English credits by examination should confer with the chief departmental advisor.

Research Practicum
Students who wish to combine research and real-world experience can take ENGL 369 Research Practicum. See the description in the Courses of Instruction section for prerequisites.

Accelerated B.A. and M. A. in English Program
By allowing exceptionally successful students to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this program makes it possible for such students to earn both a B.A. and M.A. in English within five years.

Admission Requirements
To be admitted to the program, students must have completed at least 60 undergraduate hours, including at least nine hours in English courses at the 300-level or above. At the time of admission, they must have an overall GPA of 3.00 or better, and a GPA of 3.30 or better in all English courses.
Admission Procedures

Interested students who meet the admission requirements should apply to the graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the graduate program director, students will:

1. Officially declare themselves an undergraduate English major with the English Department’s undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student’s undergraduate and graduate advising files.
3. Apply, during their senior year, to the Office of Admissions for admission to the M.A. in English program.

Once students have been awarded their B.A. degree and fulfilled all regular admission requirements for the M.A. in English, they will be officially admitted into the M.A. program.

Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a B.A. in English and an M.A. in English, with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses taken as an undergraduate for which they have earned a grade of B (3.0) or better toward both the B.A. and M.A. in English degrees.
2. Students in the program may substitute English graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
   A. Any 500-level course that is cross-listed with a 400-level course may be substituted for the 400 level course.
   B. Students may substitute 600-level courses for undergraduate courses according to the following list:
      ENGL 600 Intro Res & Crit for ENGL 333 Interp Lit Works
      ENGL 605 Film Theory for ENGL 425 Directors in Context
      ENGL 612 Renaissance Lit for ENGL 412 Renaissance in England
      ENGL 615 Shakespeare for ENGL 303 Shakespeare’s Hists & Comedies or ENGL 304 Tragedies & Poetry
      ENGL 632 18th Century Brit Lit for ENGL 421 Brit Lit 1660-1800 or ENGL 432 Origins of Brit Novel
      ENGL 641 19th Century Brit Lit for ENGL 432 Romantic Movement in Brit or ENGL 433 Victorian Lit
      ENGL 645 20th Century Brit Lit for ENGL 438 20th Century Brit Novel
      ENGL 647 Postcolonial Literature for ENGL 459 New Lits in English
      ENGL 655 Topics in World Lit for ENGL 361/363 World Masterpieces I & II, ENGL 393 World Novel, or ENGL 493 Contemporary World Novel
      ENGL 656 Am Lit to 1810 for ENGL 345 Am Lit to 1860
      ENGL 657 Am Lit 1810-70 for ENGL 447 Am Novel to 1910
      ENGL 658 Am Lit 1870-1945 for ENGL 346 Am Lit since 1860
      ENGL 659 Am Lit 1945-pers for ENGL 349 Contemp Am Novel
      ENGL 664 Teaching College Comp for ENGL 455 Teaching Comp 4-12
      ENGL 666 Writing in Cyberspace for ENGL 439W Electronic Writing

      ENGL 685 Writing Research for ENGL 427W Writing in the Disciplines
      ENGL 669 Mod Rhet for ENGL 325 Intro Rhet Studies or ENGL 427W Writing in the Disciplines
      ENGL 671 Lang & Communication Across Cultures for ENGL 371W Communication across Cultures
      ENGL 672 Syntax for ENGL 350 Aspects of English Language
      ENGL 691/692 Graduate Seminar for 400-level literature elective
      ENGL 695 Topics in English for 400-level literature elective or ENGL 495/496 Topics in English
      C. Students in the program may make a written petition for other substitutions to the graduate program director, who will consider them in consultation with the chief departmental advisor and the instructor(s) of the courses involved.

NOTES:

1. In accordance with University policy, up to 21 hours of graduate courses taken as an undergraduate may be counted toward the B.A. in English degree. However, only 12 hours of graduate courses taken as an undergraduate may also be counted toward the M.A. degree in English.
2. Like students in the regular M.A. in English program, students in the accelerated B.A./M.A. in English degree may count no more than 12 hours at the 500-level toward their M.A. degree. Students are strongly advised against taking all 12 of those 500-level hours as an undergraduate, since doing so will limit their scheduling flexibility subsequently.
3. Students in this program may earn a B.A. in English and M.A. in English degrees in different emphasis areas. However, in order to avoid taking a course or courses that fulfill requirements for one degree but not the other, students considering this possibility should consult carefully with the graduate program director. Students should consult the Graduate Catalog for information concerning the M.A. in English.

Accelerated Master of Arts—Applied Linguistics

By allowing exceptional students to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for such students to earn both a B.A. in English with an emphasis in linguistics and an M.A. in applied linguistics within five years.

Admission Requirements

To be admitted to the program, students must have completed at least 60 undergraduate hours, including at least nine hours in English linguistics courses at the 300 level or above. At the time of admission, they must have an overall GPA of 3.00 or better, and a GPA of 3.30 or better in all English linguistics courses.

Admission Procedures

Interested students who meet the admission requirements should apply to the graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the graduate program director, students will:

1. Officially declare themselves an undergraduate English major with an emphasis in linguistics to the English Department’s undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student’s undergraduate and graduate advising files.
3. Apply to the Office of Admissions for admission to the M.A. in applied linguistics program during their senior year.

Students who are admitted to the accelerated program for the semester after they make their application. Once students have been awarded their B.A. degrees and have fulfilled all regular admission requirements for the M.A. in applied linguistics, they will be officially admitted into the M.A. program.

Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a B.A. in English with a linguistics emphasis and an M.A. in applied linguistics, with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses taken as an undergraduate for which they have earned a grade of B (3.0) or better toward both the B.A. in English and M.A. in applied linguistics degrees.
2. Students in the program may substitute English linguistics graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
   A. Any 500-level course that is cross listed with a 400-level course may be substituted for the 400-level course.
   B. Students may substitute 600-level courses for undergraduate courses according to the following list:
      ENGL 672 Syntax for ENGL 350 Aspects of the English Language
      ENGL 677 Language & Communication Across Cultures for ENGL 371W Communication across Cultures
      ENGL 695 Topics for ENGL 495/496 Topics
      C. Students in the program may make a written petition for other substitutions to the graduate program director (GPD) for electives in fields such as Asian studies, education, or professional writing.

The GPD will consider substitutions in consultation with the chief departmental advisor and the instructor(s) of the courses involved.
involved. Students should consult the Graduate Catalog for requirements for the M.A. in Applied Linguistics.

FOREIGN LANGUAGES AND LITERATURES

http://al.odu.edu/lang/

Frederick A. Lubich, Chair and Chief Departmental Advisor for German
Stephen Foster, Chief Departmental Advisor for French
Martha Daas, Chief Departmental Advisor for Spanish
Betty Rose Facar, Director, Language Learning Center

A student presenting three or more units of high school credit in a foreign language must take the College Entrance Examination Board (CEEB) achievement test before continuing in the same language. A student who does not place beyond the first-year level, but who wishes to continue in the same language, will be required to follow the course sequence 121F, 201, 202 in Spanish and 102F, 201, 202 in the other foreign languages if the score on the CEEB test is between 390 and 499. A student scoring below 390 on the CEEB achievement test in French, German or Spanish will be required to follow the course sequence 101F, 102F, 201, and 202. A student scoring 400 or above will be placed at the appropriate level above 101F. Contact the Testing Center for additional information.

The General Education Foreign Language requirement as well as the foreign language proficiency requirement for the B.A. degree in the College of Arts and Letters may be exempted through acceptable scores in the CEEB Achievement Test in French, German or Spanish or departmentally administered examinations in other languages. Credit is granted for scores of 3, 4, and 5 on Advanced Placement (AP) language exams in French, German, Latin and Spanish and literature exams in French and Spanish. No more than nine credits will be awarded if both AP language and literature exams are submitted. Credit is also granted for scores of 4, 5, 6 and 7 on the A2 and B exams in French, German, Latin and Spanish if the score on the CEEB test is between 390 and 499. A student scoring below 390 on the CEEB achievement test in French, German or Spanish will be required to follow the course sequence 101F, 102F, 201, and 202. A student scoring 400 or above will be placed at the appropriate level above 101F. Contact the Testing Center for additional information.

Special emphasis at all levels of language instruction is placed on oral proficiency through dialogues, oral reports, class discussions and assignments in the foreign language laboratory.

Language Learning Center. The goal of the Language Learning Center is to serve the needs of faculty, students and the Hampton Roads community in promoting the study of foreign languages offered at Old Dominion University through the use of technology-enhanced methods and materials. The center has been an integral part of the Foreign Languages and Literatures Department since its inception in 1992. Serving over 1,200 students each semester from the Department of Foreign Languages and Literatures and the English Language Center, the center is committed to instructional technology for foreign language learning and quality instruction.

Bachelor of Arts-Foreign Languages and Literatures Major

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (Satisfied in the major by FR 311, GER 311, or SPAN 311)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Satisfied by the major)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (Satisfied by ECI 304 for teacher licensure students)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 NewPAGE*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History (requires HIST 102H and HIST 101H, 103H, 104H or 105H)</td>
<td>6</td>
</tr>
<tr>
<td>Literature (requires FLET 100L)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence.</td>
<td></td>
</tr>
<tr>
<td>Additionally, 3-4 credit hours of Natural Science or Technology are required.</td>
<td></td>
</tr>
<tr>
<td>Social Science (requires GEOG 100S and POLS 100S or COMM 2005 for teaching licensure students; GEOG 100S and one course selected from a different discipline for non-teaching students)</td>
<td>6</td>
</tr>
</tbody>
</table>

*Non-teaching students majoring in foreign languages and literatures may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course. Students pursuing a teaching track in foreign languages and literatures must substitute GEN 101 for the second or third natural science/technology perspective course.

Core Requirements

Option A: Another Foreign Language at any level, or 6
Option B: Area Studies. Consult the department for a list of approved courses each semester. 6

Transfer Credits

Students who have received an A.A., A.S. or A.A.A. and S. from a Virginia community college, Richard Bland College or an equivalent associate degree approved by the Office of Admissions have met all lower-division general education requirements. However, completion of ENGL 111C and either six hours of a second foreign language or six hours of area studies (which may include FLET 100L) are major requirements and are not automatically met by completion of an associate degree. Transfer students who have taken a different general education course in the same perspective area should consult with the chief departmental advisor to determine if substitutions are possible.

All majors must complete the Lower Division General Education requirements and the core requirements and select one of the following concentrations. A cumulative grade point average of 2.00 is required for the 30 hours in French, German, or Spanish. No more than two FR/GER/SPAN courses taught in English can be counted for the major. At least 12 hours in the concentration must be taken at Old Dominion University. A maximum of three credit hours from FR/GER/SPAN 311 or FR/GER/SPAN 312 may count toward a minor.

EMPHASIS AREAS

FRENCH

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR 311 or 320</td>
<td>Speaking and Listening/Contemporary France</td>
<td>3</td>
</tr>
<tr>
<td>FR 312W</td>
<td>Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>FR 331, 332 or 333</td>
<td>French Lit Forms-Prose, Theatre, or Poetry</td>
<td>3</td>
</tr>
<tr>
<td>FR 407</td>
<td>Advanced Grammar &amp; Syntax</td>
<td>3</td>
</tr>
<tr>
<td>FR 400-level electives6</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>FR 300- or 400-level elective</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GERMAN

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER 311</td>
<td>Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>GER 312W</td>
<td>Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>GER 321</td>
<td>German Civilization from Enlighten to WWI</td>
<td>3</td>
</tr>
<tr>
<td>GER 407</td>
<td>Stylistics and Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>GER 300- or 400-level electives6</td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

SPANISH

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 311</td>
<td>Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 312W</td>
<td>Reading and Writing</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 320</td>
<td>Spanish Civilization OR</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 321</td>
<td>Spanish American Civilization</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 331</td>
<td>Intro to Spanish Lit: Medieval to 1700 or</td>
<td></td>
</tr>
<tr>
<td>SPAN 332</td>
<td>Intro to Spanish Lit: 1700 to Present or</td>
<td></td>
</tr>
<tr>
<td>SPAN 333</td>
<td>Survey of Early Latin American Lit or</td>
<td></td>
</tr>
<tr>
<td>SPAN 334</td>
<td>Survey of Modern Latin American Lit</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 407</td>
<td>Advanced Grammar &amp; Syntax</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 400-level electives6</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>SPAN 300- or 400-level elective</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a cumulative minimum grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Arts with Licensure in Pre-K Through Grade 12

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in French, German, or Spanish, the professional education core and overall, with no grade less than a C in the content area and C- in the professional education core, and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I or exam prior to, or during, enrollment in ECI 301. The Department of Foreign Languages and Literatures strongly encourages all students preparing for teaching to participate in a structured learning experience in a country where the language is spoken. The COLLEGE OF ARTS AND LETTERS 81
professional education core with no grade lower than a C in the professional education core and completion of a minimum of 120 credit hours. Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

Students holding a baccalaureate degree in French, German, or Spanish (or its accepted equivalent) may enroll in the program leading to licensure. Students seeking licensure must see an advisor before enrolling. A maximum of nine hours in the language, to be selected with the help of the major advisor, may also be required.

Students seeking licensure in pre-K through grade 12 complete the lower-division General Education requirements listed under the Bachelor of Arts–Foreign Languages and Literatures major.

### Concentration in French with Licensure in Pre-K through Grade 12

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR 311 Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>FR 312W Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>FR 320 or 420 Contemporary France/Francophone Civ</td>
<td>3</td>
</tr>
<tr>
<td>FR 407 Advanced Grammar and Syntax</td>
<td>3</td>
</tr>
<tr>
<td>FR 300/400-level electives (at least three credits must be in literature at the 400 level)</td>
<td>18</td>
</tr>
</tbody>
</table>

**Professional Education sequence:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL 452 Methods for Teaching FL in Pre-K through Grade 12</td>
<td>3</td>
</tr>
<tr>
<td>FL 456 Field Practicum in Foreign Language</td>
<td>1</td>
</tr>
<tr>
<td>ECI 301 Social Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 304 Educational Applications of Computers (satisfies computer skills requirement)</td>
<td>3</td>
</tr>
<tr>
<td>ECI 360 Classroom Management and Discipline</td>
<td>2</td>
</tr>
<tr>
<td>ECI 408 Reading and Writing in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ECI 485 Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>ESSE 406 Special Needs Children-General Ed</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413 Fundamentals-Human Growth and Development</td>
<td>3</td>
</tr>
</tbody>
</table>

### Concentration in German with Licensure in Pre-K through Grade 12

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER 311 Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>GER 312W Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>GER 321 German Civilizations from Enlightenment to WWI</td>
<td>3</td>
</tr>
<tr>
<td>GER 407 Stylistics and Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>GER 300/400-level electives (at least six credits must be on the 400 level and one in literature)</td>
<td>18</td>
</tr>
</tbody>
</table>

**Professional Education sequence:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 301, 304, 360, 408, 485, ESSE 406, 413, FL 452, 456</td>
<td></td>
</tr>
</tbody>
</table>

## Concentration in Spanish with Licensure in Pre-K Through Grade 12

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 311 Speaking and Listening</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 312W Writing and Reading</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 320 Spanish Civilizations OR</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 331 Intro to Spanish Lit: Medieval to 1700</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 332 Intro to Spanish Lit: 1700 to Present</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 333 Survey of Early Latin American Lit or</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 334 Survey of Modern Latin American Lit</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 407 Advanced Grammar and Syntax</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 410 or 415 Intro to Spanish Linguistics/ Spanish Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 400-level electives</td>
<td>6</td>
</tr>
</tbody>
</table>

**Professional Education sequence:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 301, 304, 360, 408, 485, ESSE 406, 413, FL 452, 456</td>
<td></td>
</tr>
</tbody>
</table>

## UPPER DIVISION GENERAL EDUCATION

Satisfied by the professional education core.

### Foreign Languages and Literatures Minors

The department offers minors in foreign languages and literatures with a concentration in French, German, and Spanish. Students must complete 15 hours of 300/400-level courses in the language and earn a cumulative grade point average of 2.0 in these upper-division courses. Lower-level courses and prerequisite courses do not count toward the grade point average required for the minor. Only one FR/GER/SPAN course taught in English may be applied toward the minor. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Contact the department for a list of recommended courses.

For information on minors in European Studies, Japanese Studies, and Latin American Studies, see the beginning of the College of Arts and Letters section of this Catalog.

### HISTORY

Annette Finley-Croswhite, Chair

#### Bachelor of Arts–History Major

James R. Sweeney, Chief Departmental Advisor

The Department of History offers a Bachelor of Arts degree that prepares students broadly for modern careers in business, government, and teaching, or for graduate study in history, law, library science, business, or education. The major requires 36 hours of course work. At least 12 hours of History at the 300 and 400 levels must be taken in residence at Old Dominion University. The Department’s academic offerings reflect the diversity of the faculty, and students are encouraged to sample broadly the course offerings.

The requirements are as follows:

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 level; proficiency is not met by completion of an associate degree.)</td>
<td>0-12</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
</tbody>
</table>

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required. (Technology requirement may be satisfied in the major by HIST 304T or 389T)

Social Science | 6       |

*Students majoring in history may substitute GEN 101 for either one social science course or the second or third natural science/technology perspective course.
MAJOR REQUIREMENTS
HIST 100-level elective (chosen from HIST 101H, 102H, 103H, 104H, 105H and different from those selected for general education) 3
HIST 201 Introduction to Historical Methods 3
HIST 402W Senior Seminar in History 3
HIST 400-level history electives (2) in addition to 402W 6
HIST 300-400 Elective (American) 3
HIST 300-400 Elective (European) 3
HIST 300-400 Elective (African or Asian or Latin American or Middle Eastern or Russian) 3
HIST 300-400 Elective 6

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Arts–History Major with a License in History/Social Sciences

The Colleges of Arts and Letters and of Education cooperate in providing a Bachelor of Arts degree that licenses its recipient to teach on the secondary level in the Commonwealth of Virginia. Most other states honor this license. Students must achieve passing scores on the PRAXIS I exam or State Board of Education-approved SAT or ACT scores as a prerequisite for entry into the professional education core. They must also pass the Praxis II exam in order to be admitted to ECI 485 (Student Teaching) and to be licensed. For information on these standardized tests, students should consult with their education advisor. To gain admission to this program, students must have an overall grade point average of 2.75 and maintain this average to graduate. Students must also have and maintain a grade point average of 2.75 in the major and in the professional education core.

Entering students must declare their intention to take their degree in History and Social Sciences in the History Department, whereupon they will be assigned an advisor. Another advisor will be assigned in the College of Education. It is the responsibility of the student to see both advisors regularly.

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Passing Praxis I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies.

Continuance. Students must maintain an overall grade point average of 2.75 in the academic major, the professional education core and overall and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to student teach and obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website or in the Office of Teacher Education Services and Advising, Education Building 152. The PRAXIS II Social Studies Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the content courses required for licensure, and in the professional education core with no grade less than a C- in the major, content courses required for licensure, and professional education core; and completion of a minimum of 126 credit hours.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

The requirements are as follows:

LOWER DIVISION GENERAL EDUCATION

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication 3
Mathematics 3
Foreign Language (Proficiency through 202 level; proficiency is not met by completion of an associate degree.) 0-12
Computer Skills (Satisfied by ECI 304) 3
Foundation to Perspectives – GEN 101 New PAGE* 3
Fine and Performing Arts 3
History (HIST 102H and 104H required to satisfy general education) 6
Literature 3
Philosophy (PHIL 120P recommended) 3
Natural Science and Technology (OES 110N-112N or 111N-112N recommended. Students who take other science courses will be expected to take GEOG 101S in addition. Technology requirement must be satisfied in the major by HIST 304T, 386K, 389T, or POLS 350T) 11-12
Social Science (One or two courses in Economics. ECON 200S if one course is elected; ECON 201S and 202S if two courses are selected. ECON 208S may not be taken if two Economics courses are offered to fulfill the social science requirement. SOC 201S or ANTR 110S must be taken if one economics course is selected.) 6
*Students pursuing a teaching track in the history major must substitute GEN 101 for the second or third natural science/technology perspective course.

MAJOR REQUIREMENTS
HIST 101H, 103H, or 105H 3
HIST 102H Europe in a World Setting (satisfies general education) 3
HIST 104H U.S. in a World Setting (satisfies general education) 3
HIST 201 Introduction to Historical Methods 3
HIST 402W Senior Seminar in History 3
HIST 400-level history electives (2) in addition to 402W 6
HIST 300-400 Elective (American) (HIST 356 recommended) 3
HIST 300-400 Elective (European) 3
HIST 300-400 Elective (African or Asian or Latin American or Middle Eastern or Russian) 3

Professional Education Core:
ECI 301 Social Cultural Foundations of Education 3
ECI 304 Educational Applications of Computers (satisfies computer skills requirement) 3
ECI 360 Classroom Management and Discipline 2
ECI 408 Reading and Writing in Content Areas 3
ECI 455 Developing Instructional Strategies: Social Studies 4
ECI 485 Student Teaching 12
ESSE 406 Special Needs Children-Gener Ed 3
ESSE 413 Fundamentals-Human Growth and Development 3

History and Social Sciences License Requirements:
Geography courses: GEOG 100S, 300, and 305 or 320.

UPPER DIVISION GENERAL EDUCATION

Students in the secondary education licensure program satisfy the Upper Division General Education requirement through their professional education courses.

Minor in History

The history minor consists of a minimum of 18 semester hours, of which at least 12 must be at the 300 level or above. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University.

For completion of a minor a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses.

Advanced Placement

Students may earn advanced placement credit for HIST 102H or 104H with a qualifying score on the American or European History Advanced Placement of the College Board exam or from a qualifying score on the CLEP exam and

COLLEGE OF ARTS AND LETTERS 83
Accelerated Bachelor of Arts and Master of Arts—History

Students with exceptional academic skills can enter this program and count up to 12 credit hours of graduate history courses toward both an undergraduate and graduate degree, making it possible to earn both a B.A. and M.A. in history within five years.

Admission Requirements

To be admitted to the program, students must be a declared major in history, have completed a minimum of 60 undergraduate credit hours, including at least nine hours in history courses at the 300-level or above, and have a GPA of 3.30 or better overall and in history.

Admission Procedures

Students who meet the admission requirements should consult with the program director no later than the spring or summer prior to their senior year to plan graduate courses to be taken as an undergraduate. During their senior year, students must file an application to the M.A. program in history with the Office of Admissions. This application includes an Old Dominion University graduate application, a 500-word personal statement, two letters of recommendation, and Graduate Record Examination scores. Graduate admission deadlines apply.

Once students have been awarded their B.A. degree and fulfilled all regular admission requirements for the M.A. in history, they will be officially admitted into the M.A. program.

Requirements for the Accelerated B.A./M.A. Program

Students in the program will fulfill all regular admission and curricular requirements for both the B.A. and M.A. in history, with the following exceptions:

1. Upon completing 90 hours of undergraduate work and attaining senior status, admitted students may take up to 12 hours of graduate courses as an undergraduate, provided that those courses fulfill curricular requirements for both the B.A. and M.A. degrees in history.
2. Students will need to complete the following major requirements for the B.A.:
   - Nine credits of survey level course work from HIST 101H, 102H, 103H, 104H, or 105H
   - Three credits HIST 201 Introduction to Historical Methods
   - Three credits HIST 402W Seminar in History and Theory
   - Six credits HIST 400-level history electives (2) in addition to 402W
   - Three credits HIST 300-400 Elective (American)
   - Three credits HIST 300-400 Elective (European)
   - Three credits HIST 300-400 Elective (African or Asian or Latin American or Middle Eastern or Russian)
   - Six credits HIST 300-400 Elective

Up to 12 credits of graduate-level course work taken as an undergraduate during the senior year can substitute for 300- and 400-level requirements above and will be counted toward the B.A. degree in history. The following guidelines apply:

a. Any 500-level course that is cross listed with a 400-level course may be substituted for the 400-level course; however, the student cannot take a 500-level course which has already been taken at the 400 level. Only nine credits of 500-level course work will count toward the M.A. degree.

b. The following courses can be taken to fulfill the 300-400 level American elective requirement: HIST 602, 604, 608, 612, 616, 618.

c. The following courses can be taken to fulfill the 300-400 level European elective requirement: HIST 633, 650, 652, 654, 656, 658, 660 (European topics).

d. The following courses can be taken to fulfill the 300-400 level elective requirement in African, Asian, Latin American, Middle Eastern, or Russian history: HIST 640, 645, 658 and 660 (Russian or Soviet History).

3. All graduate courses taken as an undergraduate that are completed with a grade of B (3.0) or better will also count toward the 30-credit M.A. degree in history.

Students should consult the Graduate Catalog for information and requirements for the M.A. in history.

HUMANITIES

Dana A. Heller, Director, Institute of Humanities; 757 683-3821
http://al.odu.edu/hum/

Accelerated Master of Arts in Humanities—Communication, Individualized Interdisciplinary Studies, or Women’s Studies

By allowing exceptional majors in communication, individualized interdisciplinary studies, or women’s studies to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for students with a demonstrated record of academic excellence to earn both a B.A. or B.S. in their discipline (communication, individualized interdisciplinary studies, or women’s studies) and an M.A. in humanities in five years.

Admission Requirements

To be admitted to the program, students must declare a major in communication, individualized interdisciplinary studies, or women’s studies, with a demonstrated record of academic excellence to earn both a B.A. or B.S. and complete a minimum of at least 60 undergraduate credit hours, including at least six hours of 300/400 level courses in the major. At the time of admission to the accelerated program, students must have an overall undergraduate GPA of 3.0 or better.

Admission Procedure

Interested students who meet the admission requirements should apply to the humanities graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the chair or director of their department and the humanities graduate program director, students will:

1. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student’s undergraduate and graduate advising files.
2. Submit a graduate application, a 500-word personal statement, a sample critical/analytical essay or research paper, two letters of recommendation, and GRE scores to the Office of Admissions during their senior year.

Students will be officially admitted into the M.A. in humanities program once they have been awarded their bachelor’s degree and have fulfilled all regular admission requirements for the M.A. in humanities. (Please refer to the appropriate section of this catalog for information on the requirements for the bachelor’s degree in communication, individualized interdisciplinary studies, or women’s studies.)

Bridge Courses

Students admitted to the accelerated program may count up to 12 hours of bridge courses (graduate courses taken as an undergraduate) for which they have earned a grade of B (3.0) or better toward both the specific B.A. or B.S. and the M.A. in humanities. These courses may be 500 or 600 level courses within or cross-listed with the discipline, or approved graduate courses. Any 500-level course that is cross listed with a 400-level course may be substituted for the 400-level course. However, all students must complete an undergraduate writing intensive course in the major. Students who complete less than 12 bridge course credits may fulfill humanities program requirements by taking courses during summer sessions and/or an additional semester; however, all students are required to fulfill a minimum of six bridge course credits in order to be eligible to continue in the accelerated program.

The M.A. in Humanities

Students in the accelerated program will fulfill all normal admission and curricular requirements for both a B.A. or B.S. in their discipline and an M.A. in humanities, with the following exceptions, conditions, and requirements.

1) In the initial weeks of the first semester of study in the humanities M.A. program, students in the accelerated program in communication or individualized interdisciplinary studies, in consultation with the humanities graduate program director and/or faculty, will designate a graduate concentration area and assemble an interdisciplinary
curriculum based on the area of concentration. This will take the form of a written proposal to be approved by the Humanities Advisory Committee. Students will be advised in their selection of appropriate courses by both the humanities graduate program director and faculty.

2) In addition, all students, regardless of their concentration, are required to take:

HUM 601: The Subject of the Humanities: Introduction to Research, Methodology, and Theory
HUM 602: The Humanities on Trial: Postmodernity, Technology, Globalization
HUM 694: Interdisciplinarity and the Humanities
HUM 694, the capstone seminar for accelerated humanities M.A. students, will be taken in the final semester of study before the completion of the M.A. degree. Students will be required to complete a substantive research project which is scholarly in nature, reflecting the student’s training in the discipline and the humanities.

3) No more than 12 hours of graduate credit at the 500-level may be applied to the M.A. in humanities.

4) Students will not be permitted to take any 500-level course that they have already taken at the undergraduate 400 level.

5) Communication students must take at least two 600-level graduate courses offered by the Department of Communication and Theatre Arts. Courses taken through departments other than Humanities and Communication and Theatre Arts must correspond to the student’s declared concentration area. No more than six credit hours may be concentrated in any one department other than Humanities or Communication and Theatre Arts.

6) Women’s studies students will be required to take graduate-level courses that focus on women and/or gender in relation to various aspects of culture and the humanities. Students may elect graduate courses in women’s studies, as well as courses that are cross-listed with women’s studies, from any designated humanities or social science department, such as history, linguistics, literature, sociology, psychology, international studies, etc., or courses approved by the director of women’s studies. However, no more than six credit hours may be concentrated in any one discipline other than humanities and women’s studies.

7) There is no thesis option for students in the accelerated M.A. in humanities program. Students who wish to write a thesis may elect at any time to change to the standard 33 credit, thesis-track, humanities program.

8) Upon completion of 30 graduate credits, students will be awarded the M.A. in humanities. Communication or women’s studies students will be awarded the M.A. in humanities with a concentration in communication or women’s studies.

9) For additional information on the M.A. in humanities, please refer to the Graduate Catalog.

INTERDISCIPLINARY STUDIES

Elizabeth Esinhart, Acting Director of Interdisciplinary Studies Teacher Preparation
Tammera Nielsen, Assistant Director and Chief Departmental Advisor for Interdisciplinary Studies Teacher Preparation
Lucien X. Lombardo, Coordinator of Integrative Individualized Studies, Advisor for Zoological Parks Management, Advisor for Music Business/Production and Advisor for Work and Professional Studies

The Department of Interdisciplinary Studies coordinates the administration and delivery of four degree programs: the Bachelor of Science in interdisciplinary studies-teacher preparation concentration; the Bachelor of Arts, and Bachelor of Science degrees in interdisciplinary studies-individualized programs; and the Bachelor of Science in interdisciplinary studies-music business/production, work and professional studies or zoological parks management.

Bachelor of Science Degree — Interdisciplinary Studies Major — Teacher Preparation Concentration

This interdisciplinary degree draws courses from four colleges within the University to prepare students interested in teaching elementary school to complete content competency requirements for teacher licensure in the Commonwealth of Virginia. In cooperation with the Darden College of Education, students earn full licensure to teach elementary school with the completion of both the B.S. degree in interdisciplinary studies and the Master of Science in Education.

Course work in the baccalaureate degree spans the disciplines of English literature, composition, and linguistics; mathematics and statistics; natural sciences including biology, chemistry, physics, and geology; social sciences including economics, geography, history, political science, and psychology; and/or human growth and development; and educational foundations, technology, and methods. The broad curriculum, along with admittance and continuance requirements described below, prepares teacher candidates to meet state licensure standards, including passing scores on the Praxis II specialty exams, Virginia Reading Assessment (VRA), and Virginia Communication and Literacy Assessment (VCLA) for the Commonwealth of Virginia, and to meet grade-specific licensure requirements to the Darden College of Education.

Teacher candidates can choose from the following undergraduate emphasis tracks for entry into the graduate program of their choice, in which licensure is completed:

- Elementary Education, Special Education Emphasis
- Early Childhood (PK-3) Emphasis
- Elementary Education (PK-6) Emphasis

Each emphasis track is described below, and additional information is posted on the Education website: http://ed.fsu.edu/education for possible majors.

Admission. To declare the major, students must have a 2.80 cumulative grade point average (GPA) and grades of C or above in English 110C and English 111C. Students who are ineligible to declare the major will be advised as prospective majors.

Continuance. Teacher candidates must maintain a grade point average of 2.80 in all general education, major content, and professional education coursework and earn a grade no less than C in any course in the general education area, major content area, and professional education courses. Teacher candidates whose cumulative GPAs fall below 2.80 for two consecutive semesters will be considered probationary. Probationary teacher candidates must complete an advising agreement and retake courses (grade forgiveness may apply) to continue in the program. Teacher candidates whose cumulative GPA fall below 2.80 for more than two semesters will be unenrolled, advised as prospective majors, and encouraged to consider other academic and professional goals. In addition, Praxis I or approved SAT or ACT scores and admittance to Teacher Education Services in the Darden College of Education are prerequisites for the undergraduate practicum courses (ESSE 369, ESSE 403 and ECI 436); therefore, passing Praxis I scores or State Board of Education-approved SAT or ACT scores and admittance to Teacher Education Services are also continuance requirements. All teacher candidates in the major must consult with an academic advisor every semester to review their progress. All declared interdisciplinary studies-teacher preparation majors are required to submit passing PRAXIS I scores or State Board of Education-approved SAT or ACT scores to the University Office of Teacher Education Services and Advising by the completion of their 60th credit hour in the program; transfer students with 60 or more credit hours must submit passing PRAXIS I scores or approved SAT or ACT scores by the end of their second semester enrolled as a declared major in the program.

Graduation. Students must complete all program requirements and earn a grade of no less than C in every general education course, major content course, and professional education course, and a cumulative grade point average of 2.80, to graduate. In addition, students must pass the Exit Examination of Writing Proficiency and complete the Senior Assessment Exam and the Departmental Senior Exit Survey.

Admission to the graduate programs in education requires a cumulative grade point average of 2.80 and completion of the graduate school application, which includes the GRE or MAT. Teacher candidates with a cumulative GPA of 3.2 and passing scores on all three sections of PRAXIS I will be eligible for Fast-Track admission to the graduate programs in education without taking the GRE or MAT. Candidates earn full licensure to teach in the chosen emphasis area upon completion of the master’s degree in the Darden College of Education; in addition, all teacher candidates must obtain passing scores on the appropriate Praxis II specialty area, VRA, and VCLA tests. Test results will be submitted to the director of the Office of Teacher Education Services, who will forward all licensure credentials to the Virginia Department of Education (VDOE). Please see the College of Education section of this Catalog or the website for more information.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.
Program requirements are listed below.

**Early Childhood (PK-3) Emphasis***

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 110C</td>
<td>3</td>
</tr>
<tr>
<td>English 111C</td>
<td>3</td>
</tr>
<tr>
<td>English 112L, 144L or FLET 100L</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Communication 101R, 103R, or 112R</td>
<td>3</td>
</tr>
<tr>
<td>Computer Skills - met by ECI 304 (see prerequisites)</td>
<td>0-3</td>
</tr>
<tr>
<td>Fine &amp; Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History 104H (United States)</td>
<td>3</td>
</tr>
<tr>
<td>History 102H, 105H, 101H, or 103H</td>
<td>3</td>
</tr>
<tr>
<td>Economics 200S, 201S, or 202S</td>
<td>3</td>
</tr>
<tr>
<td>Geography 100S or 101S</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy Requirement - met by GEN 101 New PAGE; PHIL 150P recommended if GEN 101 not offered</td>
<td>3</td>
</tr>
<tr>
<td>Math 102M or 162M</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong> 41-50</td>
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</tbody>
</table>

**Major Content Requirements**

<table>
<thead>
<tr>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>English 327W</td>
</tr>
<tr>
<td>English 350, 370, 477 or 444</td>
</tr>
<tr>
<td>History 356</td>
</tr>
<tr>
<td>World History - third general education course (102H, 101H, 105H, or 103H)</td>
</tr>
<tr>
<td>Psychology 201S, ANTR 110S or SOC 201S</td>
</tr>
<tr>
<td>Political Science 101S or 102</td>
</tr>
<tr>
<td>Political Science 331 or 311</td>
</tr>
<tr>
<td>Geography 250, 310, 350, 412, 455, 458, or POLS 414</td>
</tr>
<tr>
<td>Math 335</td>
</tr>
<tr>
<td>Math 302</td>
</tr>
<tr>
<td>Statistics 130M or 306</td>
</tr>
<tr>
<td>Ocean, Earth and Atmospheric Sciences 210 or 402</td>
</tr>
<tr>
<td>Physics 101N or 111N or CHEM 101N or 115N</td>
</tr>
<tr>
<td>PE 327 or HE 230 and 2 PE activity credits</td>
</tr>
<tr>
<td>Music 308 or Arts 305</td>
</tr>
<tr>
<td>One 300/400-level content area elective - See website or department for list</td>
</tr>
<tr>
<td><strong>Total</strong> 51-52</td>
</tr>
</tbody>
</table>

**Profession Education (meets upper-division general education)**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 301</td>
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<tr>
<td>ECI 304</td>
</tr>
<tr>
<td>ESSE 369</td>
</tr>
<tr>
<td>ESSE 468</td>
</tr>
<tr>
<td>ESSE 400</td>
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<tr>
<td>ESSE 413</td>
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<tr>
<td>ESSE 474</td>
</tr>
<tr>
<td>ESSE 478</td>
</tr>
<tr>
<td><strong>Total</strong> 24</td>
</tr>
</tbody>
</table>

**Total Degree Credits:** 116-126 credit hours***

* This undergraduate program prepares students to matriculate into the graduate program in early childhood education; students should consult the director of this graduate program for additional information.
** Departmental requirements not necessarily met by the associate degree; a minimum grade of C required in each.
*** Note: All students must earn a minimum of 120 credit hours for the baccalaureate degree.

**Elementary Education, Special Education Emphasis**

<table>
<thead>
<tr>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>English 110C</td>
</tr>
<tr>
<td>English 111C</td>
</tr>
<tr>
<td>English 112L, 144L, or FLET 100L</td>
</tr>
<tr>
<td>Foreign Language</td>
</tr>
<tr>
<td><strong>Total</strong> 3</td>
</tr>
</tbody>
</table>

**Communication 101R, 103R, or 112R | 3 |**
| Computer Skills - met by ECI 304 (see prerequisites) | 0-3 |
| Fine & Performing Arts | 3 |
| History 104H (United States) | 3 |
| History 102H, 105H, 101H, or 103H | 3 |
| Economics 200S, 201S, or 202S | 3 |
| Geography 100S or 101S | 3 |
| Philosophy Requirement - met by GEN 101 New PAGE; PHIL 150P preferred if GEN 101 not offered | 3 |

**Total Degree Credits:** 120-130 credit hours***

* This undergraduate program prepares students to matriculate into the graduate program in early childhood education, the graduate program in special education and the graduate program in elementary education; students should consult an advisor about choosing one of these tracks.
** Departmental requirements not necessarily met by the associate degree; a minimum grade of C required in each.
*** Note: All students must earn a minimum of 120 credit hours for the baccalaureate degree.

**Elementary Education, Special Education Emphasis**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
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<td>English 110C</td>
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<tr>
<td>English 111C</td>
</tr>
<tr>
<td>English 112L, 144L, or FLET 100L</td>
</tr>
<tr>
<td>Foreign Language</td>
</tr>
</tbody>
</table>
| **Communication 101R, 103R, or 112R | 3 |**
| Computer Skills - met by ECI 304 (see prerequisites) | 0-3 |
| Fine & Performing Arts | 3 |
| History 104H (United States) | 3 |
| History 102H, 105H, 101H, or 103H | 3 |
| Economics 200S, 201S, or 202S | 3 |
| Geography 100S or 101S | 3 |
| Philosophy Requirement - met by GEN 101 New PAGE; PHIL 150P preferred if GEN 101 not offered | 3 |

**Total Degree Credits:** 120-130 credit hours***

* This undergraduate program prepares students to matriculate into the graduate program in early childhood education, the graduate program in special education and the graduate program in elementary education; students should consult an advisor about choosing one of these tracks.
** Departmental requirements not necessarily met by the associate degree; a minimum grade of C required in each.
*** Note: All students must earn a minimum of 120 credit hours for the baccalaureate degree.
**Math 102M or 162M** 3
**Biology 108N-109N or 115N-116N** 8
**TOTAL** 41-50

**Content Requirements**

- **English 327W** 3
- **English 350, 370, 477 or 444** 3
- **English 336, 463, or 465** 3

- **History 356** 3
- **History 345, 346, 348, 350, 351 or 361** 3
- **History 355, 362, or 363** 3
- **Political Science 101S or 102** 3
- **Political Science 331 or 311** 3
- **Geography 350, 250, 310, 451, 455, 458, or 412 or POLS 414** 3

- **Math 335** 3
- **Math 302** 3
- **Statistics 130M or 306** 3

- **Ocean, Earth and Atmospheric Sciences 210 or 402** 3-4
- **Physics 101N or 111N or CHEM 101N or 115N** 4
- **PE 327 or HE 230 and 1 PE activity credit** 4
- **MUSC 308 or ARTS 305** 3

**TOTAL** 50-51

**Professional Education** (meets upper-division general education)

- **ECI 304** Educational Applications of Technology (meets computer skills requirement) 3
- **ESSE 400** Foundations of Special Education 3
- **ESSE 402** Instructional Design I 3
- **ESSE 403** Field Experience (Practicum) 3
- **ESSE 411** Behavior Management 3
- **ESSE 413** Fundamentals-Human Growth & Development 3
- **ESSE 415** Instructional Design II 3
- **ESSE 417** Collaborations and Transitions 3
- **ESSE 468** Language Acquisition 3

**TOTAL** 27

**TOTAL DEGREE CREDITS:** 118-128 credit hours***

* This undergraduate program prepares students to matriculate into the graduate program in special education; students should consult the director of the graduate program for more information.

** Departmental requirements not necessarily met by the associate degree; a minimum grade of C required in each.

***NOTE: ALL STUDENTS MUST EARN A MINIMUM OF 120 CREDIT HOURS FOR THE BACCALAUREATE DEGREE.

### Bachelor of Arts and Bachelor of Science—
Interdisciplinary Studies (IDS) Major, Individualized Integrative Studies (IIS)

Individualized interdisciplinary studies at Old Dominion University is a flexible degree program which seeks to serve the needs of students whose goals cannot be met within existing departmental curricula. Through interdisciplinary studies, students are able to combine courses from three or more disciplines into an individualized degree. The flexibility of the program makes possible the pursuit of a wide variety of interests in areas such as medieval and renaissance studies, advertising, legal studies, ecological studies, public relations, management of technical services, photo journalism, and health care administration.

Students who decide to design their own degrees must have departmental approval and faculty sponsorship. The degree awarded is a Bachelor of Science or Bachelor of Arts with a major in interdisciplinary studies in the student’s area of interest.

### Requirements

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Requirements**

- **Foreign Language (Proficiency through 202 required for BA and not met by associate degree)** 6-12
- **Computer Skills** 3
- **Foundation to Perspectives – GEN 101 New PAGE** 3
- **Fine and Performing Arts** 3
- **History** 6
- **Literature** 3
- **Philosophy** 3
- **Natural Science and Technology** 11-12

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.

**Social Science** 6

*Students in the IDS major individualized integrative studies concentration may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

**Individualized Program Core Requirements**

- **IDS 300W Interdisciplinary Theory and Concepts** 3
- **IDS Integration Project** 3

*For the Integration Project, one of the following is required:

A. IDS 368 Interdisciplinary Studies Internship
B. IDS 495 IDS Individualized Senior Project
C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 and 497.

### Concentration

All individualized program students must design a concentration which includes a minimum of 42 credit hours. This includes courses from three or more disciplines that the student integrates into a single program, subject to departmental approval. At least 30 hours must be upper level. No more than two-thirds of the major area may be in one discipline.

All IDS individualized program students must prepare and submit a proposal to the Interdisciplinary Studies Committee for approval. The purpose of the proposal is to outline the courses and other learning experiences which will lead to the fulfillment of the proposed course of study. The proposal must include at least 30 hours of course work from three or more disciplines to be taken after the student’s acceptance into the program. Students must also identify two faculty sponsors who will provide guidance as they develop their proposals and progress through the program. Acceptance decisions are made by the director of Interdisciplinary Studies, the Interdisciplinary Studies Committee, and faculty sponsors. For more information see [http://web.odu.edu/al/iis/](http://web.odu.edu/al/iis/).

*Students must receive a grade of C- or better in all courses taken within the concentration area.

### Electives

Elective courses may be taken for the remainder of the minimum 120 credits required for the degree.

### UPPER DIVISION GENERAL EDUCATION

- **Option A.** Approved Minor, 12-24 hours; also second degree or second major.
- **Option B.** Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Bachelor of Science Degree—Interdisciplinary Studies Major—Music Business/Production Concentration**

Students pursuing the music business/production concentration may pursue tracks in music business, music production or music business/production. All tracks have a common core of classes in Interdisciplinary Studies (IDS), Music and Business and require 56 credit hours. Specific requirements for each track are listed below.

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 202 required for BA and not met by associate degree)**</td>
<td>6-12</td>
</tr>
</tbody>
</table>
Computer Skills 3
Foundation to Perspectives – GEN 101 New PAGE* 3
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.

Social Science 6

*Students in the IDS major music business/production concentration may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Interdisciplinary Studies Core (6 credits)
IDS 300W Interdisciplinary Theory and Concepts 3
IDS Integration Project* 3

*For the Integration Project, one of the following is required

A. IDS 368 Interdisciplinary Studies Internship
B. IDS 497 IDS Individualized Senior Project
C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 and 497.

Music Core (26 credits – required of all tracks)
MUSC 221 Music Theory 3
MUSC 222 Music Theory 3
MUSC 101 Beginning Piano 1
MUSC 261 Music Literature Survey 1
MUSC 262 Music Literature Survey 1
MUSC 335T Recording / Electronic Music 2
MUSC 336 Recording / Electronic Music 3
MUSC 223 Ear Training, Sight Singing, Dictation 1
MUSC 224 Ear Training, Sight Singing, Dictation 1
MUSC 361 History of Music 3
MUSC 362 History of Music 3
MUSC 321 Advanced Theory 2
MUSC 322 Advanced Theory 2

Business Core (12 Credits – required of all tracks)
ACCT 201 Principles of Accounting 3
MGMT 325 Contemporary Organizations and Management 3
ECON 202S Principles of Microeconomics 3
FIN 332 Introduction to Financial Management 3

Additional Courses (12 credits required; number of credits selected in each area below depends on the track)

Business Electives (6 hours required for the music business track and the music business/production track)
MUSC 407 Business of Music (Hampton University) 3
MUSC 408 Business of Music (Hampton University) 3
MGMT 350 Employee Relations Problems 3
And Practices 3
MGMT 340 Human Resources Management 3
MGMT 426 Entrepreneurship: New Ventures Creation 3
MKTG 402 Consumer Behavior 3
MKTG 403 Advertising Strategy 3
MKTG 404 Sales Development 3

Communication Electives (6 hours required for the music business track)
COMM 340 Mass Media and Popular Culture 3
COMM 360 Understanding Mass Communications 3
COMM 364 Radio 3
COMM 427T New Media Technologies 3
COMM 473 Television and Society 3

Music Engineering Technology (MET)
Courses to be taken at Hampton University or at Old Dominion University as available (12 hours required for the music production track and 6 hours required for the music business/production track)

MET 325 Audio Engineering I 2
MET 326 Audio Engineering II 2
MET 425 Advanced Audio Recording Technology I 2
MET 426 Advanced Audio Recording Technology II 2
MET 427 Recording Workshop I 2
MET 428 Recording Workshop II 2

Requirements for graduation include a minimum cumulative grade point average of 2.0 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and Completion of the Senior Assessment.

Bachelor of Science Degree–Interdisciplinary Studies Major–Zoological Parks Management Concentration

The 120-credit-hour zoological parks management concentration is comprised of the University general education requirements, interdisciplinary studies core courses and concentration requirements. All courses taken in the major must be fulfilled with a grade of C- or better. Students admitted to the IDS program have a variety of credit options including portfolio review, CLEP, advanced placement, DANTES and forms of awarding credit based on test performance. The outline of courses below specifies zoological parks management education, core requirements and concentration requirements.

LOWER DIVISION GENERAL EDUCATION

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
 Oral Communication 3
 Mathematics (MATH 102M or 162M required) 3
 Foreign Language 0-6
 Computer Skills 3
 Foundation to Perspectives – GEN 101 New PAGE* 3
 Fine and Performing Arts 3
 History 6
 Literature 3
 Philosophy 3
 Social Science and Technology 11-12
 BiOL 115N-116N required to satisfy eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.
 Social Science (ECON 200S required as one of the social sciences) 6

*Students in the IDS major zoological parks management concentration may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Interdisciplinary Studies Core (6 credits)
IDS 300W Interdisciplinary Theory and Concepts 3
IDS Integration Project* 3

*For the Integration Project, one of the following is required

A. IDS 368 Interdisciplinary Studies Internship
B. IDS 497 IDS Individualized Senior Project
C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 and 497.

Concentration electives
A minimum of 15 credits from the following (students must take appropriate prerequisites):
Three hours from BIOL 303, 404, 421, 424, 431, 441, 473
Three hours from ECON 301, FIN 319, 331, MGMT 402
Nine hours from any of the above or MGMT 340, MKTG 402, PSYC 306, 413, RBS 461

General electives
Elective courses may be taken for the remainder of the 120-credit minimum required for the degree.

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Bachelor of Science Degree—Interdisciplinary Studies Major—Work and Professional Studies Concentration

The interdisciplinary studies major in work and professional studies is offered through the College of Arts and Letters at Old Dominion University and the higher education centers (Northern Virginia, Virginia Beach, Tri-Cities, and the Peninsula) using the Virtual Classroom technology. The program offers a 37-hour curriculum focused on the subject of work and labor and provides opportunities for students to integrate interdisciplinary theory and research findings with the application of problem-solving skills in the work environment. Courses are drawn from the disciplines of philosophy, English, sociology, history, psychology, economics, management and occupational and technical studies to examine the meaning and experience of work. Old Dominion University students admitted to the program have a variety of credit options including portfolio review, CLEP, DANTES and departmental exams. For more information about the work and professional studies emphasis, contact Lucien Lombardo at llombard@odu.edu. Additional information, including application information, can be found at http://www.odu.edu/al/wps/.

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
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<td>Oral Communication</td>
<td>3</td>
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</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
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<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students in the IDS major work and professional studies concentration may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Interdisciplinary Studies Core (6 credit hours)

- IDS 300W Introduction to Interdisciplinary Studies: 3 credits
- IDS 368 Interdisciplinary Studies Internship: 3 credits

UPPER DIVISION GENERAL EDUCATION

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.

Social Science: 6 credits

Additional hours selected from either Understanding Work and Labor or Applications: 12 credits

INTERIMATIONAL STUDIES

Bachelor of Arts—International Studies Major

Maura Hametz, Director
http://al.odu.edu/bais/

The Bachelor of Arts in international studies (BAIS) is an interdisciplinary program that offers students a chance to explore the interrelations among nations and peoples and to study world affairs from a variety of perspectives. The BAIS major and minor center on studies in foreign languages, geography, history, and political science. Students have considerable flexibility to structure their academic programs to meet their particular needs and interests or to focus in a variety of geographical or topical fields.

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History (Grade of C or better required)</td>
<td>6</td>
</tr>
<tr>
<td>Literature (FLET 100 recommended)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
</tbody>
</table>

*Students majoring in international studies must substitute GEN 101 for the second or third natural science/technology perspective course.

CORE COURSES

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language</td>
<td>18-21</td>
</tr>
</tbody>
</table>

A minimum of six credits beyond the requirement for the Bachelor of Arts (preferably in the language pursued for the B.A.) or demonstrated proficiency to that level as approved by the chair of the Department of Foreign Languages and Literatures. Current language offerings include: Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Latin, Spanish, and Russian.
Native speakers of languages other than English are not required to fulfill the language requirement upon presentation of a passing TOEFL score.

Methods Course Work
GEOG 308 or HIST 201 or POLS 308 or SOC 337 or WMST 470 3

Required Courses
GEOG 305 World Resources or 320 Political Geography 3
HIST 405 History of International Relations: Nineteenth Century Systems 3
POLS 323 International Political Economy or 324 International Relations Theory 3
Senior Seminar (C or better required) 3
GEOG 480W, HIST 480W, POLS 480W or other approved course 3

Upper-Division Electives
15 hours of 300- or 400-level approved electives to include:
GEOG 300- or 400-level elective 3
HIST 300- or 400-level elective 3
POLS 300- or 400-level elective 3
300- or 400-level electives – 3 hours must be taken in a discipline other than geography, history or political science 6

Approved courses appear on the “Approved List of Courses for International Studies” available from the program director or at http://al.odu.edu/bais/. Additional courses with an international focus may be approved by the program director. Up to six credits may be taken through participation in a model international organization (Model United Nations, Model Organization of American States or Model League of Arab States). Three hours of an approved practicum may count toward the major.

Study Abroad/International Experience
Study abroad or international experience is encouraged for international studies majors and Old Dominion University credit is available for study abroad programs. The Office of Study Abroad offers information, advising services and scholarships for enrolled students.

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Seminar.

Bachelor of Arts with Honors—International Studies Major
Students may earn honors in the major by fulfilling all the degree requirements and meeting the honors requirements indicated below. The requirements for honors do not increase the credit hours necessary for the major. The requirements are as follows:

1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.3.
3. Earn honors in nine hours of courses in the major at the 300/400 level, with no more than six hours taken from the same instructor.

Minor in International Studies
The minor in international studies requires 15 credit hours including:
1. GEOG 100S or POLS 100S or POLS 102 is a prerequisite course for the minor and is not included in the calculation of the grade point average for the minor.
2. Twelve hours of upper-division approved electives to include:
   GEOG 300- or 400-level elective 3
   HIST 300- or 400-level elective 3
   POLS 300- or 400-level elective 3
   300- or 400-level elective 3
   Approved courses appear on the “Approved List of Courses for International Studies” available from the program director or at http://al.odu.edu/bais/. Additional courses with an international focus may be approved by the program director. Up to three credits may be taken through participation in a model international organization (Model United Nations, Model Organization of American States or Model League of Arab States). Courses taken to fulfill requirements for the major discipline may not be applied toward the minor.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Five-Year B.A./M.A. Program in International Studies

Qualified students can pursue a five-year accelerated B.A./M.A. graduate degree in international studies.

Requirements for Admission
Requirements for admission are:
1. A declared major in the B.A. program in international studies (BAIS).
2. A minimum of 60 hours completed, including at least six hours of 300/400 courses in the major.
3. A GPA of 3.00 at the time of admission.
4. Application to the accelerated B.A./M.A. program in international studies, approved by both the B.A. and M.A. directors.

Students pursuing the accelerated B.A./M.A. program will fulfill all lower-level General Education requirements which have been approved for the BAIS and meet the requirements to earn a B.A. in international studies.

Method Courses (three credits)
GEOG 308 or POLS 308 or HIST 201 or SOC 337 or WMST 470 3

Foreign Language
A minimum of six credits beyond the requirement for the Bachelor of Arts (preferably in the language pursued for the B.A.) or demonstrated proficiency to that level as approved by the chair of the Department of Foreign Languages and Literatures. Current language offerings include: Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Latin, Spanish, and Russian.

Native speakers of a language other than English may ask for a waiver. To be considered a native speaker, a student must be admitted to Old Dominion University with a passing TOEFL score.

Core Courses in Geography, History, Political Science, and Cultural Studies (21 Credits)
1. Five of the following six courses are required.
   GEOG 305 World Resources
   GEOG 320 Political Geography
   HIST 405 International Relations: 19th Century
   HIST 406 International Relations: 20th Century
   POLS 323 International Political Economy
   POLS 324 International Relations Theory
2. Cultural Studies: Students select one course that links culture to other aspects of international studies in an integrative, interdisciplinary way. Examples are Foreign Languages in English Translation (FLET), English World Literature courses, and other culturally focused, international, interdisciplinary courses, such as those developed under the Teaching Across Borders Initiative and those from disciplines other than GEOG, HIST, and POLS as available and approved by the BAIS director.
3. BAIS Senior Seminar: GEOG/HIST/POLS 480W or other approved course

Bridge Courses (to be taken during Senior year)
IS 600 Research Methods
IS 606 U.S. Foreign Policy and World Order
POLS 601 International Relations Theory
ECON 605 International Economics
An overall GPA of at least 3.00 is required in these courses.
The B.A. in international studies will be awarded on completion of 120 credit hours including all the preceding courses and other University requirements for graduation.

Master of Arts Requirements
After obtaining the B.A. in international studies, students must complete the following:
1. Four graduate courses in one of the following fields of concentration (instead of the three required for M.A. students): international relations/U.S. foreign policy; conflict and cooperation; international political economy and development; and interdependence and transnationalism.
2. Two electives at the 600 level or above. At least one should have a regional focus (e.g., Europe, Asia, Middle East, Latin America).

The M.A. in international studies requires 18 credits beyond the four Bridge Courses (the MAIS core courses). It is anticipated that a student who has completed the MAIS core courses may take three courses in the fall and spring semesters. Comprehensive exams will be offered at the end of the spring semester and at the end of the summer. There will be no thesis option.

Additional Requirements

Students in the accelerated B.A./M.A. program must also complete the following:

1. Fulfill the B.AIS language requirement (which also fulfills MAIS requirements).
2. Take the GRE during their last semester of B.AIS work with an expected score of 1100 (verbal and quantitative totals).
3. Have an overall GPA of 3.00 in the seven core undergraduate courses and at least a GPA of 3.00 in the four Bridge courses (MAIS core courses).
4. Maintain an overall GPA of 3.00. (Students failing to maintain a 3.00 GPA may revert to the regular BAIS degree and count up to 12 hours of completed graduate core courses toward the MAIS.)
5. Complete an application form for Old Dominion University graduate admission. Students specializing in a region (e.g., Asia, Latin America, etc.) are encouraged to complete a minor at the undergraduate level.

Additional Explanations

1. Students interested in the B.A./M.A. program will be advised as early as possible and start the program during their junior year in order to meet all the requirements. Thus, students may apply for admission to the accelerated program after they have earned 60 credits (including at least six hours of 300/400 courses in the major). Applications can be filed with the undergraduate director on or before April 1 for admission in the following Fall semester and on or before November 1 for admission in the following Spring semester. Notifications of acceptance to students will be forwarded by May 1 and December 1 respectively.
2. Students will receive the B.A. degree after fulfilling all the requirements for the undergraduate degree. Students whose overall GPA drops below a 3.00 before attaining the B.A. degree can revert to the regular BAIS program and count any graduate credits they may have earned toward the BAIS. Students with a GPA of less than 3.00 at the end of their fourth year will not be permitted to continue toward the M.A. degree.
3. Students in the accelerated program must meet the requirement that BAIS students must receive a minimum grade of C (2.00) in the following undergraduate courses: ENGL 110C; ENGL 111C; GEOG 100S; POLS 100S or 102; ECON 201S; and the two history perspective courses chosen from HIS 101H, 102H, 103H, 104H, and 105H.
4. Please refer to the Graduate Catalog for additional information on the M.A. in international studies as well as the doctoral program in international studies.

MUSIC

Dennis J. Zeisler, Chair
Nancy K. Klein, Graduate Program Director
Jo Ann Sims, Chief Departmental Advisor
http://al.edu/music/

The Department of Music offers applied music instruction and course work leading to the following degrees: Bachelor of Music with a major in performance (options in voice, piano, organ, harpsichord, orchestral instruments, and guitar); the Bachelor of Music with a major in composition; the Bachelor of Arts with a major in music; and the Bachelor of Music in Music Education (options in vocal or instrumental music). In addition to the work offered for degree students in music, there are available to non-music majors a minor in music (emphasizes composition, performance, or music history) and courses in the appreciation, history, methods, and literature of music; participation in the concert band, orchestra, choir, and other ensembles; and individual instruction in piano, organ, voice, guitar, harpsichord, and the orchestral and band instruments.

The Department of Music offers a Master of Music Education (MME). Please refer to the Graduate Catalog for more information.

Bachelor of Music—Composition Major

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied in the major by MUSC 432)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (see departmental requirements)</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (satisfied in the major by MUSC 221)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence.</td>
<td></td>
</tr>
<tr>
<td>Additional Natural Science or Technology requirement satisfied in the major (MUSC 335T).</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students majoring in composition must substitute GEN 101 for the second laboratory science course in the natural science perspective.

Departmental Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 221 Music Theory I</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 222 Music Theory II</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 223 Ear Training, Sight Sing, Dictation</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 224 Ear Training, Sight Sing, Dictation</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 261 Music Literature Survey I</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 262 Music Literature Survey II</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 309 Principles of Conducting</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 321 Advanced Theory I</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 322 Advanced Theory II</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 323 Adv Ear Trn, Sight Sing</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 324 Adv Ear Trn, Sight Sing</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 335T Intro to MIDI Technology</td>
<td>3</td>
</tr>
<tr>
<td>(satisfies Technology requirement)</td>
<td></td>
</tr>
<tr>
<td>MUSC 336 Recording/Electronic Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 361W History of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 362 History of Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 414 Advanced Instrumental Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 421 Counterpoint</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 422 Form and Analysis</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 424 Orchestration</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 466 Modern Music</td>
<td>3</td>
</tr>
<tr>
<td>MUSA 232 Hour lesson: Applied Composition</td>
<td>3</td>
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<tr>
<td>MUSA 331 Hour lesson: Applied Composition</td>
<td>3</td>
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<tr>
<td>MUSA 332 Hour lesson: Applied Composition</td>
<td>3</td>
</tr>
<tr>
<td>MUSA 431 Hour lesson: Applied Composition</td>
<td>3</td>
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<tr>
<td>MUSA 432 Hour lesson: Applied Composition</td>
<td>3</td>
</tr>
<tr>
<td>Senior Recital</td>
<td>0</td>
</tr>
<tr>
<td>Two Music History electives chosen from MUSC 460, 491, 492, or 494</td>
<td>6</td>
</tr>
<tr>
<td>Large Ensemble</td>
<td>3</td>
</tr>
</tbody>
</table>

Large Ensemble: Students are required to earn credits through participating in ensembles appropriate to their specialties. Large ensembles include: concert band, wind ensemble, symphony orchestra, or concert choir.

Small Ensemble: 2
Small ensembles include: Madrigal Singers, Collegium Musicum, opera workshop, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

MUSC 101-104 Piano                     4
MUSA 141, 142, 241, 242                8
Piano Proficiency                      0

Each student in composition will be required to pass a piano proficiency exam before being allowed to enroll as a composition major. Failure to pass the piano proficiency exam will require students to study piano privately until they are able to complete the requirement.

French, German, or Italian are strongly recommended to fulfill General Education Foreign Language requirement.

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.
Bachelor of Music—Performance Major

LOWER DIVISION GENERAL EDUCATION  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied in the major by MUSC 445-446)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Voice concentration, see additional requirements)</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (satisfied in the major by MUSC 221)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
</tbody>
</table>

Natural Science and Technology 11-12

Eight credit hours of Natural Science with labs in sequence. Additional Natural Science or Technology requirement satisfied in the major (MUSC 335T).

Social Science 3

*Students majoring in performance must substitute GEN 101 for the second laboratory science course in the natural science perspective.

Departmental Requirements

MUSC 221  Music Theory I  3
MUSC 222  Music Theory II  3
MUSC 223  Ear Trm, Sight Sing, Dictation  1
MUSC 224  Ear Trm, Sight Sing, Dictation  1
MUSC 261  Music Literature Survey I  1
MUSC 262  Music Literature Survey II  1
MUSC 309  Principles of Conducting  1
MUSC 321  Advanced Theory I  2
MUSC 322  Advanced Theory II  2
MUSC 323  Adv Ear Trm, Sight Sing  1
MUSC 324  Adv Ear Trm, Sight Sing  1
MUSC 337T  MIDI Technology  3
MUSC 361W  History of Music  3
MUSC 362  History of Music  3
MUSC 413 or 414  Adv Choral OR Instrumental Conducting  2
MUSC 421  Counterpoint  2
MUSC 422  Form and Analysis  2
MUSC 445  App Music Pedagogy (Satisfies oral communication requirement)  1
MUSC 446  App Music Literature  1

24 credit hours must be taken in the instrument of concentration including six credits at MUSC 451-452 level. Three hours of electives are required. Successful completion of a half-hour 200-level recital and a full-hour 400-level recital is also required. Students must earn a C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level.

Students must select one of the following concentrations:

Orchestral Instruments Concentration

MUSA 151-352  Applied Lessons  18
MUSA 451  Hour Lesson  3
MUSA 452  Hour Lesson  3
MUSC 101-104  Piano  4
MUSC 424  Orchestration  2
Three music history electives chosen from MUSC 460, 466, 491, 492, or 494  9
MUSC Band or Orchestra  9
Small Instrumental Ensemble+  4
Small Vocal Ensemble+  3

Voice Concentration

101F-102F Foreign Language other than that used to satisfy lower division General Education (French, German or Italian strongly recommended)  6
MUSA 151-352  Applied Lessons  18
MUSA 451  Hour Lesson  3
MUSA 452  Hour Lesson  3
MUSC 101-106  Piano  6
Two music history electives chosen from MUSC 460, 466, 491, 492, or 494  6
MUSC 345  Diction for Singers  1
MUSC 346  Diction for Singers  1

Bachelor of Arts—Music Major

James Kosnik, Program Advisor

LOWER DIVISION GENERAL EDUCATION  

<table>
<thead>
<tr>
<th>Course</th>
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<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency in French or German through the 202 level required; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (satisfied in the major by MUSC 221)</td>
<td>3</td>
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<tr>
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<tr>
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<td>11-12</td>
</tr>
</tbody>
</table>

Eight credit hours of Natural Science with labs in sequence. Additional Natural Science or Technology requirement satisfied in the major (MUSC 335T).

Piano Proficiency Exam  0
Concert Choir  4
Opera Workshop  1
Small Vocal Ensemble+  3

Piano, Organ, Harpsichord, or Guitar Concentration

MUSA 151-352 Applied Lessons  18
MUSA 451 Hour Lesson  3
MUSA 452 Hour Lesson  3
Three music history electives chosen from MUSC 460, 466, 491, 492, or 494  9
MUSC 424 Orchestration  2
Ensemble+  6-8

*Ensemble Requirements. Students are required to earn credits through participating in ensembles appropriate to their specialties. Instrumental and voice majors will be required to participate in four semesters of large ensemble and four semesters of small ensemble. Keyboard majors will have a six semester requirement, of which two must be in large ensemble and two in small ensemble.

Large ensemble includes: concert band, wind ensemble, symphony orchestra, and concert choir.

Small ensemble includes: Madrigal Singers, Collegium Musicum, opera workshop, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-127 credit hours depending on the concentration, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of the Arts—Music Major

James Kosnik, Prorgam Advisor

LOWER DIVISION GENERAL EDUCATION  

<table>
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<th>Credits</th>
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<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency in French or German through the 202 level required; proficiency is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills (satisfied in the major by MUSC 221)</td>
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</tr>
<tr>
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<tr>
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<tr>
<td>Literature</td>
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<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
</tbody>
</table>

Eight credit hours of Natural Science with labs in sequence. Additional Natural Science or Technology requirement satisfied in the major (MUSC 335T).

* Students majoring in music may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Departmental Requirements

MUSC 221  Music Theory I  3
MUSC 222  Music Theory II  3
MUSC 223  Ear Training, Sight Sing, Dictation  1
MUSC 224  Ear Training, Sight Sing, Dictation  1
MUSC 261  Music Literature Survey I  1
MUSC 262  Music Literature Survey II  1
MUSC 309  Principles of Conducting  1
MUSC 321  Advanced Theory I  2
MUSC 322  Advanced Theory II  2
MUSC 323  Adv Ear Trm, Sight Sing  1
MUSC 324  Adv Ear Trm, Sight Sing  1
MUSC 337T  MIDI Technology  3
MUSC 361W  History of Music  3
MUSC 413 or 414  Adv Choral OR Instrumental Conducting  2
MUSC 421  Counterpoint  2
MUSC 422  Form and Analysis  2
MUSC 491, 492, or 494   6
MUSC 491, 492, or 494   6
MUSC 446  App Music Literature (Satisfies oral communication requirement)  1
MUSC 446  App Music Literature (Satisfies oral communication requirement)  1
MUSC 424 Orchestration  2

Small ensemble includes: Madrigal Singers, Collegium Musicum, opera workshop, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-127 credit hours depending on the concentration, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of the Arts—Music Major

James Kosnik, Program Advisor
Students are required to earn credits through participating in ensembles appropriate to their specialties. Instrumental and voice and keyboard majors will be required to participate in two ensembles, large or small. Additional credits for participation in ensembles can be used as elective credit. Large ensembles include: concert band, wind ensemble, symphony orchestra, or concert choir. Small ensembles include: Madrigal Singers, Collegium Musicum, opera workshop, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

Applied Music 4
Music Elective 1
Elective 1
ENGL 327W Advanced Comp I 3

Students must earn a grade of C or better in the following courses to advance to the next level: MUSC 221, 222, 223, 224, 321, and 323. 300-level French or German courses are recommended to fulfill remaining credit hour requirements.

Students in the B.A. in music program may choose from the following upper-level (300-400) music courses (18 hours required) or may choose an emphasis area:

MUSC 336 Introduction to Multi-Track Recording 3
MUSC 337 Jazz Improvisation I 2
MUSC 338 Jazz Improvisation II 2
MUSC 410 Psychology of Music 3
MUSC 413 Advanced Choral Conducting 2
MUSC 414 Advanced Instrumental Conducting 2
MUSC 421 Counterpoint 2
MUSC 422 Form and Analysis 2
MUSC 424 Orchestration 2
MUSC 460 History of Jazz 3
MUSC 466 Modern Music 3
MUSC 491 Music in the Baroque Period 3
MUSC 492 Music in the Classical Period 3
MUSC 494 Music in the Romantic Period 3

Music History (18 hours)
MUSC 460 3
MUSC 466 3
MUSC 491 3
MUSC 492 3
MUSC 494 3
Music Elective 3

Music Theory (18 hours)
MUSC 335T 3
MUSC 337 2
MUSC 421 2
MUSC 422 2
MUSC 424 2
MUSC 466 2

Music Elective (upper level) 6

Jazz (18 hours)
MUSC 335T 3
MUSC 336 2
MUSC 337 2
MUSC 338 2
MUSC 370/384/386 2
MUSC 460 3

Music Elective (upper level) 5

Students may choose an ensemble or applied music as an elective in the emphasis areas.

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Music—Music Education Major

Nancy K. Klein, Program Advisor

LOWER DIVISION GENERAL EDUCATION

Credits

Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication 3
Mathematics 3
Foreign Language 0-6
Mathematical Skills (satisfactory in the major by MUSC 221) 3
Foundation to Perspectives – GEN 101 New PAGE* 3
History 3
Literature 3
Philosophy 3
Natural Science and Technology 11-12

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required (satisfactory in the major with MUSC 335T).

Social Science 3

*Students majoring in music education must substitute GEN 101 for the second laboratory science course in the natural science perspective.

Departmental Requirements
MUSC 221 Music Theory I 3
MUSC 222 Music Theory II 3
MUSC 223 Ear Training, Sight Sing, Dictation 1
MUSC 224 Ear Training, Sight Sing, Dictation 1
MUSC 261 Music Literature Survey I 1
MUSC 262 Music Literature Survey II 1
MUSC 309 Principles of Conducting 1
MUSC 321 Advanced Theory I 2
MUSC 322 Advanced Theory II 2
MUSC 323 Adv Ear Trn, Sight Sing 1
MUSC 324 Adv Ear Trn, Sight Sing 1
MUSC 335T Intro to MIDI Technology (satisfies Technology requirement) 3
MUSC 361W History of Music 3
MUSC 362 History of Music 3
MUSC 424 Orchestration 2

Students must earn a grade of C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level.

Students must select one of the following concentrations:

Instrumental Concentration
MUSC 101 Beginning Piano I 1
MUSC 102 Beginning Piano II 1
MUSC 107 Beginning Voice I 1
MUSC 301 Music Ed: Trumpet 1
MUSC 302 Music Ed: Brass 1
MUSC 303 Music Ed: Clarinet 1
MUSC 304 Music Ed: Woodwind 1
MUSC 305 Music Ed: Violin 1
MUSC 306 Music Ed: Strings 1
MUSC 307 Music Ed: Percussion 1
MUSC 414 Instrumental Conducting 2

Small Instrumental Ensemble (two semesters) 2
Large Instrumental Ensemble (five semesters) 5

Woodwind, brass, and percussion majors must elect band as their large ensemble; string majors must elect orchestra.

Applied Music Primary Performance Area-MUSA 141-441 (at least two credits must be at the 400 level) 14
Completion of half-hour senior recital required.

Voice, Keyboard or Guitar Concentration (must also select a primary and secondary emphasis)
MUSC 345 Italian and English Diction for Singers I 1
MUSC 346 French and German Diction for Singers II 1
MUSC 409 Music Ed: Instru Tech 1
MUSC 413 Music Ed: Adv Choral 2

Applied Music Requirement-MUSA 141-441. Fourteen credit hours of the primary performance area, at least two of which must be at the 400-level, are required. Successful completion of a half-hour recital.

Ensemble: Students are required to participate in five semesters of Concert Choir and two semesters of small vocal ensemble.

Voice Emphasis
MUSC 101 Beginning Piano I 1
MUSC 102 Beginning Piano II 1
MUSC 103  Intermediate Piano I  1
MUSC 104  Intermediate Piano II  1
MUSC 105  Advanced Piano I  1
MUSC 106  Advanced Piano II  1

**Keyboard or Guitar Emphasis**

MUSC 107  Beginning Voice I  1
MUSC 108  Beginning Voice II  1
MUSC 109  Intermediate Voice I  1
MUSC 110  Intermediate Voice II  1
MUSC 111  Advanced Voice I  1
MUSC 112  Advanced Voice II  1

**License in Music Education**

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing Praxis I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising, Education Building 152. The PRAXIS II Music Content Examination (this test is for both vocal and instrumental music candidates) must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 127 credit hours. Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

The voice concentration requires passage of a voice proficiency examination and a piano proficiency examination before a student is eligible to student teach.

**Professional Education (32 credits)**

**Vocal, Keyboard, or Guitar**

MUSC 401  Music Ed: Elem Voc Meth  2
MUSC 402  Music Ed: Prac Elem Voc  1
MUSC 403  Music Ed: Secondary Voc  2
MUSC 404  Music Ed: Prac Second Voc  1

**OR Instrumental**

MUSC 405  Music Ed: Ele Inst Methods  2
MUSC 406  Music Ed: Prac Ele Instrument  1
MUSC 407  Music Ed: Sec Inst Methods  2
MUSC 408  Music Ed: Prac Sec Instrument  1

**AND**

ECI 301  Social Cultural Foundations of Education  3
ECI 360  Classroom Management and Discipline  2
ECI 408  Reading and Writing in Content Area  3
ECI 485  Student Teaching  12
ESSE 406  Special Needs Children-General Ed  3
ESSE 413  Fundamentals-Human Growth and Development  3

**UPPER LEVEL GENERAL EDUCATION**

Satisfied through the professional education sequence.

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**Dual Certification—Fifth Year Program**

It is possible to receive dual certification (in both instrumental and vocal music education) by completing an additional year of study. The additional course requirements are listed below. The student teaching experience in this program will be a half semester of vocal teaching and a half semester of instrumental teaching. Students interested in dual certification should be advised by the department’s music education specialist as early in their degree program as possible.

**Instrumental**—For those students who have begun the program with an instrumental concentration (as described above) and need to add the vocal component of the five-year program, the following additional courses are required: four hours of piano and five hours of voice; MUSC 401, 402, 403, 404, 413; two hours of concert choir. The student must also pass a voice proficiency examination and a piano proficiency examination prior to student teaching.

**Vocal**—For those students who have begun the program with a voice, keyboard, or guitar concentration (as described above) and need to add the instrumental component of the five-year program, the following additional courses are required: MUSC 301, 302, 303, 304, 305, 306, 307, 405, 406, 407, 408, 414; two hours of concert band or orchestra.

**Ensemble Options for Bachelor of Music and Music B.A. Majors**

Each degree program has specific ensemble requirements, which are listed under the course requirements above.

For the purposes of fulfilling large ensemble requirements, students may use only concert band, wind ensemble, vocal jazz ensemble, symphony orchestra, or concert choir. For the purposes of fulfilling small ensemble requirements, students may use only Madrigal Singers, jazz ensemble, brass ensemble, percussion ensemble, guitar ensemble, Collegium Musicum, string ensemble, wind ensemble, opera workshop, or piano ensemble. Numerous other ensembles are offered for credit, including tuba-euphonium ensemble, Pep Band, Jazz Combo, Woodwind Quintet, Brass Quintet, String Quartet, Saxophone Quartet, Barbershop Quartet, Beauty Shop Quartet, and other vocal chamber ensembles. These ensembles are put together when instrumentation allows, and each group is coached by a faculty member. Students should be aware of the necessity for ensemble diversity, and are encouraged to participate in as many different ensembles as their schedules and advisors will allow.

**Minors in Music**

1. For a minor in music history, the student must complete 12 hours at the 300/400 level. MUSC 221-222 and 261 are prerequisites for the minor and are not included in the grade point average for the minor. Requirements for the minor are MUSC 361W, 362, 460, and three courses of 400-level music history.

2. For a minor in composition, the student must complete 12 hours at the 300/400 level. MUSC 221-222 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are MUSC 353T, MUSA 339, 340, 439, 440, and one additional hour of upper-division music courses.

3. For a minor in one of the several areas of music performance, the student must complete 12 hours at the 300/400 level. MUSA 139, 140, 239 and 240 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are MUSA 339, 340, 439, 440, and four additional hours of upper-division music courses. Vocal performance minors must take MUSC 345 and 346, and keyboard performance minors must take at least two semesters of ensemble.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Placement Examinations in Music**

All applicants for music curricula that require individual performance are required to satisfy auditions in their major performance areas prior to approval for admission to these curricula.
Students transferring into the Department of Music are required to take placement examinations in theory and ear training and in any applied area, including voice or piano class, in which they wish to transfer credit.

Application must be made to the chair of the Department of Music for details and dates of placement examinations and auditions for performing organizations.

Recital Attendance Requirements

All music majors and intended music majors are required, as part of their degree programs, to attend Department of Music-sponsored events each semester, as follows: students taking 12 or more credits in one semester—10 recitals/concerts per semester; less than 12 credits in one semester—five recitals/concerts per semester. Music minor attendance requirements are 3 recitals/concerts per semester. Deficiencies must be made up before graduation.

Seniors are exempt.

Additional details may be found in the Music Student Handbook.

Accompanying

All keyboard students are expected to accompany at least once a semester on a General Student Recital, Performance Session, or Applied Music Jury Examination after they have attained the Applied Music numbering of 241 and above or 251 and above, and after they have studied keyboard at Old Dominion University for a minimum of one semester.

Financial Aid

Scholarships equal to as much as full in-state tuition are available for talented students who perform in ensembles. Refer to the Scholarships section of this catalog for more information.

PHILOSOPHY AND RELIGIOUS STUDIES

Lawrence Hatab, Chair
David Loomis, Chief Departmental Advisor
Department Phone: 757 683-3861
Website: http://al.odu.edu/philosophy/

The Department of Philosophy and Religious Studies offers a Bachelor of Arts degree in philosophy, philosophy with an emphasis in political and legal studies, and philosophy with an emphasis in religious studies. The program is designed to give students a solid grounding in the historical development of philosophy and an ability to analyze the validity and soundness of arguments proposed in serious discussions of any subject. The emphasis in political and legal studies is designed for students planning to go to law school and students generally interested in social and political philosophy. The emphasis in religious studies is designed to assist the student in understanding the role of religion in human culture.

The requirements are as follows.

Bachelor of Arts—Philosophy Major

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
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</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td></td>
</tr>
<tr>
<td>Foreign Language (BA students must have competence through the 202 level; competence is not met by completion of an associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
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</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required. Social Science</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in philosophy may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Departmental Requirements

The requirements are a minimum of 30 credit hours in 300- and 400-level philosophy courses, nine hours of which must be at the 400 level. Students must select one of the following three concentrations.

General Concentration

History of Philosophy and Logic: PHIL 330, 331, and 340. 9

Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, or a seminar in 19th or 20th century philosophy. 6

Ethics and Values: 3 hours from PHIL 301, 302, 303, 313, 324, 344T, 345T, 410, 411, 412, 441, 442. 3

Seminar: At least 3 hours from PHIL 491, 492, 493, 494. 3

Philosophy Electives: To total at least nine hours in philosophy courses. 9

Political and Legal Studies Concentration

History of Philosophy and Logic: PHIL 330, 331, and 340. 9

Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, or a seminar in 19th or 20th century philosophy. 6

Seminar: At least 3 hours from PHIL 491, 492, 493, 494. 3

Political and Legal Studies: 6 hours from PHIL 301, 304, 410, 411, or 412. 6

Electives: 6 hours either from additional courses from the Political and Legal Studies requirement or from PHIL 302, 303, 345, 355T, 442. 6

At least six hours from among the following courses outside of philosophy: COMM 331, COMM 333, CRJS 215S, CRJS 222, CRJS 320, CRJS 462, FIN 331, HIST 453, HIST 454, any POLS course. 6

Religious Studies Concentration

History of Philosophy and Logic: PHIL 330 and 331. 6

Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, or a seminar in 19th or 20th century philosophy. 6

Seminar: At least 3 hours from PHIL 491, 492, 493, 494. 3

Religious Studies: PHIL 313. 3

Nine hours from:

REL 311, 312, 350, 351, or 352 (at least 3, but no more than 6 hours); PHIL 353, 354, 427, 480, 481, 482, or 485 (at least 3, but no more than 6 hours). 9

Elective: at least 3 hours in PHIL courses. 3

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major. Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minors in Philosophy and Religious Studies

The requirements for minors in philosophy and religious studies are as follows:

1. Philosophy (General). Twelve hours in philosophy courses at the 300 and 400 level.
2. Philosophy-Applied Ethics. Twelve hours in philosophy courses as follows: PHIL 441 and nine hours from PHIL 301, 302, 303, 344T, 345T, 410, 442.
3. Philosophy-Religious Studies. Twelve hours chosen from the following courses: REL 311, 312, 350, 351, 352, PHIL 313, 353, 354, 427, 480, 481, 482, and 485.
4. Philosophy-Political and Legal Studies. Twelve hours in philosophy courses as follows: At least six hours from PHIL 301, 304, 340, 410, 411, 412, 418, or 441. Other course options: PHIL 302, 303, 344T, 345T, 442.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Advanced Placement

Since the study of philosophy (and religion) involves intensive work with sophisticated tests and extensive analytical and critical writing, credit by examination is not usually appropriate. Students who believe that there are reasons why they should be considered for exceptions to this policy should present their cases in writing to the chair of the department, who, when appropriate, will refer them to the departmental committee. Generally, such things as “reading on one’s own” are not considered an adequate basis for such
a petition. Students who have earned credit for one of the philosophy perspective courses (110P, 120P, and 150P) may not receive credit by examination for another of them.

**POLITICAL SCIENCE AND GEOGRAPHY**

Jie Chen, Chair

The Department of Political Science and Geography offers undergraduate degrees in political science and geography.

In political science, the department offers Bachelor of Arts and Bachelor of Science degrees and a Bachelor of Arts degree in political science with teaching licensure in social sciences. The political science program is designed to give students an essential core of basic knowledge and analytical skills, while providing an opportunity to specialize in one of two emphasis areas: American politics and public law, or international relations and comparative politics. Licensure in social sciences education is also available.

In geography the department offers Bachelor of Arts and Bachelor of Science degrees and a Bachelor of Arts degree in geography with teaching licensure in social science. The geography program is designed to give students a broad base of geographical training and an understanding of human-environment interrelationships, while providing an opportunity to specialize in one of four emphasis areas: urban planning and emergency/hazards management, environment and resources, geographical information systems (B.S. only), and teaching. Undergraduate and graduate certificates in geographic information science and in spatial analysis of coastal environments are also offered.

In addition to improving students’ writing skills, undergraduates in most 400-level courses in political science and geography are required to make oral presentations in class, or instructors strengthen students’ verbal competency skills through in-class discussions. Students also gain technical skills in lower and upper-level methods classes where computers are employed for data analysis and social science research.

Undergraduate students may earn honors in the major in political science or geography by fulfilling all the requirements for the specific degree (B.A. and B.S.) and meeting the honors requirements indicated below. The requirements for honors do not increase the credit hours necessary for the major.

**Bachelor of Science and Bachelor of Arts—Political Science Major**

Francis Adams, Chief Departmental Advisor

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (BS requires C- or better in STAT 130M)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (BS students’ competence must be at the 102 level. BA students must have competence through the 202 level and competence is not met by the associate degree.)</td>
<td>0-12</td>
</tr>
<tr>
<td>Computer Skills (Satisfied by ECI 304 in the teaching licensure in social sciences track)</td>
<td>3</td>
</tr>
<tr>
<td>Perspective to Sciences – GEN 101 NEW PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History (Satisfied by HIST 102H and 104H in teaching licensure in social sciences)</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
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</tr>
</tbody>
</table>

Eight credit hours of Natural Science with labs in sequence. Satisfied by OEAS 110N-112N or OEAS 111N-112N in teaching licensure in social sciences. Additionally, 3-4 credit hours of Natural Science or Technology are required.

**Social Science (ECON 201S, ECON 202S and GEOG 100S or GEOG 101S are departmental requirements and are not met by the associate degree. Satisfied by GEOG 100S, GEOG 101S, ANTR 110S and ECON 200S, ECON 201S, or ECON 202S in teaching licensure in social sciences.)**

Students majoring in political science must substitute GEN 101 for a history or the second or third natural science/technology perspective course. Students majoring in political science with licensure in social sciences must substitute GEN 101 for the third natural science or technology course.

**Foundation courses (BA, 12 hours; BS, 15 hours; teaching licensure in social sciences, 9 hours)**

| POLS 100S | Introduction to International Politics | 3 |
| POLS 101S | Introduction to American Politics      | 3 |
| POLS 102  | Introduction to Comparative Government & Politics | 3 |
| POLS 308  | Research Design (BS requires C- or better) | 3 |
| POLS 418S | Quantitative Methods (BS only)         | 3 |

The foundation courses for teaching licensure in social sciences are POLS 100S or POLS 102, POLS 101S and POLS 308.

**Political Science 300-400 level electives (BA, 24 hrs; BS, 21 hrs)**

B.A. requires 24 hours with at least nine at the 400 level. B.S. requires 21 hours with at least nine at the 400 level. Both require a minimum of nine hours in each of two emphasis areas: American politics/public law and international relations/comparative politics. No more than three hours can be taken from POLS 367 or 368 and no more than three hours can be taken from POLS 497. One elective must be writing intensive. All majors must complete a capstone paper in the junior or senior year.

| POLS 300-400 | electives | 12 |
| POLS 300-400 | elective (BA only) | 3 |
| POLS 400    | electives | 9 |

See course listings in this Catalog for elective choices.

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor. 12-24 hours; also second degree or second major. (Satisfied by professional education core for social sciences teacher licensure.)

Option B. Cluster. 9 hours (3 hours may be in the major area of study.)

Graduation requirements include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Licencure in Social Sciences Education**

**Admission.** Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

**Continuance.** Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate PRAXIS II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising. Education Building 152. The PRAXIS II Social Studies Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 125 credit hours.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.

**Major Requirements**

**Political Science**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation courses: POLS 100S or 102, 101S, and 308</td>
<td>9</td>
</tr>
<tr>
<td>POLS 301W, 327W or 338W</td>
<td>3</td>
</tr>
<tr>
<td>POLS 334 Electoral Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLS Electives</td>
<td>3</td>
</tr>
<tr>
<td>Group 1: POLS 331, 335, 400, 407, 409, 410, 415 or appropriate topics courses (must select one)</td>
<td>3</td>
</tr>
<tr>
<td>Group 2: POLS 314, 316, 325W, 326, 327W, 328, 337, 338W, 466 or</td>
<td>3</td>
</tr>
</tbody>
</table>
appropriate topics courses (must select one)  3

Geography
GEOG 300, 320, or 350  3
GEOG electives: 305, 405W, 451, 452, 453, 454W, or 455  3

History
HIST 304T, 389T or a course chosen from Group 1 or Group 2 history electives below if a “T” course has already been taken  3
History Electives:
Group 1: HIST 305, 306, 307, 308, 310, 311, 313, 327 or appropriate topics courses  3
Group 2: HIST 346, 348, 351, 353, 354, 356, 361, 362, 363 or appropriate topics courses  3
History Elective: Group 1 or Group 2  3

Professional Education Core (meets upper-division General Education)
ECI 301 Social Cultural Foundations of Education  3
ECI 304 Education Application of Computers (satisfies the computer skills requirement)  3
ECI 360 Classroom Management and Discipline  2
ECI 408 Reading and Writing in Content Areas  3
ECI 455 Developing Instructional Strategies: Social Studies  4
ECI 485 Student Teaching  12
ESSE 406 Students with Diverse Learning Needs in General Ed Classroom  3
ESSE 413 Fundamentals-Human Growth and Development  3

Bachelor of Arts and Bachelor of Science—Geography Major

To be named, Chief Departmental Advisor

LOWER DIVISION GENERAL EDUCATION Credits
Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)  6
Oral Communication (Satisfied in the major)  3
Mathematics (BS students must earn C or better in STAT 130M)  3
Foreign Language (BS students’ competence must be at the 102 level. BA students must have competence through the 202 level and competence is not met by the associate degree.)  0-12
Computer Skills (requires CS 101D; GIS requires CS 149D; Teaching emphasis satisfies the requirement by ECI 304)  3
Foundation to Perspectives – GEN 101 New PAGE*  3
Fine and Performing Arts  3
History (satisfied by HIST 102H and 104H in teaching licensure in social sciences)  6
Literature  3
Philosophy  3
Natural Science and Technology 11-12

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required. OEAS 106N-107N or 111N-112N are required. If different natural science sequence is selected, student must take one of those listed or OEAS 405 or 436. Social Science (GEOG 100S and 101S cannot be used to satisfy this requirement; satisfied by POLS 100S, 101S, ANTR 110S, and ECON 200S, 201S or 202S in teaching licensure in social sciences)  6-12

*Students majoring in geography must substitute GEN 101 for a history or the third natural science/technology perspective course. Students pursing a teaching track in geography must substitute GEN 101 for the third natural science/technology perspective course.

Foundation courses (12-18 hours)
GEOG 100S Cultural Geography  3
GEOG 101S Environmental Geography  3
GEOG 300 Maps and Geographic Info  3
GEOG 308 Research Design (BS requires C- or better)  3
GEOG 418 Quantitative Methods (BS only, GEOG 402 and 404 may be substituted for GEOG 418)  3
GEOG 400W, 405W, 410W, 422W, 454W OR 480W (satisfies Oral Communication)  3
The foundation courses for teaching licensure in social sciences are GEOG 100S, 101S, 308 and 405W or 454W.

GEOGRAPHY 300-400 level electives (BA, 21 hours; BS, 18 hours) At least nine credit hours must be taken at the 400 level. Those wishing to pursue a physical geography emphasis may substitute certain geological science courses (GEOL 330, 340, 344W, 408, 411, 442, 446, and 450) for up to 12 hours of geography credit. Three hours of internship count toward the 36 hours of geography courses. All majors must complete a capstone paper in the junior or senior year. An emphasis area must be selected to complete the degree.

GEOG 300-400 electives (BA only)  12
GEOG 300-400 electives (BS only)  9
GEOG 400-499 level electives  9

URBAN EMPHASIS:
GEOG 310 Geography of the City  3
GEOG 410W Seminar in Urban Geography  3
GEOG 300-400 electives  6
Choose two courses from:
GEOG 301, 306T, 321, 368, 402, 411, or 412  6

ENVIRONMENT AND RESOURCES EMPHASIS:
GEOG 305 World Resources  3
GEOG 405W International Resource Management  3
Choose two courses from:
GEOG 306T, 321, 368, 402, 422W, 451, 452, 453, 454W, 455 (BA students only, choose from approved study abroad options)  6

GEOGRAPHIC INFORMATION SYSTEMS EMPHASIS (BS ONLY)
GEOG 402  3
GEOG 404  3
CS 149D (satisfies Computer Skills Lower Division General Education)  3
Choose two courses from:
GEOG 301, 419, 432, 490, OEAS 340, or CET 411 or 413  6

UPPER DIVISION GENERAL EDUCATION

Option A. approved Minor, 12-24 hours; also second degree or second major. (Satisfied by professional education core for social sciences teaching emphasis) Option B. Cluster, 9 hours (3 hours may be in the major area of study.) Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Licensure In Social Sciences Education

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed PRAXIS I or an equivalency test. Students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate Praxis II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising. Education Building 152.

The PRAXIS II Social Studies Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 125 credit hours. Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisers and from the Darden College of Education website at www.education.odu.edu.
**Major Requirements**

**Geography**
- Foundation Courses: 12
- Geography electives – select three from GEOG 305, 405W, 451, 452, 453, 454W, or appropriate topics courses: 9

**Political Science**
- POLS 325W, 326 or 331: 3
- POLS electives – select one from each group:
  - Group 1 – POLS 331, 334, 335, 400, 407, 409, 410, 415, or appropriate topics course: 3
  - Group 2 – POLS 314, 316, 325W, 326, 327W, 328, 337, 338W, 466, or appropriate topics course: 3

**History**
- HIST 304T, 398T, or a course chosen from HIST electives if “T” course has already been taken: 3
- HIST Elective – select one from each group and one additional elective from either group:
  - Group 1 – HIST 305, 306, 307, 308, 310, 311, 313, 327, or appropriate topics course: 9
  - Group 2 – HIST 346, 348, 351, 353, 354, 356, 361, 362, 363 or appropriate topics course: 9

**Honors–Political Science Major**
- ECI 301 Social Cultural Foundations of Education: 3
- ECI 304 Education Application of Computers: 3
- (Satisfies the computer skills requirement)
- ECI 360 Classroom Management and Discipline: 2
- ECI 408 Reading and Writing in Content Areas: 3
- ECI 455 Developing Instructional Strategies: Social Studies: 4
- ECI 485 Student Teaching: 12
- ESSE 406 Students with Diverse Learning Needs in General Ed Classroom: 3
- ESSE 413 Fundamentals-Human Growth and Development: 3

**Professional Education Core**

**Bachelor of Arts and Bachelor of Science with Honors–Political Science Major**

The requirements are as follows:
1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.3.
3. Earn honors in nine hours of courses in the major at the 300/400 level, with no more than six hours taken from the same instructor.

**Bachelor of Arts and Bachelor of Science with Honors–Geography Major**

The requirements are as follows:
1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.3.
3. Earn honors in nine hours of courses in the major at the 300/400 level.

**Minors in Political Science**

One general minor and a minor with a specialization in public law are offered in political science. Each requires a specified introductory course as a prerequisite and 12 hours of 300/400-level courses. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

1. Political Science. POLS 100S, 101S or 102 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours of 300/400-level political science electives.
2. Public Law. POLS 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours from the following: POLS 301W, 306, 307, 403, 404, 408, 409, 417, 419, 421, and public law topics courses such as 495/496.

**Minors in Geography**

One general minor and a minor with a specialization in environment and resources are offered in geography. Each requires an introductory course as a prerequisite and 12 hours of 300/400-level courses. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

1. Geography. GEOG 100S or 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours of 300/400-level geography electives.
2. Environment and Resources. GEOG 100S or 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are GEOG 305, 405W and six hours from GEOG 306T, 401, 420, 422W.

**Advanced Placement**

Students interested in advanced placement credit should confer with the department chair.

**Certificate in Geographic Information Science (Undergraduate and Graduate)**

The certificate in geographic information science (GISci) provides a program for students pursuing careers in geographic information systems (GIS) and related spatial technologies (remote sensing, global positioning systems, cartography, and spatial data handling and analysis). Rendered upon completion of the requirements, the certificate is an affidavit of academic proficiency and is administered by the Department of Political Science and Geography. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to undergraduates, graduate students, and non-degree seeking professionals who meet the requirements. Students with comparable professional experience may be able to satisfy competencies in selected courses through examination.

Students seeking undergraduate certification must complete the 300- and 400-level courses (18 hours), and those seeking graduate certification must complete the 500-level courses (15 hours):

1. **Core Courses:**
   - GEOG 300 Maps and Geographic Information or 301 Cartography (3 credits, undergraduate only)
   - GEOG 402/402 Geographic Information Systems (3 credits)
   - GEOG 404/504 Digital Techniques in Remote Sensing (3 credits)

2. **Developmental Courses:** Select nine credits from the following courses:
   - GEOG 368 Internship in Geography
   - GEOG 400W/500 Seminar in Geography
   - GEOG 411/511 Urban and Regional Planning
   - GEOG 419/519 Spatial Analysis of Coastal Environments
   - GEOG 432/532 Advanced GIS
   - GEOG 490/590 Applied Cartography/GIS
   - GEOG 497/597 Independent Research in Geography

**Certificate in Spatial Analysis of Coastal Environments (Undergraduate and Graduate)**

The certificate in spatial analysis of coastal environments provides an interdisciplinary program for students wishing to pursue careers in coastal management or research, remote sensing, or geographic information systems (GIS) applications. Rendered upon completion of the requirements, the certificate is an academic affidavit comprised of courses in geography and ocean, earth and atmospheric sciences and is administered by the two departments. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to postgraduate professionals who meet the requirements. Students with comparable professional experience may be able to show competence in selected courses through examination.

Students seeking undergraduate certification must complete the 400-level courses, and those seeking graduate certification must complete the 500-level courses:

1. **Core Courses:** GEOG 404/504 and OEAS 414/514 (six credits)
2. Interpretive Analysis Courses: Select two three-credit courses from the following: GEOG 402/502, OEAS 436/536, GEOG 422/W522, GEOG 490/590, OEAS 495/595, or GEOG 495/595 (six credits)
3. Capstone Seminar: GEOG/OEAS 419/519 (three credits)

SOCIETY AND CRIMINAL JUSTICE

Brian Payne, Chair
Ruth Triplett, Chief Department Advisor

The Department of Sociology and Criminal Justice offers courses in anthropology, criminal justice, sociology and social welfare. Students may earn a Bachelor of Arts or a Bachelor of Science with a major in sociology or criminal justice. The department also offers a Master of Arts in applied sociology with tracks in sociology, criminal justice, or women’s studies. Please refer to the graduate catalog for more information on graduate programs.

Bachelor of Arts and Bachelor of Science—Sociology Major

LOWER DIVISION GENERAL EDUCATION Credits
Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication 3
Mathematics (STAT 130M required) 3
Foreign Language (BS students’ competence must be at the 102 level; BA students must have competence through the 202 level and BA competency is not met by the associate degree) 0-12
Computer Skills 3
Foundation to Perspectives – GEN 101 New PAGE* 3
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.
Social Science (BA students complete 6; BS students complete 9. SOC 201S cannot be used to satisfy this requirement) 6-9
* Students majoring in sociology may substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Foundation courses required of all emphasis areas (12 hours)
SOC 201S Introduction to Sociology 3
SOC 337 Research Methods 3
SOC 409 Sociological Theory 3
SOC 436 Capstone Research Project 3

Majors must select one of the following emphasis areas:

General Sociology Emphasis (300-400 level electives)

Group I
SOC 309W, 403W, or 440W 3
SOC 300-400 electives (Up to six hours of internship course work may also be used.) 15-21

Students may not use any courses in Group II to satisfy these requirements.

Group II (Select from this group only if 15 hours are selected from electives in Group I)
Select two courses from SOC 310, 325, 402, 497; ANTR 300, 320 0-6

Social Welfare Emphasis (24 hours)
SOC 310 Introduction to Social Work 3
SOC 325 Social Welfare 3
SOC 402 Child Welfare 3

Sociology Electives:
SOC 309W, 403W, or 440W 3
SOC 300-400 electives 12

(See course descriptions for choices)

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Arts and Bachelor of Science—Criminal Justice Major

Students are urged to take elective courses or to consider minoring in psychology, sociology, public administration, political science, computer science, information systems, or management. Students interested in careers in corrections work including probation and parole are urged to take courses in the social welfare sequence (SOC 310, 325, 402) and/or minor in either sociology with a social welfare specialization or human services counseling.

Course requirements are as follows:

LOWER DIVISION GENERAL EDUCATION Credits
Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major) 6
Oral Communication 3
Mathematics (STAT 130M required) 3
Foreign Language (BS students’ competence must be at the 102 level; BA students must have competence through the 202 level and BA competence is not met by the associate degree) 0-12
Computer Skills 3
Foundation to Perspectives – GEN 101 New PAGE* 3
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 11-12
Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.
Social Science (3-6 hours) BA students complete I; BS complete I and II
I. PSYC 201S Intro to Psychology 3
II. Social Science Perspective Course. CRJS 215S cannot be used to satisfy this requirement 3
*I. Students pursuing a BA in criminal justice must substitute GEN 101 for either one history, one social science or the second or third natural science/technology perspective course.

Foundation courses (18 hours)
CRJS 215S Criminology 3
CRJS 222 Criminal Justice System 3
CRJS 262 Law and the Criminal Justice System 3
SOC 337 Research Methods 3
CRJS 426W Criminological Theory 3
CRJS 436 Capstone Research Project 3

Stratification Course 3
SOC 320 Social Inequality; SOC 323 Sociology of Minority Families; SOC 340 Sociology of Women; SOC 402 Child Welfare; SOC 426 Minority Group; or ANTR 320 The Sexes in Cross-Cultural Perspective

Upper Level Law Component 3
CRJS 320 Law and Social Control; CRJS 448 Sex, Discrimination & the Law; CRJS 462 Substantive Criminal Law; OR other approved course

Criminal Justice 300-400 level electives
Any 300-400 level criminal justice course may satisfy the elective requirements. Up to six hours of internship course work may also be used.
CRJS 300-400 electives 18

Law and Society Concentration

Criminal justice majors may select the law and society concentration. This concentration is designed for students majoring in criminal justice who are considering law school and want to receive a formally recognized course of legal studies within criminal justice. Criminal justice majors selecting a legal studies concentration must take their foundation courses (CRJS 215S, 222, 262, 426W, 436 and SOC 337), a stratification course, 15 hours of 300/400 level
legally-themed courses (CRJS 320, 415, 416, 418, 448, and 462 or other courses as approved by the department chair), and six hours of 300/400 level criminal justice electives.

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Minors in Sociology and Criminal Justice**

Requirements for minors in sociology and criminal justice are as follows:

1. Sociology: SOC 201S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Required courses are SOC 320, 337, or 409 and nine hours of 300/400 level sociology courses (excluding SOC 367, 368, 377, and 378).
2. Sociology (Social Welfare Specialization): SOC 201S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Required courses are SOC 310, 325, 402, and one other 300/400-level SOC course (excluding SOC 367, 368, 377, and 378).
3. Criminal Justice: CRJS 215S and 222 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Required courses are 12 hours of 300/400-level criminal justice courses (excluding CRJS 367, 368, 377, and 378).
4. Criminal Justice (Law and Society Specialization): CRJS 215S and 262 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Required courses are nine hours from CRJS 320, 395 (as appropriate), 415, 416, 418, 448, 462, and one 300/400-level criminal justice elective (3 hours), excluding CRJS 367 and 368.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

**Advanced Placement**

Students interested in credit by examination should consult with the department chair.

**WOMEN’S STUDIES**

(757) 683-3823
http://al.odu.edu/womens_studies/

Anita Clair Fellman, Chair and Chief Departmental Advisor

Women’s studies is a multidisciplinary field of study encompassing all aspects, historical and contemporary, of women’s nature, lives, and perspectives. The Women’s Studies Department offers the Bachelor of Arts and Bachelor of Science degrees with a major in women’s studies. A minor and a graduate certificate are also available, as is an accelerated program allowing exceptional students to earn both a B.A. or B.S. in women’s studies and an M.A. in humanities in five years.

Women’s studies undergraduate major and minor and graduate certificate may increase a student’s career opportunities in governmental and non-governmental agencies, law, criminal justice, public relations, journalism, counseling, the health professions, business, social welfare, the military, and many other fields; they can also prepare students for new and exciting research opportunities in graduate and doctoral programs.

**Bachelor of Arts or Bachelor of Science—Women’s Studies Major**

<table>
<thead>
<tr>
<th>LOWER DIVISION GENERAL EDUCATION</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Written Communication (Grade of C required in ENGL 110C and ENGL 111C before declaring major)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Proficiency through 102 level-BA only; Proficiency through 202 level-BA only and not met by associate degree)</td>
<td>6-12</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 New PAGE*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence.</td>
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<tr>
<td>Additionally, 3 credit hours of Technology are satisfied in the major by WMST 390T.</td>
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<tr>
<td>Social Science (WMST 201S cannot be used to satisfy this requirement)</td>
<td>6</td>
</tr>
<tr>
<td>*Students majoring in women’s studies may substitute GEN 101 for either one history, one social science or the second natural science perspective course.</td>
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**Bachelor of Arts—Departmental Requirements**

WMST 201S Women in a Changing World or 302W All Am.  
WMST 390T Women and Technology Worldwide  
WMST 401W Women: A Global Perspective  
WMST 460W Feminist Thought  
ENGL 463 Women Writers  
ENGL 477 Language, Gender and Power  
WMST 490 Capstone Course  
Choose 9 credits from  
WMST 368, 377, 395/495, 470, 497, 498 or courses cross-listed with WMST.

**Bachelor of Science—Departmental Requirements**

WMST 201S Women in a Changing World or 302W All Am.  
WMST 390T Women and Technology Worldwide  
WMST 401W Women: A Global Perspective  
WMST 460W Feminist Thought  
WMST 470 Women’s Ways of Knowing/Ways of Knowing Women  
ENGL 477 Language, Gender and Power  
WMST 490 Capstone Course  
Choose 9 credits from  
WMST 368, 377, 395/495, 497, 498 or courses cross-listed with WMST.

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Students must receive at least a C in WMST 201S, 302W and 460W. In order to track their intellectual growth, each women’s studies major is expected to maintain a portfolio of papers and assignments submitted for their WMST and WMST cross-listed courses.

**Women’s Studies as a Second Major**

Students who find themselves especially interested in women’s studies but who already have a major may fulfill their upper-division general education requirements by selecting women’s studies as a second major. Such students must complete the same departmental requirements as those majoring solely in women’s studies, but may count up to three women’s studies cross-listed courses taken for their other major toward their women’s studies major as well. For instance, a student majoring in both sociology and women’s studies may apply three courses, such as SOC 340, 343, and 427, taken toward their sociology requirements, as the three electives for their major in women’s studies.

**Minor in Women’s Studies**

Students may complete a minor in women’s studies by filing an application and taking 15 hours as follows:

1. Nine hours: WMST 302W plus two of the following courses: WMST 390T, (also applicable toward the three-credit natural science and technology requirement), 401W, 460W.
2. Six hours: two other WMST courses, e.g., WMST 368, 470, and/or courses cross-listed with women’s studies in the Schedule of Classes from disciplines such as history, philosophy, communication, English, criminal justice, foreign languages, sociology, psychology, political science, art, etc.

Students must maintain a grade point average of 2.00 in the 15 credit hours taken exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of the undergraduate women’s studies minor will fulfill the upper-division General Education requirements.

Advising

To declare a women’s studies major or minor, students must see an advisor in the Women’s Studies Department. All women’s studies majors are required to have a conference with their advisor before each semester (preferably during preregistration).

Accelerated Master of Arts in Humanities–Women’s Studies

By allowing exceptional women’s studies majors to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for students with a demonstrated record of academic excellence to earn both a B.A. or B.S. in women’s studies and an M.A. in humanities with a concentration in women’s studies in five years. For more information consult the Humanities section of this Catalog.
College of Business and Public Administration

Web site: http://bpa.odu.edu/

Nancy Bagranoff, Dean
Ali Ardalan, Associate Dean

Department Chairs:
Douglas E. Ziegenfuss
Mohammed Najand
Christopher B. Colburn
G. Steven Rhie
Berhanu Mengistu
Barry R. Hendricks

Center and Institute Directors:
K.C. Chung
Martha Hoffer
Sheila M. Powell
James V. Koch
Bruce Rubin
Wayne Talley
John R. Lombard

Mission Statement

The mission of the college is to develop students, within a global and ethical context, for successful careers in business and government, to perform basic, applied and pedagogical research, and to offer services to the community, all of which support the economic development of Hampton Roads and beyond.

Business and Public Administration Affiliates

The college has several external units which enhance and support the academic programs. These units, listed below, offer opportunities for faculty members and students to interact with representatives of business, industry and government in Eastern Virginia.

Center for Asian Business. The Center for Asian Business has been established to enhance the college’s capacity to teach and conduct research on the subjects related to Asian business practices. The center collects and disseminates information on Asian businesses, supports course offerings on Asian management, and publishes research monographs and articles on the subject. Also, the center provides managerial training and consulting services for Asian companies and executives.

The Center for Economic Education. The center is an integral part of the nation’s effort dedicated to improving economic literacy and promoting a greater understanding of the free enterprise system. A nonpartisan, nonprofit organization, the center is an affiliate of the Virginia Council on Economic Education and the National Council on Economic Education. The center works cooperatively with school systems promoting increased effectiveness of economics instruction in grades K-12 through workshops, credit classes and consultations.

Executive Development Center. The center’s mission is to provide businesses, organizations, and individuals with high quality professional development and continuing education programs in virtually all areas of business, management, and executive education. The center offers public programs for individuals seeking professional certificate programs, preparation for certification exams, career advancement and career change. In addition, the center develops and delivers custom programs and consulting services to meet specific organizational and employee development needs of businesses and organizations regionally, nationally and internationally.

Regional Studies Institute. The primary objectives of the institute are to conduct research and develop a knowledge base on regional issues in the Eastern Virginia area. In addition, it provides a forum for regional collaboration involving educational, business, and government organizations.

Insurance and Financial Services Center. The Insurance and Financial Services Center supports undergraduate and graduate curricula in the discipline of professional financial planning and risk and insurance. In addition, it provides for active involvement with the Eastern Virginia financial services community as a placement, research, consultative, and resource agency. The center further supports educational programs and seminars for the profession including a professional development program for practitioners that leads to the designation of Professional Financial Planner (PFP).

Maritime Institute. The institute provides a focal point for educational services and research programs which is responsive to the port and shipping-related needs of Hampton Roads, Virginia, and other port and shipping-related facilities in the world. The institute serves as a positive link with the port and shipping-related business and public administration communities and provides a catalyst for the delivery of education, training, research, and service programs in both the credit and non-credit arenas. Courses are available at the graduate level and are listed in the Courses of Instruction section of this catalog. Professional, executive-level seminars, workshops, and short courses will also be offered.

E.V. Williams Center for Real Estate and Economic Development. The mission of the center is to provide information and resources for the Hampton Roads real estate and economic development communities in their quest to improve the regional economy through job creation and investment. The center fosters relationships with the development community by hosting topical seminars on key development issues affecting the region and works closely with all related professional service organizations. The center maintains a comprehensive collection of information including detailed demographic and real estate data and employs the latest in geographic information and mapping software. The center publishes annual real estate market reviews on the office, industrial, retail, single family and multi-family real estate markets and sponsors the Hampton Roads Real Estate Market Review and Forecast.
Distance Education

The college offers several degrees on TELETECHNET (the University’s distance learning network) to various locations in the state of Virginia and beyond. Usually students complete their general education program in a community college and transfer to Old Dominion University to complete the degree requirements. Bachelor of Science degrees in accounting, finance, information systems and technology, management, and marketing are available on this network. A minor in management is also available. The graduate programs offered on TELETECHNET are discussed in the graduate school section of this Catalog.

Bachelor of Arts—Economics Major
Christopher B. Colburn, Chair
Eric Anderson, Chief Departmental Advisor

Economics is the study of how societies use their limited resources to produce wealth and how the distribution of the wealth among their members is determined. Knowledge of economics helps businesses and households understand how economic events will affect them, how they can best react to these events, and how to assess government economic policies. Majoring in economics is a springboard to a very wide variety of careers in business, government agencies, and not-for-profit organizations. A major in economics is also excellent preparation for law school and graduate study toward master’s and doctoral degrees in economics, business administration, public administration, urban studies, international studies, marine affairs, and other fields.

Admission to the Bachelor of Arts—Economics Major

General Requirements

Applicants for admission to the Bachelor of Arts—Economics Major program should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into the program without first being admitted to the University. Admission to the University does not guarantee admission to the program. Candidates for admission to the program should indicate on the application to the University their intention to enter the Bachelor of Arts—Economics Major program.

Transfer students may complete Bachelor of Arts—Economics Major foundation courses (ENGL 110C, MATH 162M, ECON 201S, and ECON 202S) at another accredited college or university, but are responsible for having the Admissions Office determine that the courses are acceptable to the University. All transfer students must have a transfer student evaluation completed by the Admissions Office to be used as documentation that the transfer courses are acceptable.

All candidates for admission to the program should contact the Department of Economics directly (757-683-3567) for an application to the program. Normally, a student should apply in the sophomore year. Students will be notified in writing by the Department of the admission decision.

Before regular admission to the program can be granted, a student must have completed the Bachelor of Arts—Economics Major foundation courses (ECON 201S, ECON 202S, ENGL 110C and MATH 162M) with a grade of C or better in each.

Students who have utilized the Adjusted Resident Credit (ARC) option will be treated as transfer students with only those foundation courses with a grade of C or better included in the admission policy. Students may utilize the Grade Forgiveness Policy for foundation courses.

Enrollment in 300/400-Level Economics Courses

Only students who have been admitted to the Bachelor of Arts—Economics Major program will be eligible to enroll in 300/400-level Economics courses, with the following exceptions:

1. Students who have been admitted to the undergraduate business degree (Bachelor of Science in Business Administration) program (see section to follow). This exception applies to all of the majors in the undergraduate business degree program, not just to the Bachelor of Science in Business Administration—Economics Major.
2. Students pursuing a declared minor in Economics.
3. Students pursuing Upper-Division General Education Requirement Option B (clusters) may enroll in 300/400-level Economics courses included in clusters. Currently these are ECON 447 (Cluster 4), ECON 454W (Cluster 5), and ECON 445 (Cluster 9).

4. Students pursuing degree programs outside the College of Business and Public Administration that require or permit 300/400-level Economics courses to complete the degree may enroll in the courses appropriate to their programs.

Upper-Level Economics Course Enrollment Waiver

Students with extenuating circumstances may petition the Chief Departmental Advisor of the Economics Department in writing for a waiver to the ban on enrollment in 300/400-level Economics courses without admission to the Bachelor of Arts—Economics Major program or one of the exceptions listed in the previous section. Waivers will be considered under the following conditions:

1. The waiver can be granted only once, for one semester.
2. The student must have previously completed 42 credit hours.
3. During the semester for which the waiver is granted, the student must enroll in all remaining Bachelor of Arts—Economics Major foundation courses whose successful completion with a grade of C or better would allow normal admission to the program, or must enroll in all remaining business foundation courses whose successful completion would allow normal admission to the Bachelor of Science in Business Administration degree program.

Appeal Procedures for Denial of Admission to the Bachelor of Arts—Economics Major Program

Students who do not achieve a C or better in the foundation courses after utilizing the Grade Forgiveness Policy may pursue a two-step appeal process:

1. Students may appeal in writing to the Chief Departmental Advisor of the Economics Department documenting the reasons why the student should be admitted to the program. The Chief Departmental Advisor will review the student’s other course work to determine if the student has maintained a 2.50 grade point average on a 4.00 scale in at least 25 semester hours or 42 quarter hours from Old Dominion University or other accredited institution of higher education. In this case, the C policy in the foundation courses may be waived at the discretion of the Chief Departmental Advisor.
2. If the student is denied admission after the appeal to the Chief Departmental Advisor, the student may appeal in writing to the Chair of the Department of Economics for a review of the admission decision.

Minimum Grade Requirements for Completion of the Major

For completion of a major in economics, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. Courses included in the calculation of the grade point average in the major are: all economics courses. Students must also earn a grade of C or better in ECON 201S and 202S and must earn a grade of C- or better in each of the following courses: ECON 304, 305, 450, 454W, and at least four 300-400 level ECON electives.

Curriculum

<table>
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<tbody>
<tr>
<td>ENGL 110C</td>
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<td>GEN 101*</td>
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<td>ECON 201S</td>
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<td>Prob/Stat for Business &amp; Econ</td>
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<td>History Perspective II*</td>
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<td>DSCI 306</td>
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Natural Science and Technology Perspective II 4
Social Science Perspective* 3
Fine and Performing Arts Perspective* 3

**Junior I**

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<td>Philosophy Perspective*</td>
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**Junior II**

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**Senior I**

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<td>ECON 454W</td>
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<td>ECON Elective</td>
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**Senior II**

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<td>ECON Elective</td>
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<tr>
<td>General Education Cluster Course</td>
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</tr>
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</table>

*Students may substitute GEN 101 for a course in the fine and performing arts, history, literature, philosophy or social science perspective areas.

**Economics Electives:** ECON 331, 368, 369, 395/396, 400, 402, 407, 421, 425, 427, 444, 445, 447, 451, 455, 456, 494, 495, 499. All economics courses will be used to compute the major grade point average which must be a 2.0 or better. In addition, a grade of C or better must be earned in each of the following courses: ECON 304, 305, 450, 454W, and at least four 300-400 level ECON electives.

Total credits to graduate are 120-126, depending upon placement in the foreign language. Students who are exempt from the intermediate foreign language courses must take two additional non-business elective courses. Those choosing a three-credit technology course (rather than a four-credit) may need to take a one credit free elective to bring the total credits to 120.

**Foreign Language Proficiency Requirement.** Students earning a Bachelor of Arts degree must also complete the following foreign language requirement: Proficiency established at the fourth-semester level through one of the following:

a. Successful completion of the 202 or 212 course at Old Dominion University (or equivalent at another institution).

b. Exemption through fourth semester granted for acceptable scores on achievement tests.

c. Advanced placement with up to nine hours credit at the 300 level for acceptable scores on the advanced placement test taken at the conclusion of advanced placement courses in high school.

d. Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

Students who have taken three or more years of a foreign language in high school but have not been granted advanced placement as explained in item c above must take the College Entrance Examination Board (CEEB) achievement test before continuing in the same language at Old Dominion University. An achievement test score of under 500 normally requires that such students begin with the 121F course in Spanish or the 102F course in another language.

**Double Major in Economics and Another Discipline**

A student declaring economics as his or her second major, and whose first major is a nonbusiness discipline, need not take ENGL 111C, COMM 101R, and intermediate foreign language course, unless these courses are required for the other major/degree. The student must satisfy all written communication, oral communication, and foreign language requirements of the first major/degree.

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**Bachelor of Arts with Honors–Economics Major**

**Requirements:** The candidate must designate, with the approval of the Economics Department’s undergraduate advisor and the relevant instructors, two upper-level economics courses that he or she intends to take on an Honors basis. In these courses, the student must complete extra, honors-quality work in addition to regular course requirements, and must earn a grade of B or better in each of the two courses. The student must also earn a grade point average of 3.5 or higher in all economics courses.

**B.A./M.B.A Five-Year Program**

This program allows qualified students to earn a B.A. (major in economics) followed by an M.B.A., in a total time of as little as five years, taking normal semester course loads. The entrance requirements, admissions procedure, and required courses are as described in the College of Arts and Letters section of this Catalog, except that students majoring in economics need not take ECON 604 (one of the M.B.A. business core courses).

**Minor in Economics**

A minor in economics requires the completion of 12 hours of 300- and/or 400-level economics courses. The 12 hours must include either ECON 304 or ECON 305 and may include both. All courses at the 300 and 400 levels must be preceded by listed prerequisites. For completion of this minor, a student must have a minimum overall cumulative grade point average of 2.00 in all economics courses required for the minor exclusive of 100/200 level courses and prerequisite courses and complete a minimum of six hours of upper-level courses in the minor through courses offered by Old Dominion University. Students must earn a grade of C or better in ECON 202 and a grade of C- or better in all upper-level ECON courses. Students must also earn a grade of C or better in ECON 2015 if they wish to take ECON 305.

**Bachelor of Science in Business Administration (BSBA)**

The Undergraduate Advising Office serves as the welcoming center for new undergraduate students to the college. All freshmen, new transfer students, or those changing majors are advised into the appropriate curricula within the college by individual appointment in this office. Additionally, the office serves all CBPA students as a satellite of the Career Management Center, assisting students with internships and job placement. The CBPA Student Mentors are also available to undergraduates for support and information.

Jennifer Usis, Director of Undergraduate Advising

Tambre Anderson, Associate Director, Career Advantage Program

**Admission to the Undergraduate Program in Business Administration**

**General Requirements**

Applicants for admission to the undergraduate program in business administration should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into business administration without first being admitted to the University. Admission to the University does not guarantee admission to the undergraduate business administration program. Candidates for admission to the undergraduate business administration program should indicate on the application to the University their intention to enter the undergraduate business administration program.

Transfer students may complete business foundation courses (ACCT 201, ECON 202S, ENGL 110C and MATH 162M) at another accredited college or university, but are responsible for having the Admissions Office determine that the courses are acceptable to the University. All transfer students must have a transfer student evaluation completed by the Admissions Office to be used as documentation that the transfer courses are acceptable.

All candidates for admission to the undergraduate business administration program should contact the College of Business and Public Administration directly for an application to the undergraduate business administration program (757-683-5777). Normally, a student should apply in the sophomore year. Students will be notified in writing by the College of Business and Public Administration of the admissions decision.

Before regular admission to the undergraduate business administration program can be granted, a student must have completed the business foundation...
courses, ACCT 201, ECON 202S, ENGL 110C and MATH 162M, with a grade of C or better in each.

Students who have utilized the Adjusted Resident Credit (ARC) option will be treated as transfer students with only those business foundation courses with a grade of C or better included in the admissions policy. Students may utilize the Grade Forgiveness Policy for business foundation courses.

Enrollment in 300/400 Level Business Courses

Only students who have been admitted to the undergraduate business administration program of the College of Business and Public Administration will be eligible to enroll in 300/400 level business courses with the following exceptions:

1. Students pursuing a declared minor in the College of Business and Public Administration may enroll in 300/400 level business courses appropriate to the minor.

2. Students pursuing Upper-Division General Education Requirement Option B, Clusters, may enroll in 300/400 level business courses included in the clusters. (Currently this includes MGMT 325, MGMT 350, MKTG 414 (Cluster 1), ECON 447 (Cluster 4), ECON 454W (Cluster 5), OPMT 303T (Cluster 7), ECON 445 (Cluster 9), and IT 425W, MGMT 361, MKTG 411 (Cluster 10).

3. Students pursuing the Lower-Division General Education Technology Perspective may enroll in IT 360T or OPMT 303T. (Selections in the Computer Skills area include IT courses not at the 300/400 level.)

4. Students pursuing a degree program outside of the College of Business and Public Administration that requires 300/400 level business courses to complete the degree may enroll in the courses appropriate to the major.

Upper-Level Business Course Enrollment Waiver

Students with extenuating circumstances may petition the department chair or discipline coordinator in writing for a waiver to the ban on enrollment in 300/400 level business courses without admission to the undergraduate business administration program. Waivers will be considered under the following conditions:

1. The waiver can be granted only once, for one semester.
2. The student must have previously completed 42 credit hours.
3. The student must have previously completed 42 credit hours.
4. During the semester for which the waiver is granted, the student must complete at least one major area to meet requirements towards the degree. The major area must be chosen from those courses in which the student has maintained a 2.50 grade point average on a 4.00 scale in at least 25 semester hours or 42 quarter hours from Old Dominion University or an accredited institution of higher education. In this case, the C policy in the business foundation courses may be waived.

Appeal Procedures for Denial of Admission to the Undergraduate Business Administration Program

Students who do not achieve a C or better in the business foundation courses after utilizing the Grade Forgiveness Policy may pursue the appeal process.

1. Students may appeal in writing to the associate dean documenting the reasons why the student should be admitted to the business administration program. The associate dean will review the student’s other course work to determine if the student has maintained a 2.50 grade point average on a 4.00 scale in at least 25 semester hours or 42 quarter hours from Old Dominion University or an accredited institution of higher education. In this case, the C policy in the business foundation courses may be waived.

Requirements

Students in all of the Bachelor of Science in Business Administration degree programs must fulfill the University General Education requirements (including foreign language) as well as the College of Business and Public Administration’s core, major, and elective requirements. Students must choose at least one major area to meet requirements towards the degree. The major areas are: accounting, decision sciences, economics, finance, international business, information systems and technology, management, maritime and supply chain management, and marketing. Students majoring in international business must take the specific cluster courses that have been designated for their specific region.

To stay in compliance with AACSB accreditation standards, students receiving a Bachelor of Science in Business Administration from Old Dominion University must complete at least half of their business course work in residence with a minimum of four courses in the major. This equates to 10 business classes, thus meeting the University’s residency requirement as well.

Majors in the college may not take business and public administration courses for pass/fail credit except those courses in which pass/fail is the only grading option (i.e., internships and practica).

No more than four hours of activity credit (used as free electives) may be applied to degree requirements for students majoring within the college.

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment, GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course.

All majors in the College of Business and Public Administration (except the B.A. in economics) may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature, or philosophy. Students pursuing the Bachelor of Arts in economics may substitute GEN 101 for a course in the fine and performing arts, history, literature, philosophy, or social science perspective areas. Students should consult their advisors for additional information.

Competency in Oral and Written Communication

Competency in oral communication is demonstrated by the completion of COMM 101R, Public Speaking. Additionally, all students majoring in business administration can expect to complete several courses in which individual and/or group oral presentations will be required. The written competency is demonstrated by successful completion of ENGL 111C–English Composition.

Upper-Level Writing Intensive Requirement

The upper-level writing intensive requirement in the business administration major is met with MGMT 485W.

Computer Literacy and Technology General Education Requirements

The computer literacy General Education requirement is also a requirement within the College of Business and Public Administration. All business students (except accounting) fulfill this requirement within the major by completing a series of required courses already in the degree program. Accounting majors must complete one course chosen from the approved General Education computer literacy list to fulfill this departmental requirement. The technology general education requirement is satisfied within each B.S.B.A. degree by OPMT 303T.

Minor in Business Administration

A minor in business administration is available to students not receiving the Bachelor of Science in Business Administration degree. ACCT 201 and ECON 202S must be completed as prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are FIN 323, MGMT 325, MKTG 311, IT 360T and OPMT 303T. To receive a minor, the student must achieve a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Advanced Placement

The college accepts advanced placement credit in accordance with the rules and regulations outlined in the Academic Information section of this catalog. Students may take College-Level Examination Program (CLEP) tests to receive credit for ACCT 201, 202, FIN 331, MGMT 325, or MKTG 311. Students are advised to contact the Testing Center and the Office of Experiential Learning for more information regarding CLEP and other experiential learning credit options. For advanced placement credit in any other business or public administration course, students are advised to contact the chair of the department offering the course.

*GEN 101 is approved as a general education requirement for first-year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.
Career Advantage Program in Business Administration

The college participates in the University’s Career Advantage Program. Students may complement their major studies with a practical work experience, which may take the form of an internship, cooperative education experience or a class containing a real-world, hands-on project. Students must apply for internship or co-op participation through the CBPA Career Management Satellite Office. All work experiences must be approved by the faculty sponsor in the appropriate department prior to registering for credit. Students may not earn credit for previous or current work experiences. (However, academic credit for work experience may be approved in accordance with the policies for granting experiential learning credit as defined in the section on Experiential Learning Credit Options at the Undergraduate Level in this catalog.) For details see the Career Management Center section of this catalog.

Transfer of the Associate of Science in Business Administration Towards Degree Requirements

Students transferring to the college must complete a minimum of 10 business courses offered by the college to earn the degree from Old Dominion University, in accordance with AACSB regulations. Those transfer students holding the Associate of Science in Business Administration degree from a Virginia Community College must earn the grade of “C” or better in the following courses in order to satisfy requirements found in the first two years of the B.S.B.A. degree: COMM 101R, ENGL 111C, MATH 162M, 200, ACCT 201, 202, ECON 201S, 202S, DSCI 206, and computer literacy (accounting majors only). Some majors within the college have additional computer course requirements which are not required of most associate degree programs. Please see the major course requirements for more information. The University’s lower-division General Education requirements are deemed satisfied by the A.S. degree. Associate degree holders, although meeting lower-level General Education requirements, must ensure that 120 credits are completed to earn the B.S.B.A. degree.

The College of Business and Public Administration does not accept courses completed at the freshman and sophomore levels at other institutions for required courses at the junior and senior level at Old Dominion University. Please see the section on CLEP credits (Experiential Learning Credit Options at the Undergraduate Level) for additional information.

Grade Average Requirements for Graduation

To graduate with a Bachelor of Science in Business Administration degree, students must present a minimum of 120 hours with a minimum overall grade point average of 2.00 in all courses taken at Old Dominion University. Students must also attain a minimum overall grade point average of 2.00 in courses taken toward the major (courses included in the major grade point average calculation are listed following the description of each major’s course work).

Additionally, students must attain a minimum overall grade point average of 2.00 in the “Common Body of Knowledge” (CBK) listed below. Only courses completed at Old Dominion University will be used to compute the CBK average. Students who are not required to take IT 360T (ACCT and IT majors and minors) will compute the CBK average using the remaining courses. If the CBK average is below the required 2.00 minimum, students are advised to utilize the Grade Forgiveness Policy to improve the grade point average.

Requirements for Completing a Bachelor of Science in Business Administration

The following sections show the courses that are requirements for all business students, regardless of the chosen major: Lower-Division General Education, Common Body of Knowledge Courses, and Upper-Division General Education. Credit hours are listed after the course title. The student must also choose a major and complete the requirements listed for that major on the following pages.

**FOUNdATION COURSES FOR ADMISSION TO THE COLLEGE OF BUSINESS AND PUBLIC ADMINISTRATION**

- ENGL 111C English Composition 3
- MATH 162M Pre-calculus 3
- ACCT 201 Principles of Acct I 3
- ECON 202S Microeconomics 3

See the section on Admission to the Undergraduate Program in Business Administration, General Requirements.

**LOWER-DIVISION GENERAL EDUCATION ****

- COMM 101R Public Speaking 3
- ENGL 110C English Composition 3

- ENGL 111C English Composition 3
- Foundation to Perspectives – GEN 101 New PAGE* 3
- Fine Arts Perspective 3
- History Perspective ** 3
- Literature Perspective 3
- Natural Science Perspective I & II 8
- Philosophy Perspective 3
- MATH 162M Pre-calculus 3
- MATH 200 Calculus 3
- Foreign Language*** 6

*Students majoring in business administration may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature or philosophy.
** There is a pre-determined history course for students majoring in International Business. Please see the International Business major course work for clarification.
*** There are several ways to satisfy the foreign language requirement. Please see the Catalog section labeled Requirements for Undergraduate Degrees, Lower-Division Requirements, Foreign Languages for clarification.
**** Transfer students with an applicable Associate degree from a Virginia Community College or another community college that has a seamless transfer agreement with ODU must have a grade of C or better in COMM 101R, ENGL 111C, MATH 162M and MATH 200 to be able to transfer them.

**COMMON BODY OF KNOWLEDGE COURSES*

- ACCT 201 Principles of Acct I 3
- ACCT 202 Principles of Acct II 3
- DSCI 206 Prob., Decis Anal & Stat 3
- DSCI 306 Stat. Data Anal. & MS 3
- ECON 201S Microeconomics 3
- ECON 202S Microeconomics 3
- ECON 301 Managerial Economics 3
- FIN 323 Introduction to Finance 3
- FIN 331 Legal Environ of Busn 3
- IT 360T** Principles of Info Tech 3
- MGMT 325 Contemp Organ Mgmt 3
- MGMT 485W Busn Strat & Policy 3
- MKTG 311 Principles of Marketing 3
- OPMT 303T Operations Mgmt Tech 3

* Students majoring in business administration may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature or philosophy.

** There is a pre-determined history course for students majoring in International Business. Please see the International Business major course work for clarification.

**UPPER-DIVISION GENERAL EDUCATION**

Option A: Any University-approved minor, second degree, or second major.

Option B: Choose a cluster and complete nine hours as described in the University Catalog section labeled Requirements for Undergraduate Degrees, Upper-Division Requirements.

** Students who pursue a minor/major outside the College of Business and Public Administration or in Economics fulfill Option A with no additional course work needed. Bachelor of Science in Business Administration majors pursuing a minor or second major in the College of Business and Public Administration must also take six hours of 200-400 level courses outside the CBPA, or in economics, or in study abroad. Students majoring in economics who pursue a minor or second major in the College of Business and Public Administration fulfill the upper-division general education requirement and do not need to take the six hours of 200-400 level courses outside the CBPA.

** All International Business majors take a cluster as specified within the major requirements. Please see the International Business major course work for further details.

The following sections denote undergraduate course requirements for specific majors offered by the College of Business and Public Administration. Most majors have free electives and business electives, which are also listed. Credit hours are listed after the course title.

**Bachelor of Science in Business Administration- Accounting Major**

Douglas E. Ziegenfuss, Chair
Terry Kubichač, Chief Departmental Advisor
The study of accounting provides a basis for many government, nonprofit
and business activities. A significant number of graduates use accounting to
prepare them for a successful career in the public or private sectors. The
undergraduate program in accounting at Old Dominion University is part of a
select group in the country with separate accreditation from AACSB-
International. The program provides a broad-based education with a variety of
career objectives. The program provides students with technical accounting
knowledge and the ability to analyze problems, communicate solutions, interact
with colleagues, and successfully handle ethical issues.

**Accounting major course work**

Computer Literacy Perspective 3
BUSN 135 Intro to Prod Software 1
ACCT 301 Intermediate Acct 1
ACCT 302 Intermediate Acct II 3
ACCT 311 Managerial Acct 3
ACCT 421 Taxation 3
ACCT 460 Accounting Information Sys 3

*ACCT elective* 3
International Business requirement** 3
Free elective 3
200-400 level business elective *** 3
300-400 level free electives 9
* ACCT electives: 367, 368, 369, 405, 411, 422, 450, 495. ACCT 450
cannot also be used as an international business elective.
** International Business requirement choices: ACCT 450, ECON 450, FIN
435, MGMT 361, 462, 463, 465, MKTG 411 or IT 425W, MSCM 370. ACCT
450 cannot be used for both the ACCT elective and the international business
elective.
*** Can be any 200-400 level course offered by the College of Business and
Public Administration, providing that the student has the appropriate
prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for
major course work for graduation are: all 300-400 level ACCT courses.
Students must complete all upper-division accounting courses with a grade of
C- or better in order to graduate. In addition, a comprehensive assessment
exam is given in ACCT 460 that covers the material from ACCT 301, 302, 311,
421, and 460.

**Accounting minor course work**

A minor in accounting requires the completion of ACCT 301 with a grade of
C or better and nine hours of 300-and/or 400-level accounting courses. All
courses at the 300 and 400 levels must be preceded by listed prerequisites with
ACCT 201-202 or ACCT 226-227 being prerequisites to ACCT 301. To
receive a minor, the student must achieve a minimum overall cumulative grade
point average of 2.00 in all 300-and/or 400-level accounting courses required for
the minor exclusive of 200-level courses and prerequisite courses. In
addition, a grade of C- or better is required in all 300-and/or 400-level
accounting courses counted toward the minor. A minimum of six hours in
upper-level courses in the minor must be taken through courses offered by Old
Dominion University.

**Fast-Track Undergraduate Admission**

Undergraduate students majoring in accounting at Old Dominion University
may apply for provisional status in the Master of Science in accounting program
after completing ACCT 301, Intermediate Accounting I, with a
minimum overall and accounting grade point average of 3.00. These students can
then achieve regular admission status by completing their undergraduate
degree with a minimum overall and accounting grade point average of 3.00 and
obtaining an acceptable GMAT score.

**Bachelor of Science in Business Administration-Decision Sciences Major**

G. Steven Rhiel, Chair
Carol Markowski, Chief Discipline Advisor

Decision Sciences enables students to properly develop decision models and
use computers to manipulate data and make appropriate information available
for decision making with courses in a chosen functional area of business.
Decision sciences graduates are often employed in their functional area as
analysts. Many recent graduates have taken jobs in the supply chain
management field.

**Decision Sciences major course work**

BUSN 135 Intro to Prod Software 1
IT 360T, 361, or ACCT 460 3
DSCI 407 Mgmt Science 3

DSCI 476 Sim Model & Analysis 3
Major electives* 9
Functional area electives** 9
Free electives 6
200-400 level business elective*** 3
300-400 level business elective*** 3

* Major electives: six hours from IT 210, 410, DSCI/MSCM 441 or DSCI
432; three hours from ACCT 311, DSCI 368, 432, DSCI/MSCM 441, ECON
400, FIN 413, 431, IT 210, 410, 461, MGMT 413, MKTG 407
** Student must choose and complete course work from the following
functional areas:

- ACCT: ACCT 450 and two approved 300-400
- level ACCT courses
- ECON: ECON 450 and two approved 300-400
- level ECON courses
- FIN: FIN 435 and two approved 300-400
- level FIN courses
- MGMT: MGMT 361 or 462 and two approved
- 300-400 level MGMT courses
- MKTG: MKTG 411 and two approved 300-400
- level MKTG courses

*** Can be any 200-400 or 300-400 level course offered by the College of
Business and Public Administration, providing that the student has the
appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for
major course work for graduation are: DSCI 407, 476, nine hours of Decision
Sciences electives, and nine hours of Functional area electives.

**Decision Sciences minor course work**

The minor in decision sciences is comprised of DSCI 306, OPMT 303T
(core business courses), DSCI 407 and DSCI 476. At least two of these courses
must be completed through courses offered by Old Dominion University, and a
2.00 overall grade point average is required exclusive of prerequisite courses.

Business majors who want to make themselves more marketable may choose a
minor in Decision Sciences by taking two additional courses.

**Bachelor of Science in Business Administration-Economics Major**

Christopher B. Colburn, Chair
Eric Anderson, Chief Departmental Advisor

Economics is the study of how societies use their limited resources to
produce wealth and how the distribution of the wealth among their members is
determined. Knowledge of economics helps businesses and households
understand how economic events will affect them, how they can best react to
those events, and how to assess government economic policies.

Major in economics is a springboard of careers in business, government
agencies, and not-for-profit organizations. A major in economics is also
excellent preparation for law school and graduate study towards master’s and
doctoral programs in economics, business administration, public administration,
urban studies, international studies, marine affairs, and other
fields.

**Minimum Grade Requirements for Completion of the Major**

For completion of a major in economics, a student must have a minimum
overall cumulative grade point average of 2.00 in all courses taken toward the
major except ECON 201S, 202S and 301. Courses included in the calculation
of the grade point average in the major are: all economics courses. Students
must also earn a grade of C or better in ECON 201S and 202S and must earn a
grade of C- or better in all other ECON courses except ECON 301, in which a
passing grade must be earned.

**Economics major course work**

Social Science Perspective 3
BUSN 135 Intro to Prod Software 1
ECON 304 Intermediate Microecon 3
ECON 305 Intermediate Macroecon 3
ECON 450 International Econ 3
ECON electives* 9
Free elective 3
200-400 level free elective 3
Business elective ** 3
300-400 level business elective *** 6

* ECON electives: 331, 368, 369, 395/396, 400, 402, 407, 421, 425, 427,
444, 445, 447, 451, 454W, 455, 456, 494, 495, 499

** Student must choose and complete course work from the following
functional areas:

- ECON: ECON 450 and two approved 300-400
- level ECON courses
- FIN: FIN 435 and two approved 300-400
- level FIN courses
- MGMT: MGMT 361 or 462 and two approved
- 300-400 level MGMT courses
- MKTG: MKTG 411 and two approved 300-400
- level MKTG courses

*** Can be any 200-400 or 300-400 level course offered by the College of
Business and Public Administration, providing that the student has the
appropriate prerequisites.
### Bachelor of Science in Business Administration-Finance Major

Mohammed Najand, Chair & Discipline Coordinator
John Griffith, Chief Discipline Advisor

The financial management major comprises three tracks: finance, real estate, and insurance and financial services. All satisfy the requirements listed below under one of the tracks. Finance graduates are qualified for corporate financial management positions such as financial analysts, capital budgeting managers, credit managers, or cash control and risk managers; portfolio management positions like securities analysts, account executives, or portfolio manager/analytics; bank management positions include lending officers, marketing officers, or loan analysts; or entrepreneurs running their own businesses. Real estate graduates are employed as appraisers, sales and leasing agents, property managers, developers, and lending officers. Insurance and financial services graduates become underwriters, claims adjusters, and sales managers.

#### Finance major course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 135</td>
<td>Intro to Prod Software</td>
<td>1</td>
</tr>
<tr>
<td>FIN 317 or 319</td>
<td>Prin Ins Risk Mgmt or</td>
<td>3</td>
</tr>
<tr>
<td>FIN 435</td>
<td>Intl Financial Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>FIN 431</td>
<td>Investments</td>
<td>3</td>
</tr>
<tr>
<td>FIN 432</td>
<td>Intermed Fin Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>FIN 439</td>
<td>Financial Dec Making</td>
<td>3</td>
</tr>
<tr>
<td>Major electives*</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Free electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>200-400 level business elective**</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>300-400 level business elective**</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

** Major electives: three hours from FIN 433, 434, ACCT 301 or 311, ECON 331. Six hours from FIN 317 or 319, 367, 368, 369, 410, 411, 413, 433, 434, 450, 453, 454, 497, ECON 421, 455, 450, ACCT 301, 311

** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 317 or 319, 435, 431, 432, 439, and nine hours of FIN electives.

#### Finance major, Real Estate track course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 135</td>
<td>Intro to Prod Software</td>
<td>1</td>
</tr>
<tr>
<td>FIN 319</td>
<td>Prin of Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>FIN 431</td>
<td>Investments</td>
<td>3</td>
</tr>
<tr>
<td>FIN 435</td>
<td>Intl Financial Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>FIN 450</td>
<td>Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 451</td>
<td>Real Estate Appraisal</td>
<td>3</td>
</tr>
<tr>
<td>FIN 454</td>
<td>Real Est Invest Analys</td>
<td>3</td>
</tr>
<tr>
<td>Major elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Free electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>200-400 level business elective**</td>
<td>3</td>
<td></td>
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<tr>
<td>300-400 level business elective**</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>


** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 319, 431, 435, 450, 451, 454, and six hours of major electives.

#### Finance major, Insurance and Financial Services track course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 135</td>
<td>Intro to Prod Software</td>
<td>1</td>
</tr>
<tr>
<td>FIN 317</td>
<td>Principles of Insurance</td>
<td>3</td>
</tr>
<tr>
<td>FIN 435</td>
<td>Intl Financial Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>FIN 431</td>
<td>Risk Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 443</td>
<td>Seminar in Insurance</td>
<td>3</td>
</tr>
<tr>
<td>Major electives*</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Free electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>300-400 level business elective**</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

** Major electives: 12 hours from FIN 340, 367, 368, 369, 410, 411, 412, 433, 434, ACCT 421

** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 317, 413, 435, 443, and 12 hours of FIN electives.

#### Financial Management, Real Estate, and Insurance and Financial Services minor course work

A minor in financial management requires the completion of FIN 323, 431, 432, and six hours from FIN 433, 434, 435, and 439. A minor in real estate requires the completion of FIN 319, 450, 454, and six hours from FIN 431, 451, and 498. A minor in insurance and financial services requires the completion of FIN 317, 413, 443, and six hours from FIN 410, 411, 412, and 431.

For completion of a minor, the student must achieve a minimum overall cumulative grade point average of 2.00 in all finance courses required or allowed toward the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

### Bachelor of Science in Business Administration-Information Systems and Technology Major

G. Steven Rhiel, Chair
Li Xu, Information Technology Area Coordinator
Roya Ardalan, Chief Discipline Advisor

The information systems and technology major is designed to provide students with a technical background in computer-based information technology as well as a broad perspective of the business environment in which information technology plays a strategic role. The department emphasizes the development of business analysis and system implementation skills; these skills can provide a basis for job entry, career development and flexibility amid the rapid changes in information technology and information systems. The major consists of four distinct tracks.

#### Information Systems and Technology major courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 201</td>
<td>Intro to Info Systems</td>
<td>3</td>
</tr>
<tr>
<td>IT 210</td>
<td>Busan Apps with C++</td>
<td>3</td>
</tr>
<tr>
<td>IT 317</td>
<td>Principles of Tech Arch</td>
<td>3</td>
</tr>
<tr>
<td>IT 310</td>
<td>GUI Program with C++</td>
<td>3</td>
</tr>
<tr>
<td>IT 361</td>
<td>Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IT 473</td>
<td>IT Design, Dev, &amp; Impl</td>
<td>3</td>
</tr>
<tr>
<td>IT 415</td>
<td>Busn Telecom &amp; Net</td>
<td>3</td>
</tr>
<tr>
<td>IT 450</td>
<td>Database Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IT 464</td>
<td>Project Management</td>
<td>3</td>
</tr>
<tr>
<td>IT elective*</td>
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<tr>
<td>Software elective**</td>
<td>3</td>
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<tr>
<td>International business elective***</td>
<td>3</td>
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<tr>
<td>200-400 level business elective****</td>
<td>3</td>
<td></td>
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<tr>
<td>300-400 level business electives****</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites, except IT 360T

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 464, 473 and the IT elective.
Information Systems and Technology major, Database track course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IT 201</td>
<td>Intro to Info Systems</td>
<td>3</td>
</tr>
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<td>Busn Apps with C++</td>
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<td>IT 310</td>
<td>GUI Program with C++</td>
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<tr>
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<td>Systems Analysis</td>
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</tr>
<tr>
<td>IT 473</td>
<td>IT Design, Dev, &amp; Impl</td>
<td>3</td>
</tr>
<tr>
<td>IT 415</td>
<td>Busn Telecom &amp; Net</td>
<td>3</td>
</tr>
<tr>
<td>IT 450</td>
<td>Database Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IT 451</td>
<td>Database Admin</td>
<td>3</td>
</tr>
<tr>
<td>IT 453</td>
<td>Database Deployment</td>
<td>3</td>
</tr>
<tr>
<td>IT 464</td>
<td>Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Software elective* 3
200-400 level business elective** 3
International business elective*** 3

* Software electives: IT 372, 410, 420, 430, 461
** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites, except IT 360
*** International Business electives: IT 425W, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 451, 452, 453, 473 and the software elective.

Information Systems and Technology major, Network Engineering track course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IT 201</td>
<td>Intro to Info Systems</td>
<td>3</td>
</tr>
<tr>
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<tr>
<td>IT 361</td>
<td>Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IT 473</td>
<td>Syst Design &amp; Implement</td>
<td>3</td>
</tr>
<tr>
<td>IT 415</td>
<td>Busn Telecom &amp; Net</td>
<td>3</td>
</tr>
<tr>
<td>IT 450</td>
<td>Database Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IT 416</td>
<td>Adv Net &amp; Server Conf</td>
<td>3</td>
</tr>
<tr>
<td>IT 417</td>
<td>Network Admin &amp; Sec</td>
<td>3</td>
</tr>
<tr>
<td>IT 464</td>
<td>Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Software elective* 3
200-400 level business elective** 3
International business elective*** 3

* Software electives: IT 372, 410, 420, 430, 461
** Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites, except IT 360
*** International Business electives: IT 425W, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 416, 417, 418, 450, 473 and the software elective.

Information Systems and Technology major, E-Commerce track course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 201</td>
<td>Intro to Info Systems</td>
<td>3</td>
</tr>
<tr>
<td>IT 210</td>
<td>Busn Apps with C++</td>
<td>3</td>
</tr>
<tr>
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<tr>
<td>IT 310</td>
<td>GUI Program with C++</td>
<td>3</td>
</tr>
<tr>
<td>IT 361</td>
<td>Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IT 473</td>
<td>Syst Design &amp; Implement</td>
<td>3</td>
</tr>
<tr>
<td>IT 415</td>
<td>Busn Telecom &amp; Net</td>
<td>3</td>
</tr>
<tr>
<td>IT 450</td>
<td>Database Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IT 461</td>
<td>Implemt Internet Apps</td>
<td>3</td>
</tr>
<tr>
<td>DSCFMSCM 441</td>
<td>Supply Chain Mgmt &amp; Logistics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 450</td>
<td>Marketing on Internet</td>
<td>3</td>
</tr>
<tr>
<td>IT 464</td>
<td>Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

200-400 level business elective* 3
International business elective** 3

* Can be any 200-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites, except IT 360
** International Business electives: IT 425W, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 461, 473, DSC 441, MKTG 450, and the e-commerce elective.

Information Systems and Technology minor course work

IT 201 and 210 must be completed as prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Students must complete IT 310, 317, 361, 415, 450, and 473 with a minimum overall cumulative grade point average of 2.00 exclusive of 100/200-level courses and prerequisite courses. All courses at the 300 and 400 levels must be preceded by listed prerequisites. Students must complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Students pursuing the Bachelor of Science in Computer Science may receive a minor in Information Systems and Technology by completing the following: IT 361, 415, 450, and 473. ACCT 201 is a prerequisite to IT 361 and is not included in the calculation of the grade point average for the minor.

Bachelor of Science in Business Administration—International Business Major

Bruce Seifert, Discipline Coordinator and Chief Discipline Advisor

A major in international business permits students to take an interdisciplinary approach to the study of global business. In addition to the core business and university requirements, all international business majors take specialized international courses in economics, finance, management and marketing.

Students also select an appropriate region: Europe, Latin America or East Asia. Unless they are already fluent in both English and another language, students will study and obtain a high level of competency in a foreign language appropriate for the region of interest. Students can opt to study a language other than French, Spanish, German, Chinese or Japanese. If Old Dominion does not offer all the required courses for this language, the student must find equivalent courses at other universities. The student must obtain written permission from the International Business discipline coordinator to take these courses at a particular university. The required courses for Europe and Latin America emphasis areas are intermediate 1 and 2 and the business language course. For East Asia emphasis areas the equivalent courses are the first 12 credit hours of the language. Students fluent in English and another language may fulfill the language requirement with an approved minor (see discipline coordinator for information). Students must also study the culture and history of the specific region.

All students majoring in international business are expected to participate in an approved study abroad program. International students are exempt from the study abroad requirement. However, these students are required to take an approved minor. Exemptions need written approval of the discipline coordinator. Students can choose from an extensive list of sites abroad. International business students have recently studied in Denmark, England, Mexico, Philippines and Korea.

International business students are encouraged to minor in a business functional area such as accounting, finance, marketing or management.

International Business major, East Asian emphasis in Chinese course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 101H</td>
<td>Asia in World History</td>
<td>3</td>
</tr>
<tr>
<td>POLS 100S</td>
<td>International Politics</td>
<td>3</td>
</tr>
<tr>
<td>BUSN 135</td>
<td>Intro to Prod Software</td>
<td>1</td>
</tr>
<tr>
<td>CHIN 111F</td>
<td>Intro to Chinese I</td>
<td>6</td>
</tr>
<tr>
<td>CHIN 212</td>
<td>Intro to Chinese II</td>
<td>6</td>
</tr>
<tr>
<td>ECON 450</td>
<td>International Economics</td>
<td>3</td>
</tr>
<tr>
<td>FIN 435</td>
<td>International Finance</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 411</td>
<td>Multi-national Mkgt</td>
<td>3</td>
</tr>
<tr>
<td>INBU 433</td>
<td>Doing Business in Asia</td>
<td>3</td>
</tr>
<tr>
<td>INBU 450</td>
<td>Intl Business Operations</td>
<td>3</td>
</tr>
</tbody>
</table>
| Major elective* 3
200-400 level business elective** 3
International Asia Cluster*** 6

* Major electives: ECON 454, 455, INBU 367, 368, 434, 463, 495, IT 425W, MGMT 462, 463, 465, MSCM 370
** Can be any 200-400 level course offered by the College of Business and Public Administration with the exception of MGMT 361, providing that the student has the appropriate prerequisites
*** Asian Cluster choices: ASIA 460, GEOG 453, HIST 332, 336, 439, POLS 338, 437

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 433, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

International Business Major, East Asian emphasis in Japanese course work

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 101H</td>
<td>Asia in World History</td>
<td>3</td>
</tr>
</tbody>
</table>

COLLEGE OF BUSINESS AND PUBLIC ADMINISTRATION 109
POLS 100S  International Politics  3
BUSN 135  Intro to Prod Software  1
JAPN 111F  Beginning Japanese  6
JAPN 212  Intermediate Japanese  6
ECON 450  International Economics  3
FIN 435  International Finance  3
MKTG 411  Multi-national Mktg  3
INBU 433  Doing Business in Asia  3
INBU 450  Intl Business Operations  3
Major elective*  3
200-400 level business elective**  3
International Asia Cluster***  6
* Major electives: ECON 454, 455, INBU 367, 368, 434, 463, 495, IT 425W, MGMT 462, 463, 465, MSCM 370
** Can be any 200-400 level course offered by the College of Business and Public Administration with the exception of MGMT 361, providing that the student has the appropriate prerequisites
*** Asian Cluster choices: ASIA 460, GEOG 453, HIST 332, 336, 439, POLS 338, 437
Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 433, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

International Business Major, European emphasis course work
HIST 102H  Europe in World History  3
POL 100S  International Politics  3
BUSN 135  Intro to Prod Software  1
FL 201  See comments below*  3
FL 202  See comments below*  3
GER/FR/Span 366  Busin Language  3
ECON 450  International Economics  3
FIN 435  International Finance  3
MKTG 411  Multi-national Mktg  3
INBU 431  Doing Busin in Europe  3
INBU 450  Intl Business Operations  3
Major elective**  3
200-400 level business elective***  3
300-400 level business elective***  3
International European Cluster****  6
* Language choices include: French, Spanish, German
** Major electives: ECON 454, 455, INBU 367, 368, 434, 463, 495, IT 425W, MGMT 462, 463, 465, MSCM 370
*** Can be any 200-400 level course offered by the College of Business and Public Administration with the exception of MGMT 361, providing that the student has the appropriate prerequisites
**** European Cluster choices: GEOG 451, FLET 410, HIST 316, 406, POLS 314, 332
Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 431, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

International Business Major, Latin America emphasis course work
HIST 103SH  Latin America History  3
POL 100S  International Politics  3
BUSN 135  Intro to Prod Software  1
SPAN 201  Intermediate Spanish I  3
SPAN 202  Intermediate Spanish II  3
SPAN 366  Business Language  3
ECON 450  International Economics  3
FIN 435  International Finance  3
MKTG 411  Multi-national Mktg  3
INBU 432  Doing Busin in Latin Am  3
INBU 450  Intl Business Operations  3
Major elective*  3
200–400 level business elective**  3
300–400 level business elective**  3
International European Cluster***  6
* Major electives: ECON 454, 455, INBU 367, 368, 434, 463, 495, IT 425W, MGMT 462, 463, 465, MSCM 370
** Can be any 200-400 level course offered by the College of Business and Public Administration with the exception of MGMT 361, providing that the student has the appropriate prerequisites
*** European Cluster choices: GEOG 454, HIST 373, 470, 372, POLS 337, SPAN 321
Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 432, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

International Business minor course work
Students seeking the Bachelor of Science in Business Administration may also minor in international business by completing the following courses: ECON 450, FIN 435, MKTG 411, and either INBU 431, 432, 433, 450, MGMT 462, or 463. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

Bachelor of Science in Business Administration-Major
Mohammad Najand, Chair
Paul J. Champagne, Discipline Coordinator and Chief Discipline Advisor

The management major is designed to develop a student’s understanding of management as both an art and as a science along with those administrative skills necessary for positions of leadership and responsibility. The program recognizes that most students and managers will face several career changes and job choices following the first decade following graduation. The major provides students with a background in the principles and practices of management that will allow them to function in a variety of organizational environments.

For a major in management, all courses must be preceded by listed prerequisites. For completion of a major in management, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. In addition, a grade of C- or better is required in all management courses counted toward the major. A minimum of 12 hours in upper-level courses in the major must be taken through courses offered by Old Dominion University.

Management major course work
BUSN 135  Intro to Prod Software  3
MGMT 340  Human Resource Mgmt  3
MGMT 361  Intl Busn Operations  3
MGMT 451  Organizational Behavior  3
MGMT electives*  12
200–400 level free elective  3
300–400 level free elective  3
Free electives  9
* Management electives: MGMT 350, 360, 367, 368, 369, 413, 414, 417, 418, 426, 452, 462, 463, 495
Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: all 300-400 level MGMT courses except MGMT 325 and 485W.

Management minor course work
A minor in management requires the completion of MGMT 325 plus 12 hours of 300- or 400 level management courses except for MGMT 485W. All courses selected must be preceded by listed prerequisites. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses. In addition, a grade of C- or better is required in all management courses counted toward the minor. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

Bachelor of Science in Business Administration-Maritime and Supply Chain Management Major
G. Steven Rhiel, Chair
Carol Markowski, Chief Discipline Advisor

The maritime and supply chain management major is designed to provide students with an integrated working knowledge of maritime operations and supply chain management. It is the only undergraduate major of its kind east of the Mississippi River and graduates will be able to meet the needs of regional, national and international shipping, transportation and distribution industries. Students may concentrate in either the maritime management or supply chain management area by choice of their MSCM electives.

Maritime and Supply Chain Management major course work
BUSN 135  Intro to Prod Software  1
MSCM 370  International Shipping  3
MSCM/DSCC 441  Supply Chain Management and Logistics  3
MSCM 471  Shipping Management  3
MSCM 472  Port Management  3
Major electives*  12
Free electives  6
300-400 level business elective**  6
* DSCI 407, 432, 476, ECON 402, MGMT 350, 360, MSCM 368, 430, 495
** Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: MSCM 370, MSCM/DSCI 441, MSCM 471, 472 and all 300-400 level MSCM elective courses.

Bachelor of Science in Business Administration-
Marketing Major

Mohammad Najand, Chair
Anusom Singhapakdi, Discipline Coordinator
Ateba Crocker, Chief Discipline Advisor

Marketing is more than just buying and selling. Marketing is part of almost any transaction which occurs between people and organizations. Each party has objectives and goals it would like to realize. The marketing task is to facilitate the transaction so that these objectives are met. The principal objective of this major is educating students to be ethical and successful in today’s and tomorrow’s dynamic marketing environment and systems.

For completion of a major in marketing, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. In addition, a grade of C- or better is required in all marketing courses counted toward the major.

Marketing major course work

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BUSN 135</td>
<td>Intro to Prod Software</td>
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<tr>
<td>MKTG 402</td>
<td>Consumer Behavior</td>
<td>3</td>
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<tr>
<td>MKTG 407</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 411</td>
<td>Multi-national Mkglg</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 490</td>
<td>Mkglg Policy &amp; Strategy</td>
<td>3</td>
</tr>
<tr>
<td>MKTG electives*</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>200-400 level free elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Free electives</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

* Marketing electives: MKTG 367, 368, 369, 403, 404, 406, 412, 414, 416, 428, 450, 496

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: all 300-400 level MKTG courses except MKTG 311.

Marketing minor course work

A minor in marketing requires the completion of MKTG 311 plus 12 hours of 300/400-level marketing courses. All courses selected must be preceded by listed prerequisites. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses. In addition, a grade of C- or better is required in all marketing courses counted toward the minor. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

Bachelor of Science – E-Commerce Systems

The Bachelor of Science in e-commerce systems has been deactivated. No new students are being accepted. Please contact the Department of Information Technology and Decision Sciences for additional information.

MILITARY SCIENCE AND LEADERSHIP
(Army Reserve Officers’ Training Corps)

Barry R. Hendricks, Chair

The Department of Military Science and Leadership offers courses which develop a student’s ability to organize, motivate, and lead others. Although some military science graduates choose a career with the U.S. Army, many use their Army leadership and management experiences as a springboard for successful careers as entrepreneurs, corporate officers and managers, attorneys, and governmental executives. A variety of social and professional enrichment activities as well as adventure training opportunities are also available to students. Scholarships are available on a competitive basis.

The Army ROTC program is administratively located under the Director of Military Activities and is situated, for academic matters, within the College of Business and Public Administration.

Mission

The mission of the Department of Military Science and Leadership is to commission the future officer leadership of the U.S. Army. The Old Dominion University Army ROTC program consists of structured study in the field of military science with the primary objective of developing leaders who will serve as commissioned officers in the U.S. Army Active and Reserve components. Students develop maturity, responsibility, and dependability while earning the Gold Bar of an Army Second Lieutenant.

Requirements

Army ROTC offers two different programs to all qualified university students. The traditional four-year program gives students the opportunity to take AROTC courses in each of their four years of college. The two-year program is available for any students who did not take ROTC during their first two years of college. There is no service obligation until students reach their junior year of college.

Four-Year Program

Basic Course, Military Science Level I (MSL 101+, 102+ or 195, 196) and Level II (MSL 201+, 202+ or 295, 296, 250+).

Advanced Course, Military Science Level III (MSL 301, 395/311+, 302, 396/312+) and Level IV (MSL 401, 495/411+, 402, 496/412+).

Veterans and members of the Reserve or National Guard may be able to waive the Basic Course requirements.

Two-Year Program

MSL 250+ (Basic Camp Leader’s Training Course) and the Advanced Course listed above. Attendance at Leader’s Training Course (not to be confused with the Basic Training) satisfies the Basic Course requirements.

Minor in Military Leadership

The minor in military leadership is a high quality, interdisciplinary, multidimensional, experiential, and culturally diverse program that exposes students to, and prepares them for, real life leadership opportunities and challenges. Students explore issues of leadership, citizenship, and social change within the context of an inquiry, experiential, and competency-based instructional design. The minor is open to all students who have completed the prerequisite courses. Students who are not enrolled in the military science or naval science program will receive academic credit for the minor but will not receive credit for commissioning purposes.

The requirements for students in the Military Science and Leadership Department are completion of MSL 301, 302, 401, 402 and one course selected from ENMA 301, 401, ENGL 435W, HIST 408, 410, MGMT 325, 340, NURS 480W, PHIL 441, 442, POLS 326, 327, 421, PSYC 343, 345, and SOC 352. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Scholarships

Students may compete for four-, three-, and two-year scholarships which pay full tuition and gradually increasing stipend and book allowance annually. Nursing scholarships are plentiful for qualified applicants.

Summer Training

Students may compete for Airborne, Air Assault, and other training during the summer. Third-year ROTC students may compete for Cadet Troop Leadership slots to various locations in the United States and overseas. All Advanced Course cadets attend the Leadership Development and Assessment Course (LDAC) before or after their senior year.
Darden College of Education

William H. Graves III, Dean
J. David Branch, Associate Dean, Undergraduate Education and College Services

To be named, Associate Dean, Graduate Education and Assessment

The Darden College of Education is comprised of the following departments: Early Childhood, Speech-Language Pathology and Special Education; Educational Curriculum and Instruction; Educational Leadership and Counseling; Exercise Science, Sport, Physical Education, and Recreation; and Occupational and Technical Studies.

Mission. The Darden College of Education is committed to excellence in teaching and learning activities and services. The college strives to meet the needs of the community while maintaining national and international prominence and is dedicated to preparing distinguished professionals who are leaders in their field. The college fulfills its mission through its undergraduate and graduate programs in the fields of education, counseling and human services, exercise science, athletic training, sport management, recreation, training, fashion, speech-language disorders, and instructional and industrial technology as well as its continuing educational activities.

Purpose. Old Dominion University’s major purpose in its teacher education programs is to prepare teachers and educational leaders who have knowledge of their teaching disciplines, abilities to practice state-of-the-art instruction to students of various cultural and socioeconomic backgrounds, and demonstrate dispositions which reflect commitment to teaching and learning as well as lifelong professional growth and development.

Goals. The teacher preparation programs embrace several broad goals. Candidates will possess the following:

- Knowledge of their teaching field(s);
- Pedagogical knowledge of principles and strategies which pertain to classroom organization and instructional practices;
- Knowledge of curricular content, classroom organization, instructional materials, and industrial technology;
- Knowledge of learners’ developmental characteristics and diversity;
- Knowledge of educational contexts, ranging from group dynamics in classrooms, to the governance and financing of school divisions, to the characteristics and expectations of communities which schools serve;
- Knowledge of educational values, purposes, ends, history, and philosophies which pertain to schooling in a democracy;
- Ability to conduct research and utilize research findings in decisions to improve long-range planning, school operation and student learning.

All education programs are accredited by the National Council for the Accreditation of Teacher Education (NCATE). Teacher licensure programs are also approved by the Department of Education of the Commonwealth of Virginia.

The graduate programs provide Virginia and other regions with ten broad majors for the Master of Science in Education, three majors in the Master of Science, two majors for the Education Specialist, and 11 majors for the Doctor of Philosophy. Within these graduate majors are over 40 related interest areas designed to address the professional needs of students and the communities they serve. The prime objective of graduate programs is to improve the professional skills and attitudes of students to enable them to influence the quality of education (teaching, leadership, counseling, research, training, and community services) at the state, regional, national and international levels.

Fast Track Admission Policy

Fast Track graduate admission will be available to undergraduate students in the Old Dominion University Interdisciplinary Studies, Teacher Preparation Concentration as well as undergraduate students who have completed teacher preparation emphasis degrees in art, dance, English, foreign languages, geography, history, marketing education, math, music, physical education, political science, sciences, technology education, and theatre. To be considered under the Fast Track graduate admission policy, students must earn the B.S. or B.A. degree from Old Dominion University and must be applying to an M.S.Ed. degree in PK/early childhood education, PK6/elementary education, secondary education, or special education.

In addition, to be considered for Fast Track graduate admission:

- An applicant must have a minimum 3.20 undergraduate cumulative GPA at Old Dominion University; and
- An applicant must have passing scores in EACH of the three sections of the PRAXIS I exam as established by the Commonwealth of Virginia; composite scores will not be considered.

Licensure and Baccalaureate Degree Requirements

The Darden College of Education offers teacher preparation programs as well as non-teaching programs in human services, exercise science, sport management, speech-language pathology and audiology, recreation and tourism studies, fashion merchandising, industrial technology and training specialist. Teacher preparation programs focus on the acquisition of competence in the following areas:

1. subject matter
2. preparing and presenting instruction;
3. diagnosing and assessing student achievement;
4. recognizing individual differences with respect to cultural diversity and the spectrum of exceptionalities;
5. implementing a sound philosophy of education based on an understanding of the foundations of American education; and
6. building and maintaining an effective classroom environment.

Program sheets are available in the Office of Teacher Education Services and appropriate departmental offices in the Colleges of Arts and Letters, Education, and Sciences. Students who wish to teach the disciplines of art, biology, chemistry, computer science, dance, earth science, physics, English, foreign languages, music, mathematics, social studies, and the humanities must pursue appropriate majors in either the College of Arts and Letters or the College of Sciences. (See the College of Arts and Letters and the College of Sciences sections of this Catalog.) Students interested in teaching early childhood education, special education, or elementary education must pursue a major in interdisciplinary studies through the College of Arts and Letters and a fifth year leading to a master’s degree in elementary education, special education or early childhood education through the Darden College of Education. (For education course requirements in these areas, see the Department of Educational Curriculum and Instruction and Department of Early Childhood, Speech-Language Pathology and Special Education sections of this Catalog.) Students interested in teaching special education must complete an undergraduate major in an academic content area with the option of selecting a minor in special education and must complete a fifth year leading to a master’s degree in special education through the Darden College of Education. Students interested in speech-language pathology and audiology must also complete a master’s degree in that area. Students interested in teaching marketing education, technology education, or health and physical education must pursue a major in the discipline. (For details, see the Department of Occupational and Technical Studies or the Department of Exercise Science, Sport, Physical Education, and Recreation sections of this Catalog.)

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment, GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course. The Darden College of Education has approved the following substitutions. Students in the speech-language pathology and audiology major may substitute GEN 101 for a course in the fine and performing arts, literature or philosophy perspective areas. All majors in the Department of Occupational and Technical Studies must substitute GEN 101 for the literature perspective. Students majoring in human services may substitute GEN 101 for a course in the natural science and technology perspective area. Students majoring in recreation and tourism studies, exercise science, and health and physical education teacher preparation may substitute GEN 101 for a course in the fine and performing arts, history, literature, or philosophy perspective areas. Students majoring in sport management may substitute GEN 101 for a course in the fine and performing arts, literature, natural science and technology, or philosophy perspective areas. Students should consult their advisors for additional information.

GEN 101 is approved as a general education requirement for first year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.
Licensure Only Teacher Education Programs

Policy

Many students already possessing an undergraduate degree enter Old Dominion University for the sole purpose of meeting Virginia’s teaching licensure standards. When these students apply for admission into an approved teacher education program, they are considered to be "licensure only" candidates. Students must meet the college’s policy for admitting students into an approved teacher education program. Admission to Old Dominion University does not guarantee admission into degree and/or teacher preparation programs in the Darden College of Education.

Procedure

Students seeking regular admission into the licensure only program must:
1. apply for admission to Old Dominion University as a non-degree seeking graduate student;
2. have achieved a cumulative GPA of 2.75 for all college credit courses taken in the baccalaureate degree program;
3. achieve passing Praxis I or Virginia Board of Education-approved SAT or ACT score requirements as outlined by the Commonwealth of Virginia;
4. interview and receive recommendation for admittance from a department representative, Teacher Education Services advisor, or site director;
5. submit an application for admittance into the Darden College of Education Teacher “Licensure Only” Program. Only 12 hours of professional education courses from another institution may transfer into an Old Dominion University licensure only program.

Students who do not meet regular admission requirements may meet provisional admission into the licensure only program. For provisional status, a student must:
1. apply for admission to Old Dominion University as a non-degree seeking graduate student;
2. have achieved a cumulative GPA of 2.50-2.74 for all college credit courses taken in the baccalaureate degree program;
3. achieve passing Praxis I or Virginia Board of Education-approved SAT or ACT score requirements as outlined by the Commonwealth of Virginia;
4. interview and receive recommendation for admittance from a department representative, Teacher Education Services advisor, or site director;
5. submit an application for admittance into the Darden College of Education Teacher “Licensure Only” Program. Students who do not meet the admission requirements listed above may request an exception to the departmental requirements on the Licensure Only Exception Request form obtained from a Teacher Education Services advisor or a site director. This exception requires approval from the department chair and associate dean/dean.

Students who wish to apply to a graduate program while in the licensure only program must meet all graduate program entry requirements. Additionally, a maximum of 12 hours from a licensure only program will transfer into a graduate program.

To receive licensure, students must also attain passing scores on the Praxis II exam, the Virginia Communication and Literacy Assessment (VCLA) and when appropriate the Virginia Reading Assessment (VRA).

Admission, Continuance, and Exit Requirements

Admission to Old Dominion University does not guarantee admission to degree and/or teacher preparation programs in the Darden College of Education. All such programs have admission, continuance, and exit requirements based on Virginia teacher-licensure regulations and specific departmental criteria. These criteria include grade point average as well as specified assessments of individual students. The Praxis I Academic Skills Assessment or Virginia Board of Education-approved SAT or ACT scores are a requirement for admission into all Old Dominion University teacher preparation programs. The Board of Education has approved the use of the SAT® as a substitute test for Praxis I (Reading, Writing and Mathematics) required for initial licensure. The board approved a score of 1000 on the SAT, taken prior to April 1, 1995, with at least 450 on the verbal and 510 on the mathematics tests or a score of 1100 on the SAT, taken after April 1, 1995, with at least 530 on the verbal and 530 on the mathematics tests as a substitute for Praxis I. Please note that the SAT® was approved as a substitute test only for Praxis I; individuals also must meet the Praxis II (subject area assessment) for initial licensure.

Admission: Students applying for admission to the teacher education program must have a 2.75 grade point average overall, in the major, and in the professional education core. Additionally, students must earn at least a grade of C- in all courses taken in the major and in the professional education core, and have passed PRAXIS I or achieved State Board of Education approved scores on the SAT or ACT. Although students may enroll in a limited number of education courses, admission into the teacher education program and passing PRAXIS I scores or approved equivalent test scores must be on file in the Teacher Education Services Office prior to students enrolling in any professional education practicum course.

Continuance: Students must continue to maintain a 2.75 grade point average overall, in the major, and in the professional education core. Additionally, students must continue to earn at least a grade of C- in all courses taken in the major and in the professional education core for continuance in the teacher education program.

Assessments required for teacher education programs and licensure: In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate teacher licensure exams. Students who complete their programs after December 31, 2006 are required to take the Virginia Communication and Literacy Assessment (VCLA) to be eligible for licensure. The VCLA should be taken during the semester of student teaching. It is recommended that the VCLA be taken after students have completed their English and reading course requirements. All students will take and attain a passing score on the appropriate PRAXIS II specialty test in order to be eligible for student teaching and licensure. Students in the PreK-3, PreK-6, special education, and reading specialist program must take and pass the Virginia Reading Assessment (VRA). The VRA is required for licensure and should be taken after all reading courses have been completed. Score reports of all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building.

Exit: Students must have 1) a 2.75 grade point average overall, in the major, and in the professional education core; 2) earned a passing grade in student teaching; 3) passed the Exit Examination of Writing Proficiency, and 4) completed the senior year. The Virginia Department of Education requires all initially licensed teachers, school counselors, administrators, and other school personnel to receive training on the recognition of child abuse and neglect. This training is verified through specific courses in the approved professional education programs. Students who transfer courses into the approved programs in place of the courses that meet the child abuse and neglect requirements must provide documentation that they have met the recognition of child abuse and neglect standards. For more information contact the staff in the Teacher Education Services and Advising Office, Education Building Room 152, or go to www.odu.edu/tes.

The Virginia Department of Education requires all initially licensed teachers, school counselors, administrators, and other school personnel to receive training in the area of technology. This training is received through specific courses in the approved professional education programs.

Prior to placements in practica and/or internships, students may be required to complete the Virginia State Police Criminal History Check (SP230), the Child Protective Service Central Registry Release of Information (032-02-1515/1), and a fingerprint check by the school district. Students may be liable for all costs incurred.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://www.education.odu.edu.

For more information on requirements in specific programs, students should refer to the individual program listings in this section or contact the Office of Teacher Education Services or the appropriate department in the College of Arts and Letters, the Darden College of Education, or the College of Sciences.

Observation and Participation

OTED 297 or ECI 301 is the introductory undergraduate course in most programs in the Darden College of Education (equivalent course in the Department of Exercise Science, Sport, Physical Education and Recreation is HPE 230). The purpose of the course is to give students early opportunities for direct experience in elementary, middle, and high school classrooms. These experiences are designed to help prospective teachers decide whether or not teaching is the right choice for them, as well as to motivate them in preparing to teach.

DARDEN COLLEGE OF EDUCATION 113
Teacher Internship

Teacher internship is the culminating experience in the teacher education programs. This experience is a crucial part of a candidate’s preparation to becoming a professional educator. During the teaching internship experience, candidates observe the operation of schools; analyze the implementation of curricula and instructional strategies; observe the growth and development of students; assist with classroom and extracurricular activities; and ultimately assume responsibility for the academic instruction and management of the classroom. Candidates’ work is evaluated by clinical facilitators (cooperating teachers) in the schools, in conjunction with University faculty.

To be eligible to participate in the teaching internship experience, the candidate must have been admitted into the Darden College of Education Teacher Education Preparation Program. This requires that the candidate pass the Praxis I or SAT or ACT examination before being placed in practicum. Additionally, undergraduate students must have earned an overall GPA of 2.75, as well as a 2.75 GPA in their academic major and professional education courses with no grade in their academic major or professional education courses below a C-. Graduate students must have earned an overall GPA of 3.0, as well as a 3.0 GPA in their major and professional education courses with no grade lower than a C. All candidates must also be recommended by their department for the teacher internship. Teacher internship is completed in the last semester of a candidate’s program. All candidates must pass PRAXIS II prior to the teacher internship and attach the passing scores to the application.

A negative tuberculin test is required prior to student teaching. Prospective student teachers are required to provide authorization for the release of any disciplinary action that is contained in their student records. Additionally, prospective teacher interns should avail themselves of liability or tort insurance, which can be obtained through membership in the Student Virginia Education Association of Old Dominion University.

Professional Assessment Requirements for Licensure

All Old Dominion University students seeking initial licensure through completion of approved programs in the college are required to pass the PRAXIS I Academic Skills Assessment or meet the approved SAT or ACT scores and the appropriate PRAXIS II specialty area exam with scores established by the Virginia Department of Education. Praxis I or approved SAT or ACT scores are required prior to admission to teacher education and by the student’s 60th credit hour at Old Dominion. Registration forms are available in the Office of Teacher Education Services or on the web at www.teachingandlearning.org. Additionally, students in the PreK-3, PreK-6, special education, and reading specialist programs are required to pass the Virginia Reading Assessment (VRA). Beginning in January 2007, all students will be required to pass the Virginia Communication and Literacy Assessment (VCLA).

Advanced Placement

The Darden College of Education is comprised of a variety of undergraduate and graduate programs. The College provides a guarantee on all teacher candidates completing the state-approved programs with initial teacher licensure. Thus, experiential learning credit is not approved for education courses with field placements/practica or student teaching. For additional information on advanced placement and experiential learning, students may refer to the Policy on Experiential Learning at the Undergraduate Level found in this Catalog.

Teacher Education Services

Leigh Butler, Director
152 Education Building
757-683-6448

The staff in the Office of Teacher Education Services and Advising (TES) in the Darden College of Education supports teacher education programs in the College of Arts and Letters, the College of Sciences, and the Darden College of Education. In this role of support, the mission of the Office of TES is to provide, facilitate, promote, and uphold the standards of Old Dominion University to grant undergraduate and graduate degrees with a teacher education emphasis in PreK-3, PreK-6, 6-8, 6-12 and K-12 license, guidance and counseling license, and speech language license, which are accredited by the National Council for Accreditation of Teacher Education (NCATE) and approved by the Virginia Department of Education (VDOE).

The TES staff is committed to serving students pursuing either a professional education or human services emphasis through their respective college’s academic departments and fostering a process with the following features:

1. academic advisement of prospective teacher candidates preparing an undergraduate or graduate degree with either a professional education or human services emphasis, including development of appropriate academic plans;
2. promotion of professional education and human services programs, including informing candidates of scholarship and study abroad opportunities, as well as credentialing requirements;
3. communication with prospective teacher candidates regarding admission, continuation, and exit requirements for their respective education degree and initial licensure programs; and
4. facilitation of the placement of field experiences for teacher candidates in appropriate K-12 classroom settings in order to meet observation, practicum, and student teaching internship requirements.

Programs for Continued Learning

The Programs for Continued Learning Department extends to the community special conferences, workshops, seminars, inservice training, and short courses. Drawing on the faculty of the college and experts in the field, programs are designed in areas such as leadership, counseling/interpersonal skills, learning and curriculum design, training and development, health education, and physical fitness. Clients consist of educators as well as professionals in business, industry, and public, private and governmental agencies. Programs are designed to help professionals increase and upgrade their development activities. Professional and personal development programs are awarded continuing education credit (CEUs).

EARLY CHILDHOOD, SPEECH-LANGUAGE PATHOLOGY AND SPECIAL EDUCATION

Katharine C. Kersey, Chair

The Department of Early Childhood, Speech-Language Pathology and Special Education (ESSE) is dedicated to preparing professionals to serve in the fields of education, clinical settings, and community agencies. ESSE fulfills this mission through its undergraduate and graduate degrees as well as licensure programs. An undergraduate degree is offered in speech-language pathology and audiology. Graduate degree programs and licensure are offered in early childhood education, speech-language pathology, and special education. Special education students may emphasize either a combination of learning disabilities, emotional and behavioral disorders, and mental retardation or early childhood special education and severe disabilities.

Interdisciplinary Studies Undergraduate Preparation

Undergraduate students who are interested in pursuing licensure only or a master’s degree in early childhood education or special education can meet the undergraduate content area and minor requirements through the Interdisciplinary Studies (IDS)-teacher preparation concentration in early childhood (PK-3) or special education emphasis. See the IDS section of this Catalog or the website for additional information, admission, continuation, exit and assessment requirements, program requirements and curriculum of study: http://web.odu.edu/alc/artsandletters/ids.

Minor in Special Education (15 hours)

Required courses are ESSE 400, 402, 411, 413, and 415. For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement at Old Dominion University.

Undergraduate students who are interested in pursuing a master’s degree in special education can meet the undergraduate content area and minor requirements through the Interdisciplinary Studies (IDS)-teacher preparation concentration early childhood emphasis and special education emphasis. See the IDS section of this Catalog or the website for additional information, program requirements and curriculum of study: http://web.odu.edu/alc/artsandletters/ids.
Guaranteed Entry Programs

Undergraduate students will be automatically accepted into the graduate program in early childhood education or special education if they have met the following requirements:

1) 3.50 grade point average and 1100 SAT or 3.25 grade point average and 1180 SAT at the high school level.
2) A minimum 3.50 grade point average in undergraduate course work.
3) Permission of the early childhood education or special education faculty.
4) Passing scores on all parts of the Praxis I exam.

The Child Study Center

The Lions Child Study Center, located on Hampton Boulevard on the Old Dominion University campus, serves as a cooperative link among the University, community, and early childhood, special education and speech pathology/audiology programs of the University. In conjunction with its mission of urban outreach, the center provides inservice education, consultation, and clinical services to the local community, agencies, institutions, and school systems. In addition to serving as a visible community resource for referral and information, the center also conducts on-site demonstrations for training and informational exchange, provides parent training, tutorial and assessment services, and develops intervention and service models.

Programs for Children

Mission Statement. Old Dominion University’s primary purpose in the children’s programs at the Child Development and Child Study Centers is to train teacher candidates and provide a setting for research conducted by the University community. A secondary mission is to provide exemplary child care for the greater Hampton Roads community.

The Child Development Center. The Old Dominion University Child Development Center is a full-service, full-time program offering quality care for children ages eight weeks through kindergarten. In each of seven classrooms, a lead teacher is assisted by practicum students from early childhood and other academic areas of study. The lead teacher is a master’s-level professional, trained to be knowledgeable about and attentive to the individual needs of children. Teacher aides also are employed to work in the center and are chosen from students in various disciplines who are trained and interested in working with young children. The Child Development Center provides care for children 48 weeks of the year from 7:30 a.m. to 5:30 p.m. and is housed in two locations: 1520 West 48th Street (the five classes for younger children) and the Child Study Center on 45th Street (the two classes for the oldest children).

The Preschool/Kindergarten Program. The Preschool/Kindergarten Program operates three hours a day, five days a week and emphasizes developmentally appropriate practices for children ages 3-5. The overall curriculum includes art, music, science, reading and math readiness, physical education, computers, foreign language, and swimming. Children of kindergarten age are given a specific readiness program in preparation for their entrance into first grade. Lead teachers are assisted by graduate practice students from early childhood education, as well as students from other academic areas of study, including speech-language pathology, psychology, leisure studies, elementary education and special education.

The Kiwanis Parenting Center

Old Dominion University’s Kiwanis Parenting Center, a resource for the Hampton Roads community, provides education, training, research and support services for parents, professionals and Old Dominion students. Its purpose, which is to benefit children and enhance the lives of families, is realized through lectures, workshops, seminars and support groups conducted by and for community and University personnel and patrons. It is located on the second floor of the Lions Child Study Center and includes a large lecture hall, a parent library and a children’s play room.

Speech and Hearing Clinic

The Speech and Hearing Clinic including the Scottish Rite Center provides diagnostic and remedial clinical services to speech-language and hearing impaired children and adults. It operates on a twelve-month, five day per week schedule. Referrals are accepted from medical and educational agencies. Speech-language services are provided by advanced undergraduate and graduate student clinicians in Old Dominion University’s speech-language pathology program who are supervised by ASHA certified clinical faculty members. Audiology services are provided by clinical faculty members holding ASHA certification and by student clinicians who are supervised by these clinical faculty members. Clients typically served by the clinic display hearing, language, voice, fluency (stuttering) and articulation disorders as well as characteristics of social and foreign dialects.

Bachelor of Science—Speech-Language Pathology and Audiology Major

Nicholas G. Bountress, Program Director

The undergraduate program in speech-language pathology and audiology is designed to provide students with the academic experiences needed to identify and assess speech, language and hearing disorders and to prescribe effective therapeutic procedures. The minimum number of hours required for the degree is 120. Consistent with the mandates of Public Law 99-457, undergraduate programs in speech-language pathology and audiology in the United States cannot prepare bachelor’s level students for employment in any professional setting. Therefore, the undergraduate program at Old Dominion University serves as a feeder program to the master’s degree program which prepares students for employment through advanced course work, on-campus and off-campus practica, and a student teaching experience.

Admission, Continuance and Exit Requirements

Admission. Requirements are as follows: (1) Students must have completed one year of course work with a grade point average of at least 2.50, and (2) students must have an interview with a program advisor.

Continuance. A cumulative grade point average of 2.50 in all major courses is required for continuing status. Grades below C- in major courses must be retaken to attain a grade of C- or higher.

Exit. Undergraduate majors must have satisfied University and program requirements, passed the University Exit Examination of Writing Proficiency and have a grade point average of at least 2.50 in all major courses.

LOWER DIVISION GENERAL EDUCATION Credits

Written Communication 6
Oral Communication (satisfied in the major by ESSE 459) 3
Mathematics 3
Foreign Language 0-6
Computer Skills (satisfied in the major by ESSE 458) 3
Foundation to Perspectives – GEN 101 (New PAGE)*
Fine and Performing Arts 3
History 6
Literature 3
Philosophy 3
Natural Science and Technology 12

In accordance with University and national accreditation requirements, students must complete 12 credit hours of Natural Science, with a minimum of one course in biological sciences (e.g., BIOL 108N or 115N) and one in physical sciences (e.g., CHEM 101N or 115N, OEAS 106N, 110N or 111N, PHYS 101N, 103N, 111N or 231N). Two courses in either biological sciences or physical science with labs must be taken in sequence.

Social Science 6

*Students in the speech-language pathology and audiology major may substitute GEN 101 for a course in the fine and performing arts, literature, or philosophy perspective areas.

Major Courses 300-400 level (66 hours)

Third Year—first semester

ESSE 351 Anatomy of Speech, Language and Hearing 3
ESSE 450 Survey of Comm Disorders 3
ESSE 460 Hearing Disorders and Basic Aud 3
ESSE 449W Orientation to Clinic Procedures 3
ENGL 350 Aspects of English Language 3

Third Year—second semester

ESSE 352 Phonetics 3
ESSE 400 Trends and Issues in General and Special Education 3
ESSE 451 Articulation/Phon Disorders 3
ESSE 453 Language Develop & Disorders 3
ESSE 461 Aural Rehabilitation I 3

Third Year—third semester

ESSE 457 Language Diagnosis and Remediation 3
ESSE 411 Behavior Management Tech 3
ESSE Elective 3

**Fourth Year—first semester**
- ESSE 413 Fundamentals of Human Growth and Development 3
- ESSE 465 Signing I-Begin Nonverbal Com 3
- ESSE 454 Clinical Practicum 3
- ESSE Elective 3

**Fourth Year—second semester**
- ESSE 452 Voice Disorders 3
- ESSE 458 Speech and Hearing Science 3
- ESSE 459 Seminar in Speech Path Methods 3
- ESSE Electives (2) 6

Major courses in which a grade below C- was earned must be repeated.

**UPPER DIVISION GENERAL EDUCATION**
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.50 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Minor in Speech-Language Pathology and Audiology (18 Hours)**

Required courses: ESSE 450, 460. Elective courses (select four for a total of 12 credits): ESSE 451, 452, 453, 458, 459, 461. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**EDUCATIONAL CURRICULUM AND INSTRUCTION**

Jane Hager, Chair

The Department of Educational Curriculum and Instruction (ECI) offers undergraduate and graduate programs for elementary, middle school, and secondary school teachers, and graduate programs for reading specialists, school library media specialists, and instructional technology educators.

**Teacher Education—Elementary (PreK-6)**

**Undergraduate/Graduate—Fifth-year Program for Initial Licensure**

**Program Requirements**

Students who plan to teach in elementary schools (grades PreK-6) are required to pursue an undergraduate major in interdisciplinary studies (PreK-6 teacher education track) and complete a Bachelor of Science degree through the College of Arts and Letters, as well as a fifth year graduate program leading to a Master of Science in Education degree with a major in elementary education through the Darden College of Education. Please see the College of Arts and Letters section of this Catalog for baccalaureate degree requirements in interdisciplinary studies, teacher education track.

Following are Darden College of Education requirements for interdisciplinary studies majors who seek licensure to teach in elementary schools (grades PreK-6).

**Admission, Continuance, and Exit Requirements**

**Admission to Undergraduate Teacher Education:** Students applying for admission to the teacher education program must (1) have a 2.80 grade point average overall, in general education, in the major, and in the professional education core, (2) declare a major in interdisciplinary studies, (3) pass PRAXIS I or achieve State Board of Education approved scores on the SAT or ACT, (4) earn at least a grade of C in all courses taken in general education, the major and the professional education core, and (5) submit to the director of the Office of Teacher Education Services and Advising an application form containing recommendations from faculty members familiar with their work. Although students may enroll in a limited number of education courses, admission into the teacher education program and passing PRAXIS I scores or approved equivalent test scores must be on file in the Teacher Education Services Office prior to students enrolling in any professional education practicum course.

**Undergraduate Continuance:** Students must (1) continue to maintain a 2.80 grade point average overall, in general education, in the major, and in the professional education core and (2) continue to earn at least a grade of C in all courses taken in general education, the major and the professional education core for continuance in the teacher education program.

**Undergraduate Exit:** Students must (1) have a 2.80 grade point average overall, in the major, and in the professional education core, (2) pass the University Exit Examination of Writing Proficiency and (3) complete the senior assessment.

**Assessments required for teacher education programs and licensure:** In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate teacher licensure exams. Students who complete their programs after December 31, 2006 are required to take the Virginia Communication and Literacy Assessment (VCLA) to be eligible for licensure. The VCLA should be taken during the semester of student teaching. It is recommended that the VCLA be taken after students have completed their English and reading course requirements. All students will take and attain a passing score on the appropriate PRAXIS II specialty test in order to be eligible for student teaching and licensure. Students in the PreK-3, PreK-6, special education, and reading specialist program must take and pass the Virginia Reading Assessment (VRA). The VRA is required for licensure and should be taken after all reading courses have been completed. Score reports of all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building.

**Graduate Admission.** For admission to the graduate portion of this program, students must (1) have a Bachelor of Science degree through the College of Arts and Letters in interdisciplinary studies, teacher education (PreK-6) track; (2) have a general grade point average of 2.80; (3) have been admitted to undergraduate teacher education (see above requirements); (4) take and receive satisfactory scores on either the Graduate Record Examination (score of 900 combined on verbal and quantitative with a minimum of 400 verbal for regular admission) or the Miller Analogies Test (score of 45 for regular admission); and (5) submit an application for graduate studies.

**Graduate Continuance:** Students must (1) maintain a grade point average of 3.00; (2) maintain a grade point average of 3.00 in the major; (3) pass Praxis II and receive a B or better in ESSE 679 prior to teacher internship (passing scores must be attached to the teacher internship application); and (4) take the Virginia Reading Assessment and pass the test when passing scores are provided.

**Graduate Exit.** To obtain a Master of Science in Education degree in this major in elementary education, students must (1) have a general grade point average of 3.00 in all course requirements of the fifth year; (2) pass a comprehensive examination; (3) successfully complete prescribed student teaching experiences; (4) have an exit interview; (5) have completed all course requirements; and (6) submit an application for graduation.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://www.education.odu.edu.

**Professional Education Requirements of the Undergraduate Interdisciplinary Studies Program Leading to Elementary Education Licensure, Grades PreK-6** (Academic undergraduate requirements are listed under Interdisciplinary Studies in the College of Arts and Letters.)

**Junior I**
- ECI 301 Foundations of Education 3 credits

**Junior II**
- ECI 304 Educational Applications of Computers 3 credits
- ESSE 468 Language Acquisition and Reading for Students with Diverse Learning Needs 3 credits

**Senior I**
- ESSE 413 Fundamentals of Human Growth & Development 3 credits
- ECI 432 Instructional Strategies: Language Arts 3 credits
- ECI 433 Instructional Strategies: Mathematics 3 credits

**Senior II**
- ECI 434 Instructional Strategies: Science 3 credits
- ECI 435 Instructional Strategies: Social Studies 3 credits
- ECI 436 Classroom Management and Practicum 2 credits

Please refer to the Graduate Catalog for master’s degree requirements for the fifth-year licensure program.

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**Teacher Education, Secondary Undergraduate Programs**

**Program Requirements**

Students who wish to teach any of the disciplines listed below in secondary schools must pursue courses of study leading to baccalaureate degrees in either the College of Arts and Letters or the College of Sciences. (See either the College of Arts and Letters or the College of Sciences section of this Catalog for full and specific requirements in any prospective teaching subject in secondary education.) In addition, to be eligible for state licensure to teach in secondary schools, students must complete requirements (listed below by subject area) in the Darden College of Education.

**Admission, Continuance, and Exit Requirements**

**Admission.** Students must (1) have an overall grade point average of 2.75 and a 2.75 in the academic major and the professional education core; (2) achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or the SAT or ACT; and (3) submit to the director of teacher education services an application form containing recommendations from two faculty members familiar with their work. (These forms may be obtained either in the Office of Teacher Education Services or in the appropriate chair’s office in either the College of Arts and Letters or the College of Sciences.) No courses in the academic major or professional education in which the student has made below a C- will be accepted for admission in the Darden College of Education. Students should be formally admitted to teacher education before taking ECI 451, 453, 454, or 455.

**Continuance.** Students must (1) maintain an overall grade point average of 2.75 and a 2.75 in the academic major and the professional education core; (2) successfully complete ECI 301 and a subsequent practicum; (3) be approved for teacher internship by the faculty; and (4) pass Praxis II in order to participate in the teacher internship. Passing scores must be attached to the teacher internship application.

**Exit.** Students must (1) have an overall grade point average of 2.75 and a 2.75 in the academic major and the professional education core; (2) successfully complete prescribed student teaching experiences; (3) have an exit interview; and (4) have completed all course requirements. No courses in the academic major in which the student has made below a C- will be accepted toward meeting requirements in the College of Education.

**Professional Education Course Requirements—Secondary**

**Art Education**

(This program leads to Licensure, K-12)
ECI 301, 408, 485; ESSE 406, 413, ARTS 305, 406, 407.

**Dance Education**

(This program leads to Licensure, K-12)
ECI 301, 304, 360, 408, 485; ESSE 406, 413, PE 217, EXSC 340.

**English Education**

ECI 301, 304, 360, 408, 451, 485; ESSE 406, 413

**Foreign Language Education**

This program leads to licensure to teach French, German, and/or Spanish. Students wanting to be certified to teach a foreign language must have a grade point average of at least 2.75 in the language and are strongly encouraged to participate in a structured learning experience in a country where the language is spoken. No course in the language with lower than a C (2.00) grade will be counted toward the degree or toward the number of credits required for student teaching. Students must also receive passing scores on language proficiency exams before they are approved for a student teaching assignment.
ECI 301, 304, 360, 408, 485; ESSE 406, 413; and FL 452, 456.

**Geography Education**

ECI 301, 304, 360, 408, 455, 485; ESSE 406, 413.

**Government Education**

ECI 301, 304, 360, 408, 455, 485; ESSE 406, 413.

**History/Social Sciences Education**

ECI 301, 304, 360, 408, 455, 485; ESSE 406, 413

**Mathematics Education**

ECI 301, 304, 360, 408, 453, 485; ESSE 406, 413.

**Music Education**

(This program leads to Licensure K-12)
ECI 301, 360, 408, 485; ESSE 406, 413; and MUSC 401, 402, 403, 404 (vocal) or MUSC 405, 406, 407, 408 (instrumental).

**Science Education (Biology, Chemistry, Earth Science, Physics)**

ECI 301, 304, 360, 408, 454, 485; ESSE 406, 413

**Theatre Education**

(This program leads to Licensure K-12)
ECI 301, 304, 360, 408, 485; ESSE 406, 413

**Add-on Endorsements**

Add-on endorsements are available in algebra I, computer science, English as a second language, journalism, and most other grade 6-12 areas. For information, please contact the Office of Teacher Education Services.

**EDUCATIONAL LEADERSHIP AND COUNSELING**

Dana D. Burnett, Chair

The Department of Educational Leadership and Counseling offers one undergraduate program, the Bachelor of Science with a major in human services. On the graduate level, the department offers the Master of Science in Education in counseling and educational leadership, an advanced Education Specialist degree, and Ph.D. programs. Once admitted to the human services program, students must consult their advisors regarding program requirements and selection of courses.

**Bachelor of Science—Human Services Major**

Jill C. Jurgens, Coordinator

The program leading to the Bachelor of Science with a major in human services prepares students for entry-level positions in a wide variety of community service settings. Students in the program learn the roles and functions of the human service profession, characteristics of human growth and development; personal, social, and environmental factors affecting individual development; characteristics of human service agencies; theories and skills of human services, and how ethical issues, legal issues, and multicultural issues affect the work of the human service profession. Graduates are prepared to assist clients in coping successfully with developmental tasks of normal growth and in solving problems caused by personal, social, and environmental stress. Graduates may be employed in a wide variety of settings including mental health, mental retardation, substance abuse, aging/gerontology, domestic violence, child and youth services, correction/criminal justice, education/schools, health care, recreation/fitness, and vocational rehabilitation.

**Admission**

Students must have completed 26 semester hours of course work with a grade point average of 2.00 or above.

**Program Requirements**

All human services majors must satisfy the Bachelor of Science in human services core requirements, major requirements, and General Education requirements as listed below. In addition, 16 credit hours of electives, which may be taken within or outside the College of Education, are required. A one-semester, unpaid internship (HMSV 468) is required after all other major coursework is completed. Requirements for internship include a minimum cumulative grade point average of 2.00 overall and in the major. Students must earn a grade of C (2.00) or better in HMSV 339, 341, 343, and 368 before taking HMSV 468. No student may take more than one additional course in the semester in which HMSV 468 is taken. A grade of C or better must be earned in HMSV 468 to complete requirements for the major. Students’ prior course work will be evaluated by the advisor at the time of admission to the program. Following admission, students must obtain permission from an authorized faculty advisor before registering. Students should obtain a program sheet from the central advising office in the College of Education to assist in making course selections.

**LOWER-DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
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<tr>
<td>Mathematics (STAT 130M preferred)</td>
<td>3</td>
</tr>
<tr>
<td>Oral Communication (Satisfied by HMSV 444 and HMSV 468)</td>
<td>3</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>0–6</td>
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<tr>
<td>Foundation toPerspectives – GEN 101 (New PAGE)*</td>
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<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
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HUMAN SERVICES MAJOR REQUIREMENTS (45 HOURS)

HMSV 339 Interpersonal Skills (grade of C or better is required) 3
HMSV 341 Introduction to Human Services (grade of C or better is required) 3
HMSV 343 Human Services Methods (grade of C or better is required) 3
HMSV 344 Career Development & Appraisal 3
HMSV 346 Diversity Issues in Human Services 3
HMSV 368 Field Observation in Human Services (grade of C or better is required) 3
HMSV 440W Program Development, Implementation and Funding 3
HMSV 441 Non-Profit Fund-Raising in Human Services 3
HMSV 444 Psychoeducational Groups 3
HMSV 447 Addictions: Theory and Intervention or HMSV 448 Advocacy with Children 3
HMSV 491 Family Guidance 3
HMSV 468 Internship (grade of C or better is required) 12

UPPER-DIVISION GENERAL EDUCATION REQUIREMENTS: (9 hours minimum)

OPTIONS (select one):
A. Second Major or Second Degree
B. Minor
C. Approved Focus Area Cluster

ELECTIVES (To meet minimum of 120 hours required for the degree)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minor in Human Services

The minor requires fifteen hours of course work which must include HMSV 339, 341, 346, and two additional courses from among the following list: HMSV 343, 344, 447, 448, and 491. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

EXERCISE SCIENCE, SPORT, PHYSICAL EDUCATION, AND RECREATION

Robert J. Spina, Chair

The Department of Exercise Science, Sport, Physical Education, and Recreation offers programs leading to the Bachelor of Science with a major in physical education (emphasis areas in exercise science, health and physical education PreK-12 teacher preparation, and sport management), the Bachelor of Science with a major in recreation and tourism studies (emphasis areas in recreational tourism management and therapeutic recreation), and the Master of Science in Education with a major in physical education.

Bachelor of Science—Physical Education Major

Admission, Continuance, and Exit Requirements

Admission. Students in exercise science and sport management must (1) have completed 13 semester hours of course work including ENGL 110C; (2) have a grade point average of 2.00; and (3) complete a personal interview. Students applying for admission to the PreK-12 health and physical education teacher education program must have a 2.75 grade point average overall, in the major, and in the professional education core. Additionally, students must earn at least a grade of C- in all courses taken in the major and in the professional education core, and have passed PRAXIS I by the end of the sophomore year or achieved State Board of Education approved scores on the SAT or ACT. Although students may enroll in a limited number of education courses, admission into the teacher education program and passing PRAXIS I scores or approved equivalent test scores must be on file in the Teacher Education Services Office prior to a students enrolling in any professional education practicum course.

Continuance. Students in exercise science and sport management must (1) maintain an overall grade point average of 2.00; and (2) maintain a grade point average of 2.00 in the major. Students in PreK-12 health and physical education teacher education must continue to maintain a 2.75 grade point average overall, in the major, and in the professional education core. Additionally, students must continue to earn at least a grade of C- in all courses taken in the major and in the professional education core for continuance in the teacher education program.

Assessments required for teacher education programs and licensure: In order to obtain a Virginia teaching license, all PreK-12 health and physical education teacher education students must attain passing scores on the appropriate teacher licensure exams. Students who complete their programs after December 31, 2006 are required to take the Virginia Communication and Literacy Assessment (VCLA) to be eligible for licensure. The VCLA should be taken during the semester of student teaching. It is recommended that the VCLA be taken after students have completed their English and reading course requirements. All students will take and attain a passing score on the PRAXIS II test of Health and Physical Education content knowledge, form 0856 in order to be eligible for student teaching and licensure. Score reports of all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building before a student can begin the teacher candidate internship (student teaching).

Exit. Students in exercise science and sport management must (1) have an overall grade point average of 2.00; (2) have a grade point average of 2.00 in the major; (3) demonstrate writing proficiency prior to any required internship experience; (4) satisfy all course competencies; (5) complete teacher candidate internship or internship (if required in the emphasis area); (6) successfully complete University assessment exams; and (7) pass the Exit Examination of Writing Proficiency. Students in PreK-12 health and physical education teacher education must have (1) a 2.75 grade point average overall, in the major, and in the professional education core; (2) earned a passing grade in student teaching; (3) passed the Exit Examination of Writing Proficiency; and (4) completed the senior assessment. If a student does not quality for the teacher candidate internship (student teaching), the student must complete a 12-credit internship experience to graduate with a non-teaching degree in health and physical education.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://www.education.odu.edu.

Sport Management Emphasis

Robert Case, Program Coordinator

This program is designed to prepare students for managerial positions within sport-oriented organizations. Careers in sport promotion, sport marketing, health and fitness center management, sport event management, sport facility/arena management and other sport-related businesses are targeted. This program is approved and accredited through the North American Society for Sport Management (NASSM) and the National Association for Sport and Physical Education (NASPE). The requirements for the emphasis are as follows:

LOWER DIVISION GENERAL EDUCATION Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 102M or STAT 130M required)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History (HIST 104H required)</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
</tbody>
</table>

Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required.

118 OLD DOMINION UNIVERSITY
Social Science (ECON 200S or 202S required)  3
*Students majoring in sport management may substitute GEN 101 for a course in the fine and performing arts, literature, philosophy or natural science and technology perspective areas.

**Sport Management Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTS 102</td>
<td>Advertising and Promotion or OTS 100 Sales Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 311</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 325</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 214</td>
<td>Introduction to Sports Management</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 305</td>
<td>Sport Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 315</td>
<td>Sport Media and Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 368W</td>
<td>Internship</td>
<td>12</td>
</tr>
<tr>
<td>SMGT 414W</td>
<td>Sport Marketing</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 421</td>
<td>Legal Aspects in Recreation and Sport Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 450</td>
<td>Ethics in Sport Management</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 453</td>
<td>Sport Sponsorship and Event Planning</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 455</td>
<td>Sport in Contemporary Society</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 456</td>
<td>Sport Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 331</td>
<td>Administration I (Financial Management)</td>
<td>3</td>
</tr>
<tr>
<td>SMGT 366</td>
<td>Internship Seminar</td>
<td>1</td>
</tr>
<tr>
<td>SMGT 425</td>
<td>Facility Management and Design or SMGT 452</td>
<td>3</td>
</tr>
</tbody>
</table>

Sport Facility Management 3

All SMGT courses will be used to calculate the major grade point average which must be 2.00 to graduate.

**UPPER DIVISION GENERAL EDUCATION**

Sport marketing/promotions option requires a minor in marketing to satisfy the Upper Division General Education requirement. Sport facility and event management/supervision option requires a minor in management. The sport club and management option requires BIOL 250, EXSC 322, and EXSC 409 along with two specific additional 300-400 level management courses to complete a minor in management.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Exercise Science Emphasis**

Liz Dowling, Program Coordinator

This program is designed to prepare students for careers in preventive and rehabilitative exercise and wellness programs in settings such as hospitals, wellness and rehabilitation centers, sports medicine clinics, government agencies, health and fitness centers, and corporate industry. Academic preparation focuses on the scientific aspects of exercise related to asymptomatic and symptomatic populations. The program also serves to prepare students for graduate studies in exercise science, physical therapy, and other allied health fields. The requirements for the emphasis are as follows:

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 102M or 102M)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td></td>
<td>3</td>
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<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology (BIOL 115N-116N and PHYS 111N required)</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Social Science (PSYC 201S required)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Students majoring in exercise science may substitute GEN 101 for a course in the fine and performing arts, history, literature or philosophy perspective areas.

**Exercise Science Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 250</td>
<td>Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 251</td>
<td>Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 115N</td>
<td>Foundations of Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 116N</td>
<td>Foundations of Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 225</td>
<td>Introduction to Exercise Science</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 250</td>
<td>Strength and Conditioning Leadership</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 322</td>
<td>Anatomical Kinesiology-Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 340</td>
<td>Prevention/Care of Injuries</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 408</td>
<td>Nutrition Fitness and Sport</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 415</td>
<td>Exercise Test/Nml/Spc Pop</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 417W</td>
<td>Adv Kinesiology/Biomechanics</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 428</td>
<td>Exer Prescription/Chronic Dis</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 431</td>
<td>Wellness Programming/Administration</td>
<td>3</td>
</tr>
</tbody>
</table>

**CHOOSE ONE OF THE FOLLOWING**

**Scientific Foundations of Exercise option:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 112N</td>
<td>Intro General Physics II</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 420</td>
<td>Research Methods Exer Science</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 426</td>
<td>Exercise Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 427</td>
<td>Exercise Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Preventive/Rehabilitative Exercise option:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSC 368W</td>
<td>Internship</td>
<td>12</td>
</tr>
<tr>
<td>EXSC 409</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

All EXSC courses will be used to calculate the major grade point average which must be 2.00 to graduate.

**UPPER DIVISION GENERAL EDUCATION**

Option A. 12-24 hours—Approved Minor
Option B. 9 hours (3 hours may be in the major area of study.—Cluster)

Additional free elective hours may be needed to make 120 credits total. A minimum 2.00 grade point average is required in the major, minor and overall to meet graduation requirements. Other requirements include passage of the Exit Writing Examination and completion of the Senior Survey.

**Health and Physical Education PK-12 Teaching Licensure Emphasis**

To be named, Program Coordinator

This program is designed to promote competencies involved in the teaching of health and physical education in pre-kindergarten through grade 12. Admission, continuance, exit and assessment requirements are specified earlier in this section.

The curriculum is as follows:

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (requires Comm 101R)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Social Science (requires PSYC 201S)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the teaching licensure emphasis may substitute GEN 101 for a course in the fine and performing arts, history, literature or philosophy perspective areas.

**Health and Physical Education Requirements**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 250</td>
<td>Human Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>ECI 301</td>
<td>Social/Cultural Foundations/Ed</td>
<td>3</td>
</tr>
<tr>
<td>ECI 408</td>
<td>Reading Across the Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>PE 200</td>
<td>Foundations of HPE</td>
<td>3</td>
</tr>
<tr>
<td>PE 217</td>
<td>Fundamental Movement Skills and Dance</td>
<td>3</td>
</tr>
<tr>
<td>PE 218</td>
<td>Aquatics and Outdoor Education</td>
<td>2</td>
</tr>
<tr>
<td>PE 220</td>
<td>Teaching of Team Sports I</td>
<td>2</td>
</tr>
<tr>
<td>PE 221</td>
<td>Teaching of Team Sports II</td>
<td>2</td>
</tr>
<tr>
<td>PE 222</td>
<td>Teaching of Individual Sports</td>
<td>2</td>
</tr>
<tr>
<td>PE 224</td>
<td>Teaching Elementary Physical Ed</td>
<td>3</td>
</tr>
<tr>
<td>PE 300</td>
<td>Mgmt Skills for Teaching Health &amp; PE</td>
<td>3</td>
</tr>
<tr>
<td>PE 301</td>
<td>Teach Phys Ed in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>PE 318</td>
<td>Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>PE 319</td>
<td>Physical Growth and Motor Dev</td>
<td>3</td>
</tr>
<tr>
<td>PE 404W</td>
<td>Adapted Physical Education</td>
<td>4</td>
</tr>
<tr>
<td>PE 406</td>
<td>Tests/Measurement in Phys Ed</td>
<td>3</td>
</tr>
</tbody>
</table>

(satisfies computer skills requirement)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSC 322</td>
<td>Anatomical Kinesiology</td>
<td>4</td>
</tr>
</tbody>
</table>
EXSC 409  Physiology of Exercise  3  
HE 224  First Aid  3  
HE 230  Personal and Community Hlth  3  
HE 302  Meth/Materials in Health Ed  3  
HE 481  Teaching of Sexuality Education in Schools  3  
HPE 230  Field Experience in PE and Health  2  
HPE 369  Practicum in PE and Health  3  
HPE 430  Teaching of Health-related Fitness and Wellness  3  
HPE 485  Teacher Candidate Internship  12  
HPE 487  Teacher Candidate Seminar  1  

UPPER DIVISION GENERAL EDUCATION  
Satisfied by the required minor in health education included in the program.  
All PE, HE, HPE, and EXSC courses and BIOL 250 will be used to calculate the major grade point average which must be 2.75 to graduate. Additional elective hours may be needed to make 120 total hours.

**Driver Education Endorsement Area***  
PE 308  Driver Education Foundations of Traffic Safety  3  
PE 309  Principles and Methodologies of Classroom and In-Car Instruction  3  
PE 308 and PE 309 are required by the Virginia Department of Education for an endorsement in Driver Education. The courses provide prospective teachers with the essential knowledge, skills, and dispositions to effectively deliver the course content as presented in the Administrative and Curriculum Guide for Driver Education in Virginia.  
*Driver Education endorsement is strongly recommended for all teacher candidates desiring to teach at the secondary level.

**Bachelor of Science—Recreation and Tourism Studies Major**

Betsy Kennedy, Program Coordinator  
This program is designed to prepare students to enter the professional fields of recreation and tourism management and therapeutic recreation. The recreation and tourism studies curriculum is accredited by the National Recreation and Park Association/American Association for Leisure and Recreation Council on Accreditation.  
A minimum of 120 credit hours is required for the recreation and tourism studies major.

**Admission, Continuance, and Exit Requirements**

**Admission.**  Students must (1) have completed 15 semester hours of course work (including ENGL 110C) with a grade point average of 2.00; and (2) have a personal interview with a faculty member in the program.  
**Continuance.** Students must (1) maintain an overall grade point average of 2.00; (2) maintain a grade point average of 2.00 in the major; (3) take the University Exit Examination of Writing Proficiency in the junior year; and (4) complete an internship seminar and all core course work prior to the internship.  
**Exit.** Students must (1) have an overall grade point average of 2.00; (2) have a grade point average of 2.00 in the major; (3) pass the University exit examination of writing proficiency; (4) complete an internship; (5) satisfy all course competencies; and (6) take the University assessment exam.

**Program Requirements**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
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<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence. Additionally, 3-4 credit hours of Natural Science or Technology are required. Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students majoring in recreation and tourism studies may substitute GEN 101 for a course in the fine and performing arts, history, literature or philosophy perspective areas.

**Recreation and Tourism Studies Core:**

| RTS 201  Recreation Programming and Leadership  3  |
| RTS 211  Foundations/Rec and Leisure  3  |
| RTS 261  Intro Therapeutic Recreation  3  |
| RTS 271  Intro Recreation/Tourism Studies  3  |
| RTS 302  Facilitating the Recreation Experience  3  |
| RTS 332  Personnel and Financial Mgmt in Rec  3  |
| RTS 366  Internship Seminar  1  |
| RTS 368  Internship  12  |
| RTS 405  Rec and Natural Resources  3  |
| RTS 411  Trends in Recreation  3  |
| RTS 425  Facility Mgmt & Design  3  |
| RTS 482W  Program Evaluation in Recreation  3  |

Pick one of the following two emphasis areas:  

**Recreation and Tourism Management**  
**MGMT 325**  Contemporary Organizations and Management  3  
**MKTG 311**  Marketing Principles and Problems  3  
**RTS 433**  Community Recreation Services  3  
**RTS 441**  Service & Oper Strat Tourism/Rec  3  
**RTS 461**  Tourism and the Hospitality Industry  3  
**RTS 475**  Tourism and Cultural Heritage Management  3  
**RTS 491**  Festival and Event Mgmt  3  

**Therapeutic Recreation**  
**ESSE 413**  Fundamentals of Human Growth & Dev  3  
**BIOL 190**  Intro Human Anat OR  
**BIOL 250**  Human Anatomy and Phys  3-4  
**PSYC 405**  Abnormal Psychology  3  
**RTS 410**  Clinical Aspects in Therapeutic Rec  3  
**RTS 420**  Intervention Tech in Therapeutic Rec  3  
**RTS 430**  Managing Therap Rec Serv  3  
**RTS 450**  Disabilities/Aging in Therapeutic Rec  3  

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.  
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)  
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Additional elective hours may be needed in order to complete the minimum 120 credits required for the degree.

**Minors**

**Exercise Science.**  BIOL 250 and EXSC 225 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are EXSC 322, 409, 415 and three hours from one of the following: EXSC 340, 369, 408, 420, 428, 431.  
**Health Education—Nonteaching Track.**  BIOL 250, HE 224 and HE 230 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are HE 302, HE 481, HPE 430 and PE 319.  
**Recreation and Tourism Management.**  RTS 271 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours from the following: RTS 405, 431, 461, 475, 482W, 491.  
**Sport Management.** SMTG 214 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours from the following: SMTG 305, 315, 331, 414W, 415, 421, 425, 450, 452, 453, 455, 456.  
**Therapeutic Recreation.** RTS 261 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours from the following: RTS 410, 420, 430, 450, 482W.  
For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses (2.75 for teacher licensure with no less than C- earned in all core courses) and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. To obtain a Virginia teaching license, all teacher education and licensure only students must attain a passing score on the appropriate Praxis II specialty area test.
Advanced Placement

Departmental examinations for advanced placement are available for selected courses in the undergraduate programs. Please contact the department chair for further details. Refer also to the Policy on Experiential Learning Credit Options at the Undergraduate Level in this Catalog.

OCCUPATIONAL AND TECHNICAL STUDIES

John M. Ritz, Chair

The Department of Occupational and Technical Studies offers five majors under the degree of Bachelor of Science in occupational and technical studies. The five bachelor's-level majors offered by the department are marketing education, technology education, training specialist, fashion, and industrial technology. At the graduate level, the department offers the degree of Master of Science in occupational and technical studies with majors in community college teaching (occupational and technical), business and industry training, and middle and secondary education teaching, a major within the Education Specialist in educational leadership, and a Ph.D. program in occupational and technical studies. The department also offers minors in fashion merchandising, training and development, and marketing education, a certificate in industrial training, and licensure/endorsement programs in marketing teacher education and industrial cooperative training for undergraduate students. Several licensure/endorsement areas are available for graduate students. The department provides a simulation-based instruction concentration in the Master of Science in Engineering modeling and simulation degree program.

Bachelor of Science—Occupational and Technical Studies Major

Admission, Continuance, and Exit Requirements

Admission: Students applying for admission to the teacher education programs in marketing education and technology education must (1) complete at least one semester at Old Dominion University, (2) have a 2.75 grade point average overall in the major, and in the professional education core with no grade less than C- in all courses taken in the major and in the professional education core, (3) have passed PRAXIS I or achieved State Board of Education approved scores on the SAT or ACT, (4) present written recommendations from two faculty members from the Occupational and Technical Studies Department, and (5) have an interview with the program leader. Admission to the teacher education programs in marketing education and technology education requires candidates to complete admission into the teacher education program and passing PRAXIS I scores or approved equivalent test scores must be on file in the Teacher Education Services Office prior to students enrolling in any professional education practicum course (OTED 408). For admission to the other bachelor's degree programs, students must (1) complete one semester at Old Dominion University, (2) achieve a minimum grade point average of 2.00 on undergraduate course work completed at the time of application to the major, and (3) have an interview with the program leader.

Continuance: Students in marketing education and technology education licensure programs must (1) satisfy University requirements, (2) continue to maintain a 2.75 grade point average overall in the major, and in the professional education core with no earned grade less than C- in all courses taken in the major and in the professional education core, and (3) successfully complete OTED 297 and a student teaching interview. Students in other non-teacher education majors must (1) satisfy University requirements, (2) maintain a 2.00 overall grade point average and (3) maintain a 2.00 grade point average in major courses.

Assessments required for teacher education programs and licensure: In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate teacher licensure exams. Students who complete their programs after December 31, 2006 are required to take the Virginia Communication and Literacy Assessment (VCLA) to be eligible for licensure. The VCLA should be taken during the semester of student teaching. It is recommended that the VCLA be taken after students have completed their English and reading course requirements. All students will take and attain a passing score on the appropriate PRAXIS II specialty test in order to be eligible for student teaching and licensure. Score reports of all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building.

Exit: Students in marketing education and technology education licensure programs must have (1) a 2.75 grade point average overall, in the major, and in the professional education core, (2) earned a passing grade in student teaching, (3) passed the Exit Examination of Writing Proficiency, and (4) completed the senior assessment.

Students majoring in the other non-teacher education undergraduate programs must (1) meet all University requirements for graduation, (2) have an overall grade point average of 2.00, (3) pass the Exit Examination of Writing Proficiency, and (4) have a grade point average of 2.00 in major and minor courses.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://www.education.odu.edu.

Marketing Education Emphasis

This 123-hour program is designed to prepare students to teach marketing and related subjects in the secondary schools. It is an approved program for meeting licensure requirements to teach marketing education in Virginia. The requirements are as follows:

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (OTS 251D required)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature (must substitute GEN 101)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11</td>
</tr>
</tbody>
</table>

Two semester sequence Natural Science-8 hours

Additional 3 credits hours satisfied in the major by OTS 370T.

Social Science (ECON 2008 required) 3

*Students in the marketing education emphasis must substitute GEN 101 for the literature perspective course.

Technical Content Courses (39 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTS 100</td>
<td>3</td>
</tr>
<tr>
<td>OTS 102</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201</td>
<td>3</td>
</tr>
<tr>
<td>OTS 202</td>
<td>3</td>
</tr>
<tr>
<td>OTS 208</td>
<td>3</td>
</tr>
<tr>
<td>OTS 220</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 311</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 325</td>
<td>3</td>
</tr>
<tr>
<td>OTS 370T Technology and Society (Writing Intensive)</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 402</td>
<td>3</td>
</tr>
<tr>
<td>OTS 415 Advanced Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>OTS 430 Technology Applications in Training</td>
<td>3</td>
</tr>
<tr>
<td>OTS 480 Senior Project: Merchandise Retailing</td>
<td>3</td>
</tr>
</tbody>
</table>

Marketing Education Teaching Courses (37 Hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC 408 Reading and Writing in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413 Fundamentals of Human Development</td>
<td>3</td>
</tr>
<tr>
<td>OTED 297 Observation &amp; Participation</td>
<td>1</td>
</tr>
<tr>
<td>OTED 400 Instructional Systems Development</td>
<td>3</td>
</tr>
<tr>
<td>OTED 401 Foundations of Vocational Education</td>
<td>3</td>
</tr>
<tr>
<td>OTED 403 Methods in Vocational Ed</td>
<td>3</td>
</tr>
<tr>
<td>OTED 408 Advanced Classroom Issues and Practices</td>
<td>3</td>
</tr>
<tr>
<td>OTED 485 Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>OTS 405 Directed Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>OTS 450 Assessment, Evaluation and Improvement</td>
<td>3</td>
</tr>
</tbody>
</table>

UPPER DIVISION GENERAL EDUCATION

Option A: Approved minor, 12-24 hours; also second degree or second major

Option B: Cluster, 9 hours (3 hours may be in the major area of study)

Requirements for graduation include a minimum cumulative grade point average of 2.75 overall and in the major, 123 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Technology Education Emphasis

This 123-hour program is designed to prepare students to teach technology education subjects in the secondary and middle schools. It is an approved
program for meeting licensure requirements to teach technology education in Virginia. Requirements are as follows.

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 102M and STAT 130M required)</td>
<td>6</td>
</tr>
<tr>
<td>(3 credits General Education; 3 credits departmental)</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (OTS 251D required)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature (must substitute GEN 101)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11</td>
</tr>
<tr>
<td>PHYS 101N and 102N required. Additional 3 credits are satisfied through the major by OTS 370T.</td>
<td></td>
</tr>
<tr>
<td>Social Science (PSYC 201S required)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the technology education emphasis must substitute GEN 101 for the literature perspective course.

**Technical Content (42 hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTS 112 Communication Design</td>
<td>3</td>
</tr>
<tr>
<td>OTS 250 Graphic Communication Processes</td>
<td>3</td>
</tr>
<tr>
<td>OTS 351 Communication Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 221 Industrial Materials</td>
<td>3</td>
</tr>
<tr>
<td>OTS 231 Materials and Processes Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 320 Manufacturing and Construction Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 323 Production Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 241 Energy Systems: Basic Electricity</td>
<td>3</td>
</tr>
<tr>
<td>OTS 242 Technological Systems Control</td>
<td>3</td>
</tr>
<tr>
<td>OTS 243 Energy and Power Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 330 Medical, Agricultural and Bio-related Technologies</td>
<td>3</td>
</tr>
<tr>
<td>OTS 360 Transportation Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 370T Technology and Society (Writing Intensive)</td>
<td>3</td>
</tr>
<tr>
<td>OTS 382 Industrial Design</td>
<td>3</td>
</tr>
<tr>
<td>OTS 417 Exploring Technology and Modern Industry</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technology Education Teaching Courses (31 hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECT 408 Reading and Writing in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413 Fundamentals of Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>OTED 297 Observation and Participation</td>
<td>1</td>
</tr>
<tr>
<td>OTED 305 Curriculum for Technology Education</td>
<td>3</td>
</tr>
<tr>
<td>OTED 306 Methods for Technology Education</td>
<td>3</td>
</tr>
<tr>
<td>OTED 408 Advanced Classroom Issues and Practices</td>
<td>3</td>
</tr>
<tr>
<td>OTED 485 Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>OTS 450 Assessment, Evaluation and Improvement</td>
<td>3</td>
</tr>
</tbody>
</table>

**UPPER DIVISION GENERAL EDUCATION**

**Option A:** Approved minor, 12-24 hours; also second degree or second major.

**Option B:** Cluster, 9 hours (3 hours may be in the major area of study)

Requirements for graduation include a minimum cumulative grade point average of 2.75 overall and in the major, 123 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Fashion Emphasis**

This 120-hour program is designed to prepare students to enter the fashion industry to become buyers, fashion coordinators, and merchandise managers. Requirements are as follows:

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 102M and STAT 130M required)</td>
<td>6</td>
</tr>
<tr>
<td>(3 credits General Education; 3 credits departmental)</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (OTS 251D required)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature (must substitute GEN 101)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11</td>
</tr>
<tr>
<td>Two semester sequence - 8 hours Additional 3 credits hours are satisfied through the major by OTS 370T.</td>
<td></td>
</tr>
</tbody>
</table>

**Social Science (ECON 200S required)**

Students in the fashion emphasis must substitute GEN 101 for the literature perspective course.

**Technical Content Courses (57 Hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201 Principles of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 325 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 311 Marketing Principles and Problems</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 402 Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>OTS 309 Merchandise Retailing</td>
<td>3</td>
</tr>
<tr>
<td>OTS 100 Sales Techniques</td>
<td>3</td>
</tr>
<tr>
<td>OTS 102 Advertising &amp; Promotion</td>
<td>3</td>
</tr>
<tr>
<td>OTS 202 Supervision of Personnel</td>
<td>3</td>
</tr>
<tr>
<td>OTS 208 Buying</td>
<td>3</td>
</tr>
<tr>
<td>OTS 320 Fashion Industry</td>
<td>3</td>
</tr>
<tr>
<td>OTS 303 Social Aspects of Clothing</td>
<td>3</td>
</tr>
<tr>
<td>OTS 370T Technology and Society (Writing Intensive)</td>
<td>3</td>
</tr>
<tr>
<td>OTS 402 Training Methods</td>
<td>3</td>
</tr>
<tr>
<td>OTS 405 Directed Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>OTS 415 Advanced Merchandising</td>
<td>3</td>
</tr>
<tr>
<td>OTS 422 Fashion Design</td>
<td>3</td>
</tr>
<tr>
<td>OTS 480 Senior Project: Merchandise Retailing</td>
<td>3</td>
</tr>
<tr>
<td>OTS 481 Occupational Career Transition</td>
<td>3</td>
</tr>
<tr>
<td>OTED 400 Instructional Systems and Development</td>
<td>3</td>
</tr>
<tr>
<td>Fashion Electives</td>
<td>16</td>
</tr>
</tbody>
</table>

Consult the departmental advisor for a list of courses used to satisfy this requirement.

**UPPER DIVISION GENERAL EDUCATION**

**Option B.** Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 123 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Industrial Technology Emphasis**

This 120-hour program is designed to prepare students to enter industry as supervisors or technical managers or trainers. This major is also available through the University’s distance learning TELETECHNET system. Additional industrial technology technical emphasis tracks are available for TELETECHNET and transfer students. On approval of the program leader, select occupational and technical studies technical content areas from the community college can satisfy the 30 hours of technical content for this emphasis. Requirements are as follows:

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
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<td>Oral Communication</td>
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<tr>
<td>Mathematics (MATH 102M and STAT 130M required)</td>
<td>6</td>
</tr>
<tr>
<td>(3 credits General Education; 3 credits departmental)</td>
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<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (OTS 251D required)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
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</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature (must substitute GEN 101)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11</td>
</tr>
<tr>
<td>PHYS 101N and 102N required. Additional 3 credits are satisfied through the major by OTS 370T.</td>
<td></td>
</tr>
<tr>
<td>Social Science (PSYC 201S required)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the industrial technology emphasis must substitute GEN 101 for the literature perspective course.

**Technical Content-General Emphasis (30 hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>OTS 112 Communication Design</td>
<td>3</td>
</tr>
<tr>
<td>OTS 221 Industrial Materials</td>
<td>3</td>
</tr>
<tr>
<td>OTS 231 Materials and Processes Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 241 Energy Systems: Basic Electricity</td>
<td>3</td>
</tr>
<tr>
<td>OTS 242 Technological Systems Control</td>
<td>3</td>
</tr>
<tr>
<td>OTS 243 Energy and Power Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 320 Fashion Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 351 Manufacturing Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 323 Production Technology</td>
<td>3</td>
</tr>
<tr>
<td>OTS 382 Industrial Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Supervision (18 hours)
OT5 202  Supervision of Personnel  3
OT5 370T  Technology and Society (Writing Intensive)  3
OT5 402  Training Methods  3
OTED 400  Instructional Systems Development  3
PSYC 303  Industrial/Organizational Psychology  3
HMSV 343  Human Services Methods  3

Business Cognate (21 Hours)
ACCT 201  Principles of Accounting  3
MGMT 325  Principles of Management  3
MGMT 340  Human Resources Management  3
MKTG 311  Marketing Principles and Problems  3
Approved Business Electives  9

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Training Specialist Emphasis
This 120-hour program is designed to prepare students as training specialists who design, develop, and present training in business and industry. This major is also available through the University’s TELETECHNET distance learning system. On approval of the program leader, select business-related technical content areas from the community college can satisfy 30 hours of technical content for this emphasis. Requirements are as follows:

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (OTS 251D required)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
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</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
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<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature (must substitute GEN 101)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11</td>
</tr>
<tr>
<td>Two semester sequence - 8 hours</td>
<td></td>
</tr>
<tr>
<td>Additional 3 credits hours are satisfied through the major by OTS 370T</td>
<td></td>
</tr>
<tr>
<td>Social Science (ECON 2005 required)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the training specialist emphasis must substitute GEN 101 for the literature perspective course.

Technical Content Courses (45 Hours)

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201  Accounting</td>
<td>3</td>
</tr>
<tr>
<td>HMSV 343  Human Services Methods</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 325  Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 340  Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 311  Marketing Principles and Problems</td>
<td>3</td>
</tr>
<tr>
<td>OTS 202  Supervision of Personnel</td>
<td>3</td>
</tr>
<tr>
<td>OTS 370T  Technology and Society (Writing Intensive)</td>
<td>3</td>
</tr>
<tr>
<td>OTS 389  Adult Education and Training</td>
<td>3</td>
</tr>
<tr>
<td>OTS 402  Training Methods</td>
<td>3</td>
</tr>
<tr>
<td>OTS 405  Directed Work Experience or Community College Co-op</td>
<td>3</td>
</tr>
<tr>
<td>OTS 430  Technology Applications in Training or OTS 351</td>
<td>3</td>
</tr>
<tr>
<td>OTS 450  Assessment, Evaluation and Improvement</td>
<td>3</td>
</tr>
<tr>
<td>OTED 400  Instructional Systems Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 201S  Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 303  Industrial/Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Training Electives  28
Consult the departmental advisor for a list of approved courses used to meet this requirement.

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minor in Fashion Merchandising
The department offers a minor in fashion merchandising for students majoring in disciplines other than occupational and technical studies emphasis areas. Requirements for the minor are completion of 12 credit hours from among the following courses: MKTG 412, OTS 303, 312, 405, 415, 422, 423, 424, or 431. OTS 208 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

Minor in Marketing Education
The minor in marketing education is offered by the department to students majoring in disciplines other than occupational and technical studies emphasis areas. Requirements for the minor are OTED 401, OTED 408, OTS 402, OTS 430, and OTS 450. Students must pass the PRAXIS I examination prior to enrolling in OTED 408. Students must have a minimum overall cumulative grade point average of 2.75 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and six hours of the 300/400-level courses must be taken through courses offered by Old Dominion University. All courses may be applied toward the licensure requirements to teach marketing education in Virginia.

Minor in Training and Development
The minor in training and development is offered by the department for students majoring in disciplines other than occupational and technical studies emphasis areas. The minor requires 15 hours of course work as follows: OTED 400; OTS 389, 402, 430 or 351, 450. Students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and six hours of the 300/400-level courses must be taken through courses offered by Old Dominion University.

Certificate Program in Industrial Training
This program is designed especially for military and civilian instructors and trainers. It is directed to those individuals who possess technical skills in the military, industry, career and technical centers, or community colleges. This certificate requires successful completion of the following 21 credit hours (seven courses): OTED 400; OTS 202, 351, 370T, 402; PSYC 303; HMSV 343.

Licensure/Endorsement Programs

Licensure Program in Marketing Teacher Education
The licensure program in marketing teacher education is designed to prepare a person who has a business-related baccalaureate degree to be a marketing education teacher-coordinator. Participants who successfully complete this program will qualify to apply for a Virginia teaching license to teach marketing education.

Admission. Prior to entering this program students must hold a business-oriented baccalaureate degree in which 30 hours of marketing-related courses have been completed including at least three semester hours each of courses covering the marketing process, economics, personnel, the sales process, operations and organization, and promotion. Students must also have completed a rigorous general education program as outlined by the Commonwealth in its Licensure Regulations for Teachers. They must be interviewed and accepted by the marketing education program leader. Students must attain or exceed the minimum score required by Virginia on the PRAXIS I examination. The PRAXIS I exam must be passed prior to admittance into teacher education and taking OTED 408/508.

Exit. Students must (1) complete the following courses: OTED 297, ESSE 413, OTED 400/500, OTED 401/501, OTED 408/508, OTS 450/550, and OTED 485; (2) earn a 2.75 cumulative grade point average if licensure is at the undergraduate level and a 3.00 cumulative grade point average if licensure is at the graduate level; and (3) document at least 4000 clock hours of marketing-related work experience completed within the past five years or complete OTS 430. Passing scores on PRAXIS II are required before teacher internship. Passing PRAXIS II scores must be attached to the teacher internship application.
Twelve hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, middle and secondary teaching concentration.

**Endorsement Program in Industrial Cooperative Training**

The endorsement program in industrial cooperative training is designed to prepare a licensed teacher to be endorsed to teach industrial cooperative training in the public schools.

**Admission.** Prior to entering this program students must have or qualify for a Virginia Collegiate Professional or Postgraduate Professional License. Secondly, they must be interviewed and accepted by the program coordinator.

**Exit.** Students must (1) complete the following courses: ENGL 110C, OTED 305/400/500, OTED 401/501, OTED 306/403/503, OTED 408/508, OTED 425/525, and OTS 450/550; (2) earn a 2.75 cumulative grade point average if licensure is at the undergraduate level and a 3.00 cumulative grade point average if licensure is at the graduate level; and (3) document at least 4000 clock hours of acceptable employment in a trade, technical, or industrial education subject area completed within the past five years or complete OTS 405.

Twelve hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, middle and secondary teaching concentration.
Frank Batten College of Engineering and Technology

Oktay Baysal, Dean
A. Osman Akan, Associate Dean
Linda Vahala, Associate Dean
Berndt Bohm, Assistant Dean

Mission Statement

The Batten College of Engineering and Technology promotes the advancement of engineering knowledge, both in creation and dissemination, by providing successful graduates and a continuously improving learning environment to its constituents, while maintaining high ethical, multicultural and global standards.

Overview

The Batten College of Engineering and Technology at Old Dominion University offers degrees in engineering and in engineering technology. The course of study that leads to engineering degrees is characterized by a solid foundation in the theoretical underpinnings of engineering based in mathematics and physics. Graduates are well equipped to pursue graduate education, pursue professional registration, or enter the engineering profession. The course of study that leads to engineering technology degrees is characterized by strong laboratory experiences that will prepare the graduate to hit the ground running as a technical partner of the engineer who can implement advanced design and development concepts. The engineering technology degree is considered to be a terminal degree and graduates are not expected to pursue graduate degrees or professional registration, although they are not excluded from doing so.

The engineering and engineering education programs at Old Dominion University are specifically designed to take advantage of the unique assets in the Hampton Roads area. These assets include: 1) a strong military presence with multiple high technology facilities, in particular as it relates to modeling and simulation; 2) the NASA Langley Research Center with its focus on aeronautics and virtual environments; 3) the Jefferson Laboratories, a major center of nuclear physics and home of a major Free Electron Laser; 4) one of the major international deepwater ports on the east coast of the United States; 5) a major ship building and ship repair industry, including Newport News Shipbuilding, the only builder of nuclear aircraft carriers in the U.S.; 6) Virginia Beach, the largest city in the state of Virginia; and, 7) a major high technology industry base. These assets have enabled the development of distinctive engineering and technology curricula. Points of distinction (from other programs in and out of the state) include the following.

Career Advantage Program: Engineering and technology graduates get a head start on the engineering job market by preparing academically and experientially for their engineering and technology careers.

Engineering Up-Front: Freshmen immediately become engaged in practical engineering and technology activities through the one-year-long required course, Explore Engineering/Technology. Group projects allow students to experience the professional spectrum from idea generation through its translation into the design, manufacture and commercialization cycle. Students are encouraged to complete this course before declaring a specific engineering discipline as a major.

Multi-Disciplinary Industry Senior Project: Seniors may choose to join a multi-disciplinary team of students led by faculty and industry representatives to work on a project paid for by industry subject to specific deliverables and time and budget constraints.

Integrated 5-year Bachelor's/Master's Programs: The difference in lifetime earnings between the holder of a bachelor’s and a master’s degree may be in the millions of dollars. Students in the Batten College of Engineering and Technology may be accepted into both a bachelor’s and master’s program at the freshman year through the junior year and receive both degrees in five years. The degrees need not be in the same field of engineering.

Doctor of Medicine Degree: Entering undergraduate and transfer students may apply for guaranteed admission to Eastern Virginia Medical School upon completion of their bachelor’s degree in engineering and technology.

Career Management Center: Students receive direct assistance in locating full- and part-time employment including co-op and internship opportunities through the college’s Career Management Center.

Professional Engineer (P.E.) Certification

The Batten College of Engineering and Technology encourages all of its graduates to eventually be certified as Professional Engineers (P.E.). The certification requires taking the Fundamentals of Engineering (FE) Examination and the Professional Engineering (PE) Examination. All students are encouraged to take the FE Examination in their senior year after taking ENGN 401 Fundamentals of Engineering Review course. For details, contact the Dean’s Office and the following web sites: www.state.va.us/pe; www.nspe.org.

For further information, please visit the college’s web site: www.eng.odu.edu.

Programs of Study

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Enterprise Centers

The Batten College of Engineering and Technology is a catalyst for the economic development of Hampton Roads. To this end, the college has established a number of centers to serve as engines for enterprise development. These centers utilize all University resources, including students and faculty.

Applied Research Center (ARC)

Hani Elsaayed-Ali, Director

ARC is an advanced materials engineering and laser technology research center. Staffed with industry/university teams utilizing the Jefferson Lab technologies, ARC provides commercial product-related research in the areas of thin film technology, laser and plasma processing of materials, materials analysis, and devices and sensor fabrication. For more information: www.eng.odu.edu/arc

Center for Advanced Engineering Environments (CAEE)

Ahmed Noor, Director

CAEE serves as a focal point for the diverse research activities pertaining to distributed collaborative synthesis and learning technologies and their application to future aerospace systems. These activities include the synergistic coupling of modeling, visual simulations, intelligent agents, multimedia and synthetic environments, human-computer interactions, computational intelligence, and computational, information and collaboration technologies in the multidisciplinary analysis, sensitivity studies, optimization, design and operation of future aerospace systems. For more information: www.aee.odu.edu

Langley Full-Scale Wind Tunnel (LFST)

Robert Ash, Director
Mid-Atlantic Regional Spaceport (MARS)
Billie Reed, Executive Director

MARS, formerly the Virginia Space Flight Center (VSFC), is a full-service, FAA-licensed spaceport. The state-owned spaceport is located on the NASA Wallops Flight Facility on Virginia’s Eastern Shore, an ideal site for access to the International Space Station. MARS provides low-cost access to mid-inclination and sun synchronous orbits for small- to medium-class expendable launch vehicles with payloads up to 12,000 pounds. For more information: www.midatlanticspaceport.com

Virginia Applied Technology and Professional Development Center (VATPDC)
Jerry Robertson, Director

VATPDC, formerly the Technology Applications Center and Center for Continuing Engineering Education, identifies and focuses University resources on engineering practice, management, and training. Activities include prototyping, customized testing, manufacturing process improvements, product development, sales and marketing, strategic planning, and performance benchmarking. Training subject areas include engineering management, Lean principles, Six Sigma, network administration and engineering, and information technology. For more information: www.vatpdc.com

Research Institutes
Coastal Engineering is part of the college’s Department of Civil and Environmental Engineering. Its mission is to foster interdisciplinary educational and research opportunities for faculty and students interested in applied coastal science and engineering. David R. Basco, Director

Experimental Aeronautics is part of the college’s Department of Aerospace Engineering. Its mission is to support facility-related workforce training and research at NASA, principally related to wind tunnels but also in other areas such as structural dynamics, to develop and mature the experimental methods program within the Department of Aerospace Engineering, and to act as an academic adjunct to the Langley Full Scale Wind Tunnel operation. Colin B. Brichter, Director

Lean Institute was established to find solutions for issues related to enterprise productivity. The institute also addresses issues related to other business functions such as supply chain logistics, technology management, human resources, design, and contracting. Alok K. Verma, Chief Technologist

Multidisciplinary Parallel and Vector Computations promotes interactions (and/or collaborations) among researchers in the areas of engineering applications, large scale computations, and parallel software and algorithm developments. Duc T. Nguyen, Director

National Centers for System of Systems Engineering (NCSoSE) is a collection of independent, nonprofit, engineering research and application organizations, government entities, and universities that have joined together with a common goal to solve problems, develop technologies, and direct research focused on critical issues related to the integration of complex systems of systems. Charles Keating, Director

Physical Electronics Research Institute is more commonly known as the PERI labs. The PERI Labs conduct research across a wide range of disciplines relating to all aspects of physical electronics. The nature of this research generally places the laboratories under the auspices of the college’s Department of Electrical and Computer Engineering (ECE). Currently, the PERI Labs house research programs in four main laboratories: thin film and nanocrystal fabrication, surface science, laser modulation spectroscopy, and atmospheric plasma discharge. Han Elsayed-Ali, Director

Institute for Scientific and Educational Technology (ISET) was established to serve as a mechanism for universities and other research organizations to collaborate among themselves and with different government agencies and industrial organizations to promote research, education, and training programs in science, engineering, and related fields. Surendra N. Tiwari, Director

Ship Maintenance, Repair and Operations works to make ship repair and operations more cost effective, while meeting or exceeding environmental requirements. Han Bao, Director

Institute for Sustainable Development was established in 2004, in association with the Department of Civil and Environmental Engineering, to promote and provide engineering, ecological, environmental, and economic assistance to local, regional, and national governmental agencies, as well as international organizations and businesses. The institute actively participates in community service by conducting waste minimization and pollution prevention assistance to local businesses. Mujde Erten-Unal, Director

SPECIAL PROGRAMS
Cooperative Education Program
The cooperative education programs in the Batten College of Engineering and Technology at Old Dominion University are accredited by the Accrediting Board of Engineering and Technology (ABET) and thus are of the highest academic quality. These programs allow students to combine academic study with professional-level training. Cooperative education positions are based on the alternating program style in which periods of full-time study are alternated with periods of full-time employment. Full-time employment periods must accumulate to the equivalent of one calendar year. Participation in the cooperative education program can be a source of financial support to help meet a substantial portion of college expenses. All departments in the College of Engineering and Technology heartily endorse the concept of cooperative education.

Integrated Five-Year Bachelor’s/M.S. Programs
Opportunities for Employment and Graduate Studies
According to a recent Income and Salary Survey by the National Society of Professional Engineers, increased education in the engineering fields results in higher earnings. In 1996, the median annual salary of respondents holding a bachelor’s degree was $61,200, while the median annual salaries of those holding an M.S. and Ph.D. were $70,000 and $85,000, respectively. The objective of the integrated five-year bachelor’s/M.S. program is to allow qualified students simultaneous admission to a bachelor’s program in engineering or technology and a master’s degree in the same or complementary discipline leading to both degrees in five years.

The combined degree program provides unique opportunities for students to be involved in industrial, governmental and academic research projects in areas of engineering and engineering technology where there is a great need for advanced technical expertise. Old Dominion University’s geographical proximity to such enterprises as the NASA Langley Research Center, the Newport News Shipyard, the Thomas Jefferson National Laboratory, the Defense Department’s Joint Training Analysis and Simulation Center, and Norfolk’s unique position as host to the largest Naval Base in the world, provides excellent opportunities for students in this program to be involved in practical engineering and applied research projects, while simultaneously pursuing their University education.

In addition, this program prepares students for graduate or professional programs leading to a research and/or academic career. Graduates may apply for admission to Ph.D. programs in engineering or engineering management.

Requirements for Admission
Freshmen: Students seeking admission into the program at the beginning level must have a high school GPA of at least 3.00 or an SAT score of at least 1100. The minimum high school GPA acceptable (with an SAT score of 1100 or better) will be 2.75. The minimum SAT score acceptable (with a high school GPA of 3.00 or better) will be 1,000.

Junior Transfer Students: Students admitted into the program must have a GPA of 3.00 or better in all course work attempted at the college(s) from which they are transferring.

Rising Juniors and Seniors: Old Dominion University students not admitted to the Integrated Five-Year Bachelor’s/M.S. Program who meet the continuation requirements listed below may apply.

Students with Baculacurate Degrees in Disciplines other than Engineering or Technology: These students must complete prerequisite requirements in their chosen engineering or technology department with a GPA of 3.00 or better in the engineering courses taken.

Continuance Requirements
Continuance in the program requires maintenance of a 3.00 GPA or better overall and in the major. In order to complete both degrees in five years, full-time student status must be maintained and attendance during the summer session at the end of the fifth year of study is required.

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Available Bachelor’s-Master’s Programs

Combinations of all existing bachelor's and master’s programs are possible. Some of these combinations may require prerequisite courses. Please see the Undergraduate Programs section and Graduate Programs section for a complete list and details.

For additional information on the Integrated Bachelor's/M.S. programs, contact: Osama Kandil, Aerospace Engineering Department, Old Dominion University, Norfolk, VA 23529, (757) 683-3720, www.eng.odu.edu, e-mail: okandil@odu.edu.

Bachelor’s in Engineering and Technology—Medical Doctor (ET/M.D.) Program

Old Dominion University has two joint programs with Eastern Virginia Medical School designed to encourage outstanding and highly qualified students to receive a B.S. from Old Dominion University and an M.D. from Eastern Virginia Medical School. In the first track (ET/M.D.), the undergraduate degree is a bachelor’s degree in engineering or engineering technology, whereas in the second track (B.S./M.D.), a student can choose any of the undergraduate programs available at Old Dominion University.

The field of medicine is becoming increasingly more dependent on technology, as well as exploiting engineering and technology for its advancement. A medical professional, therefore, will have a clear advantage by having an educational background in engineering. Among numeroussuch examples is an orthopedic surgeon who understands the principles of mechanics, or a neurosurgeon who understands electrical fields, or a medical researcher who has experience in computer modeling of either tissue mechanics or cardiovascular flows. With this impetus, the Batten College of Engineering and Technology at Old Dominion University, in collaboration with Eastern Virginia Medical School, has developed the joint ET/M.D. program.

A student accepted into the ET/M.D. program will be placed in a select group of students who will pursue their engineering education supplemented by unique medical and research experiences to prepare them for the medical school. From those who successfully complete their freshman and sophomore years, a selected group will be given guaranteed positions at Eastern Virginia Medical School. Contingent upon completion of the bachelor’s program at Old Dominion University, students will automatically enter Eastern Virginia Medical School, thus reducing the academic pressure of preparing for entrance into medical school. Among the other advantages of the program are the following:

- Several opportunities are available through this program to enhance exposure to the field of medicine. Students have an opportunity to serve as patient advocates at the various free clinics sponsored by EVMS. Also, the students attend special seminars by distinguished researchers in the field of medicine or engineering applications in medicine.
- The students are encouraged to participate in the ongoing research programs relevant to medicine or engineering applications in medicine.
- To further increase their exposure to medical research, juniors and seniors in this program may take courses utilizing faculty and facilities at EVMS. These courses may be offered as special topics courses at Old Dominion University.
- In this program, the students obtain an undergraduate degree in engineering or technology. Therefore, even in the event that a student does not pursue the medical degree, he or she is prepared for an exciting career and a lucrative profession.

Eligibility and Selection of Students for the ET/M.D. Program

1. Applicants for the program must attain a combined Scholastic Aptitude Test (SAT) score of at least 1250, rank in the top ten percent of their high school class, and have an overall high-school grade point average of at least 3.40 on a 4.00 scale.
2. Applicants should indicate their interest in this program on their initial application to Old Dominion University. Upon the applicant's request, the secondary application, which is for additional information on academic and extracurricular achievements, reasons for choosing a career in medicine, prior exposure to the field of medicine, and objectives in gaining a position in this program, will be mailed directly from the Admissions Office at Old Dominion University.
3. At least two letters of evaluation from science and/or mathematics teachers are required. When relevant, additional reference letters written by others may be accepted, but these cannot replace the required reference letters.
4. A committee of faculty from Old Dominion University and Eastern Virginia Medical School review the applications. Qualified applicants may also be called for an interview.
5. In order to be considered for the subsequent fall semester entry to the ET/M.D. program, the deadline for receiving all credentials is March 1.
6. A student in this program must maintain a 3.50 grade point average (GPA) while at Old Dominion University. Students with a GPA between 3.00 and 3.50 are given provisional status in the program; they must attain a GPA of 3.50 within one semester and cannot return to provisional status in the future. A student with a GPA below 3.00 will be dropped from the ET/M.D. program, but may continue with the bachelor’s program in engineering or engineering technology. A student will be dropped from the program if found guilty of violating the Honor Code or if recommendations of the program director and the joint Old Dominion University/EVMS committee are not followed.
7. Students in this program must take the courses required by EVMS, one year of biology and two years of chemistry (including organic chemistry), and obtain grades of B or better. The program director at Old Dominion University’s College of Engineering and Technology determines which courses appropriately meet these requirements.
8. Students in this program must complete the requirements for a bachelor’s degree in engineering or engineering technology before beginning medical school.
9. Applicants must be a U.S. citizen or a permanent resident of the United States.

For more information, contact
Engineering and Technology/Medical Doctor (ET/M.D.)
Batten College of Engineering and Technology
Old Dominion University, Norfolk, VA 23529-0236

Direct Bachelor’s-to-Ph.D. and Integrated Bachelor’s/Ph.D. Programs

For a select number of exceptionally well-qualified students, the college has established an accelerated doctoral program that enables students to be admitted directly into the Ph.D. program upon completion of the baccalaureate degree. The total number of graduate course credits required is 48 plus a 24-credit dissertation. That is six credit hours shorter than the regular path, where a student obtains a master’s degree and then pursues Ph.D. study. The philosophy of the college is that the quality of the dissertation is judged more by the quality of research performed, rather than by the number of courses taken.

A select number of exceptionally well-qualified students can be admitted to the Integrated Bachelor’s/Ph.D. program while they are pursuing their junior year in one of the undergraduate programs at Old Dominion University. This program encourages admitted students to work closely with individual faculty members during the remainder of their undergraduate program. Just as in the five-year Bachelor's/M.S. program, six credit hours of graduate course work may again be counted towards the undergraduate degree and doctoral course work mentioned above for the integrated Bachelor’s/Ph.D. program. Therefore, the total graduate credit hours after obtaining the bachelor’s degree at Old Dominion can be 42 credit hours of graduate courses plus a 24-credit dissertation. That is 12 credits shorter than the regular path. Students in these programs must maintain a GPA of 3.50 or better throughout their bachelor’s and doctoral studies.

The student may opt to obtain the master’s degree along the way to the doctorate. To obtain the master’s degree, the student must utilize the six graduate credits obtained as part of their undergraduate program, use 18 credits of the graduate course work that is part of the Ph.D., and also write a master’s thesis.

For additional information, contact:
Osama Kandil, Aerospace Engineering Department, Old Dominion University, Norfolk, VA 23529
(757) 683-3720, www.eng.odu.edu, e-mail: okandil@odu.edu.

UNDERGRADUATE PROGRAMS

The Bachelor of Science in Civil Engineering, the Bachelor of Science in Computer Engineering, the Bachelor of Science in Electrical Engineering, the Bachelor of Science in Environmental Engineering, and the Bachelor of Science in Mechanical Engineering are accredited as engineering programs by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).

The Bachelor of Science in Engineering Technology has programs in civil engineering technology, electrical engineering technology, and mechanical engineering technology which are accredited as engineering technology.
programs by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

For the list of institutions accredited by ABET, refer to: www.abet.org/accreditation/accredit.htm.

ENGINEERING FUNDAMENTALS DIVISION
Linda Vahala, Director
Bonita Anthony, Assistant Director

The Engineering Fundamentals Division (EFD) is designed to provide support to students as they make the transition into the Batten College of Engineering and Technology. All students are admitted to this division until they are prepared to successfully take courses in their major. While in this division, students receive individualized counseling, mentoring, and advising support designed to prepare them for success in their chosen engineering or technology major. A key experience for students in this division is the year-long course in the Fundamentals of Engineering. This group-oriented course uses hands-on projects to expose students to the spectrum of engineering practices from innovation through design, manufacture and commercialization of a product or process. It also provides students with an opportunity to experience various aspects of engineering and have a basis for selecting their major.

Admission. Students who qualify for regular admission to the University will be accepted into EFD. Students in EFD may identify a desired degree program or may declare that they are undecided among engineering and engineering technology programs. They will be assigned a code classification, which indicates that they are enrolled and, if appropriate, which is their preferred program.

Matriculation into a Degree Program. Students should apply to the desired program during the semester in which they complete the requirements in the Engineering Fundamentals Division. Students will be notified of the admission decision before the start of the next term. To be eligible for admission into a degree program, students must (1) complete the courses Explore Engineering and Technology I and II, (2) complete at least 30 credit hours toward a degree, (3) have an overall GPA of 2.00 or higher, and (4) meet any other additional degree program admission requirements. Normally, students are not eligible to enroll in major courses until they are accepted into the degree program. Students may petition to waive this rule when extenuating circumstances warrant.

Continuance. Students are eligible to continue in the EFD as long as they (1) meet the continuance regulations of the University and (2) make reasonable progress toward matriculation into an engineering or engineering technology program. A student who has ceased reasonable progress toward matriculation into a college degree program will be notified in writing. One semester following this notification, if reasonable progress has not resumed, the student will be referred to Advising Services. A student who successfully completes the requirements must apply to and be accepted by a college degree program. Students not accepted into a degree program during a period of one semester beyond completion of the requirements will be referred to Advising Services.

Engineering Fundamentals—Engineering Programs

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Engineering Fundamentals—Engineering Technology Programs

Refer to the program curriculum listing appearing in the Engineering Technology section.

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment (NewPAGE), GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course. All majors in the Batten College of Engineering and Technology may substitute GEN 101 for a course in one of the following perspective areas: fine and performing arts, history, literature, philosophy or social science. Students should consult their advisors for additional information.

Advanced Placement

The University provides for possible advanced placement for up to 60 semester hours of course work. The student should refer to the advanced placement policy of specific departments (Mathematics and Statistics, Physics, Chemistry and Biochemistry, etc.) and the Policy for Experiential Learning Credit Options at the Undergraduate Level found in this Catalog. Qualified students may take advanced placement examinations in certain courses in the various departments of the Batten College of Engineering and Technology. The student should contact the chair of the department offering the course for information on applicability and approval.

Prospective freshmen are encouraged to take as many advanced placement courses as possible in high school. Further, prospective freshmen are encouraged to take as many AP examinations of the Educational Testing Service and CLEP examinations as possible. Qualifying scores on these examinations may result in advanced placement credit. However, freshmen should still consult with their faculty advisor before “skipping” courses given at Old Dominion University.

Transfer Students

Transfer students seeking admission to an engineering or engineering technology program at Old Dominion University must complete the standard admission procedures as established by the Office of Admissions.

Transfer students are usually in one of the following categories: (a) students who have completed some course work, but who have not completed associate degrees; and (b) students who have completed associate degrees in appropriate fields before transferring.

Certain special policies have been developed for students in category (b). If the overall educational background of the transfer student who has completed an associate degree is felt to be sufficiently strong to permit him or her to pursue upper-division work satisfactorily, a composite or “package” evaluation of transfer credit may be made. This approach will permit some flexibility in accommodating students with slightly different but equally appropriate backgrounds, dependent on the engineering or engineering technology program involved. Certain deficiencies can be made up while the student is pursuing upper-division studies.

To be admitted as a transfer student with departmental junior standing, the student should have either completed an associate degree in an acceptable program or received full credit for two years of work indicated by the completion of the equivalent number of semester hours in the chosen engineering or engineering technology curriculum with a grade of C or better in each course.

Certificate of Career Experience

The Certificate of Career Experience provides an opportunity to document career experience contained in the student’s program of study. The certificate consists of a five-credit core including cooperative education, job search strategies, and fundamentals of engineering. The remaining requirements are satisfied by major courses including senior design projects, professional communication and elective courses. Information concerning specific requirements is available in the major area.

CIVIL AND ENVIRONMENTAL ENGINEERING

Gary C. Schafran, Chair and Chief Departmental Advisor

* GEN 101 is approved as a general education requirement for first year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.
The Bachelor of Science in Civil Engineering

The Department of Civil and Environmental Engineering offers two undergraduate, four-year programs leading to the Bachelor of Science in Civil Engineering and the Bachelor of Science in Environmental Engineering. Both programs are accredited by the Accreditation Board for Engineering and Technology (ABET). The department also offers a varied program of graduate study and research leading to the Master of Science, Master of Engineering and Doctor of Philosophy degrees with majors in civil or environmental engineering. Areas of specialization include coastal, environmental, geotechnical, hydraulics and water resources, and structural engineering. For further information, please visit the web site: cee.odu.edu.

Civil Engineering Program Objectives

in consultation with the advisory council as documented in the minutes of the Department of Civil and Environmental Engineering.

The curriculum in civil engineering is designed to provide education in fundamental engineering sciences, certain nontechnical subjects, and all major areas of civil engineering, which will serve as a basis for entrance into civil engineering practice and/or graduate study. Technical elective courses are available that allow pursuit of several programs of study or specialization: geotechnical, hydraulics and water resources, and structural engineering. In addition, course work in General Education skills and perspectives is required to assure a well-rounded program of study.

Civil Engineering Program Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the civil engineering program, established with participation of all constituents, are consistent with the mission of Old Dominion University and the Department of Civil and Environmental Engineering.

The objectives of the civil engineering program are to produce graduates who will:

• practice civil engineering successfully in different professional settings,
• be able to pursue advanced studies in civil engineering or related fields,
• understand and effectively communicate technical, environmental, and social implications of civil engineering solutions,
• understand, appreciate, and be able to apply the state-of-the-art practice in civil engineering, and
• understand, appreciate, and apply engineering ethics.

Civil Engineering Program Outcomes

The program outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. The program outcomes have been established based on the program educational objectives, in consultation with the advisory council as documented in the minutes of the Civil and Environmental Engineering Visiting Council (CEEVC) meetings.

Students who qualify for graduation will:

1. Be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry, and engineering science and have the ability to apply knowledge in these areas to civil engineering problems.
2. Have ability to design and conduct experiments and to critically analyze and interpret data in various civil engineering fields.
3. Be able to develop design criteria to meet desired needs and to design a civil engineering system, component, or a process satisfying these criteria.
4. Have ability to function on multi-disciplinary teams.
5. Be able to identify and formulate an engineering problem, to collect and analyze relevant data, and to develop a solution.
6. Understand and appreciate professional and ethical responsibilities and professional practice issues such as procurement of work, bidding versus quality-based selection processes, and interaction between design and construction professionals.
7. Be able to effectively present ideas and technical material to diverse audiences in writing, visually, and verbally.
8. Have the broad education necessary to understand the impact of engineering solutions in a societal and global context.
9. Understand and appreciate the importance of professional licensure and commitment to life-long learning.
10. Have knowledge of current issues and awareness of emerging technologies.

11. Have an ability to use modern engineering techniques, skills, and tools including computer-based tools for civil engineering analysis and design.

In addition, students will have had opportunities for work experience through internships, co-op, and cooperative education. They will also have had opportunities to participate in student organizations for exposure to community service and for developing leadership skills. The students will be proficient in environmental, geotechnical, structural, and water resources engineering and have exposure to transportation engineering.

Civil Engineering Curriculum*

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Calculus I</td>
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<tr>
<td>CHEM 115N</td>
<td>Foundations of Chemistry</td>
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<td>ENGL 110C</td>
<td>English Composition</td>
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<td>GEN 101</td>
<td>Perspective I NewPAGE</td>
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Freshman First Semester (16 Credit Hours)

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<tr>
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<td>PHYS 231N</td>
<td>University Physics</td>
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<tr>
<td>CS 150</td>
<td>Introduction to Programming</td>
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</tr>
<tr>
<td>GEN 111</td>
<td>Explore Engr &amp; Tech II</td>
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Sophomore First Semester (17 Credit Hours)

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<thead>
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<tbody>
<tr>
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<td>PHYS 232N</td>
<td>University Physics</td>
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<tr>
<td>MATH 312 (285)</td>
<td>Calculus III</td>
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<td>English Composition</td>
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<td>Gen Ed</td>
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Sophomore Second Semester (16 Credit Hours)

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<tr>
<td>ME 205</td>
<td>Dynamics</td>
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<td>Surveying for Engineers</td>
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Junior First Semester (15 Credit Hours)

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<td>CE Materials</td>
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<tr>
<td>CEE 305</td>
<td>C&amp;E Engineering Computations</td>
<td>3</td>
</tr>
<tr>
<td>CEE 330</td>
<td>Hydromechanics</td>
<td>3</td>
</tr>
<tr>
<td>CEE 350</td>
<td>Environ Pollution &amp; Control</td>
<td>3</td>
</tr>
<tr>
<td>CEE 304</td>
<td>Intro Fund CEE Infrastruc Sys</td>
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Senior First Semester (16 Credit Hours)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CEE 365</td>
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</tr>
<tr>
<td>CEE 410</td>
<td>Concrete Design I</td>
<td>3</td>
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<tr>
<td>CEE 4XX</td>
<td>Civil Engr Elective</td>
<td>3</td>
</tr>
<tr>
<td>ENG 401</td>
<td>FE Review</td>
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<td>Gen Ed</td>
<td>Perspective 5</td>
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<td>Gen Ed</td>
<td>Upper Level Requirement</td>
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Senior Second Semester (15 Credit Hours)

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<th>Course Number</th>
<th>Course Title</th>
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<tr>
<td>CEE 403W</td>
<td>Civil Engineering Design Project</td>
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<td>CEE 4XX</td>
<td>Civil Engr Elective 2</td>
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<td>CEE 4XX</td>
<td>Civil Engr Elective 3</td>
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<td>Gen Ed</td>
<td>Upper Level Requirement 2</td>
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<td>Gen Ed</td>
<td>Upper Level Requirement 3</td>
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</table>

Total Credits: 125

* Does not include the University’s General Education foreign language requirement. Additional hours may be required.

The General Education computer literacy requirement is met by courses in the major, CE 403W meets the General Education oral communication requirement, and the second requirement in the natural science and technology perspective is met through the major.

BATTEN COLLEGE OF ENGINEERING AND TECHNOLOGY
Environmental Engineering Program Objectives

The environmental engineering program is designed to educate engineers in the fundamentals of physical, chemical, and biological processes. The curriculum is designed to develop the ability within students to address the complex nature of natural and engineered systems and how to apply this understanding to the conception, analysis, and design of solutions to real-world environmental problems. In the senior year, a capstone design course enables students to collaborate in developing engineering solutions to real-world environmental problems.

Environmental Engineering Program Outcomes

The program outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. The program outcomes have been established based on the program educational objectives in consultation with the advisory council as documented in the minutes of the CEEVC meeting. They encompass the outcome requirements of Criterion 3 of ABET Criteria for Accrediting Engineering Programs.

Students who qualify for graduation will:
1. Be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry, soil science, biological science, engineering science, and fluid mechanics and have the ability to apply knowledge in these areas to environmental engineering problems.
2. Be able to design and conduct experiments and to critically analyze and interpret data in various environmental engineering focus areas.
3. Have ability to develop design criteria to meet desired needs and to design an environmental engineering system, component, or a process satisfying these criteria.
4. Have ability to function on multi-disciplinary teams.
5. Be able to identify and formulate an engineering problem, to collect and analyze relevant data, and to develop a solution.
6. Understand and appreciate professional and ethical responsibilities and understand professional practice issues such as procurement of work, bidding versus quality based selection processes, and interaction between design and construction professionals.
7. Be able to effectively present ideas and technical material to diverse audiences in writing, visually, and verbally.
8. Have the broad education necessary to understand the impact of engineering solutions in a societal and global context.
9. Understand the importance of professional licensure and commitment to life-long learning.
10. Have knowledge of current issues and awareness of emerging technologies.
11. Be able to use modern engineering techniques, skills, and tools including computer-based tools for environmental engineering analysis and design.

In addition, the students will have opportunities for work experience through internships, practicums, and cooperative education, for exposure to community service and for developing leadership skills. The students will have knowledge of fundamentals in the following focus areas: water supply and resources, environmental systems modeling, environmental chemistry, wastewater management, hazardous waste management, atmospheric systems and air pollution control, and environmental and occupational health. They will be proficient in advanced principles and practice in water supply and resources, wastewater management, hazardous waste management, and atmospheric systems and air pollution control and be able to apply environmental systems and process modeling techniques. Students will also have knowledge of fundamental concepts of waste minimization and pollution prevention and understand the roles and responsibilities of public institutions and private organizations in environmental management.

Environmental Engineering Curriculum*

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Freshman First Semester (16 Credit Hours)</td>
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<tr>
<td>MATH 211</td>
<td>Calculus I</td>
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<td>CHEM 115N</td>
<td>Foundations of Chemistry</td>
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<td>Freshman Second Semester (17 Credit Hours)</td>
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<td>MATH 212</td>
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<td>CHEM 117</td>
<td>Principles of Chemistry</td>
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<td>PHYS 231N</td>
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<td>CS 150</td>
<td>Introduction to Programming</td>
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<td>ENGN 111</td>
<td>Explore Engr &amp; Tech II</td>
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<tr>
<td>Sophomore First Semester (17 Credit Hours)</td>
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<td>Perspective 2</td>
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<td>MATH 312 (285)</td>
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<td>ME 220</td>
<td>Engr Mechanics II - Solid Mech</td>
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<td>Principles of Environmental Engr</td>
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<td>CEE 355W</td>
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<td>CEE 330</td>
<td>Hydromechanics</td>
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<td>CEE 305</td>
<td>C &amp; E Engineering Computations</td>
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<td>CEE 230</td>
<td>CE Materials</td>
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<td>Soil Mechanics</td>
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<td>CEE 340</td>
<td>Hydraulics &amp; Water Resources</td>
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<td>CEE 452</td>
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<td>CEE 404</td>
<td>Environmental Engr Design Project</td>
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130 OLD DOMINION UNIVERSITY
ELECTRICAL AND COMPUTER ENGINEERING

Shirshak Dhali, Chair

The Department of Electrical and Computer Engineering offers an undergraduate, four-year program leading to the Bachelor of Science in Electrical Engineering. This program is accredited by EAC/ABET. An undergraduate, four-year program leading to the Bachelor of Science in Computer Engineering is offered jointly by the Department of Electrical and Computer Engineering and the Department of Computer Science. This program is also accredited by EAC/ABET.

The department also offers programs of graduate study leading to the degrees of Master of Engineering and Master of Science in electrical engineering and in computer engineering and Doctor of Philosophy in electrical and computer engineering. The Department of Electrical and Computer Engineering, in cooperation with the Department of Computer Science, offers programs of graduate study leading to the degrees of Master of Engineering and Master of Science with a major in computer engineering. Faculty members in Electrical and Computer Engineering are actively engaged in three major areas of research specialization (system science, physical electronics, and computer systems), and the department maintains extensive laboratory facilities to support this work. Areas of specialization include digital systems, automatic controls, speech communications, signal and image processing, photonics, semiconductor modeling, and fabrication, laser sensors, thin-film processing, bioelectricity, and plasma processing. For further information, please visit the web site: www.ece.odu.edu.

Bachelor of Science in Electrical Engineering

Vishnu K. Lakdawala, Chief Departmental Advisor

The electrical engineering undergraduate curriculum begins with a solid foundation in math, science, English, networks, linear systems, electronics, electromagnetics, digital systems, and physical electronics. Adequate elective freedom is available to the senior student to allow specialization in areas selected from controls, communications, physical electronics, and computers. Emphasis is placed on understanding principles through theoretical investigation and experimental verification. In addition, course work in General Education skills and perspectives is required to assure a well-rounded program of study.

Electrical Engineering Mission

The Department of Electrical and Computer Engineering at Old Dominion University is a partnership among students, faculty and staff in Service to the University and the Department of Electrical and Computer Engineering. Objectives of the electrical engineering program, established with participation of graduates during the first few years after graduation, are consistent with the mission of Old Dominion University and the Department of Electrical and Computer Engineering.

These objectives, posted on the Department’s web site at www.ece.odu.edu and published in the ECE undergraduate handbook, are:

A. The required undergraduate curriculum will be broadly based so that graduates will understand the impact of electrical engineering solutions to the relevant societal issues.
B. Graduates will be able to analyze and solve electrical engineering problems by applying fundamental knowledge of mathematics, science, and engineering using modern engineering methods.
C. Graduates will be able to identify, formulate, and solve electrical engineering problems using a process that includes the steps of planning, specification development, design, implementation, and verification to meet performance, cost, time, safety, and quality requirements.
D. Graduates will be able to design and conduct scientific and engineering experiments and be able to analyze and interpret the resulting data.
E. Graduates will be able to communicate and function, both individually and within multidisciplinary teams.
F. Graduates will have an understanding of professional and ethical responsibility.
G. Graduates will recognize the need for and will have the ability and the desire to engage in life-long learning.

Electrical Engineering Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the electrical engineering program, established with participation of all constituencies, are consistent with the mission of Old Dominion University and the Department of Electrical and Computer Engineering.

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A. The required undergraduate curriculum will be broadly based so that graduates will understand the impact of electrical engineering solutions to the relevant societal issues.
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C. Graduates will be able to identify, formulate, and solve electrical engineering problems using a process that includes the steps of planning, specification development, design, implementation, and verification to meet performance, cost, time, safety, and quality requirements.
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Electrical Engineering Curriculum*

Course Number  Course Title  Credits
Freshman First Semester (15 Credit Hours)
ENGL 110C  English Composition  3
MATH 211  Calculus I  4
CHEM 115N  Foundations of Chemistry  4
ENGN 110  Explore Engr & Tech I  2
GEN 101  Perspective 1 NewPAGE  3
Freshman Second Semester (17 Credit Hours)
MATH 212  Calculus II  4
CS 150  Intro to Programming  4
CHEM 117  Principles of Chemistry  3
PHYS 231N  University Physics  4
ENGN 111  Explore Engr & Tech II  2
Sophomore First Semester (14 Credit Hours)
ECE 201  Circuit Analysis  3
MATH 307 (280)  Differential Equations  3
PHYS 232N  University Physics  4
ECE 241  Fundamentals of Computer Engr  4
Sophomore Second Semester (15 Credit Hours)
ECE 202  Circuits, Signals & Linear Systems  3
ECE 287  Fundamental Electric Circuit Lab  2
ECE 312 (285)  Calculus III  4
Engr  Nonmajor Engr Elective  3
Gen Ed  Perspective 2  3
Junior First Semester (17 Credit Hours)
ECE 313  Electronic Circuits  3
ECE 382  Electronics Laboratory  2
ECE 303  Intro to Electrical Power  3
ECE 332  Microelectronic Materials & Processes  3
ENGN 131C  Intro to Tech &Science Writing  3
Gen Ed  Perspective 3  3
Junior Second Semester (15 Credit Hours)
ECE 304  Probability, Statistics, & Reliability  3
ECE 323  Electromagnetics  3
ECE 387  Microelectronics Fabric Lab  3

*Does not include the University’s General Education foreign language requirement. Additional hours may be required.

The General Education computer literacy requirement is met by courses in the major. CEE 404 meets the General Education oral communication requirement, and the second requirement in the natural science and technology perspective is met through the major.

Program Outcomes

The electrical engineering program outcomes, posted on the Department’s web site, at www.ece.odu.edu, and published in the ECE undergraduate handbook, are as follows.

Graduates must demonstrate the ability:

1. to apply knowledge of mathematics, science, and engineering,
2. to design and conduct experiments, as well as to analyze and interpret data,
3. to design a system, component, or process to meet desired needs,
4. to function on multi-disciplinary teams,
5. to identify, formulate, and solve engineering problems,
6. to understand professional and ethical responsibilities,
7. to communicate effectively,
8. through the broad education necessary, to understand the impact of engineering solutions in a global and societal context.
Bachelor of Science in Computer Engineering

Vishnu K. Lakdawala, Chief Departmental Advisor

The computer engineering undergraduate degree program is designed to provide both a broad engineering background and a comprehensive foundation in the technical principles underlying the computer area. Students develop a background through course work in mathematics, the basic sciences, and general engineering. The technical core consists of course work from electrical engineering to address hardware aspects of computer engineering and course work from computer science to address software aspects. In addition, course work in General Education skills and perspectives is required to assure a well-rounded program of study.

Computer Engineering Mission

The Department of Electrical and Computer Engineering at Old Dominion University is a partnership among students, faculty and staff in Service to the profession of Electrical and computer engineering through academic excellence, Research and real-world experiences, dedicated to a Vision of the future that includes Industry and community, Continuous improvement, and personal Enrichment and growth.

Program Outcomes

The computer engineering program outcomes, posted on the Department’s web site at www.ece.odu.edu, and published in the ECE undergraduate handbook, are as follows.

Graduates must demonstrate the ability:

1. to apply knowledge of mathematics, science, and engineering.
2. to design and conduct experiments, as well as to analyze and interpret data.
3. to design a system, component, or process to meet desired needs.
4. to function on multi-disciplinary teams.
5. to identify, formulate, and solve engineering problems.
6. to understand professional and ethical responsibilities.
7. to communicate effectively.
8. through the broad education necessary, to understand the impact of engineering solutions in a global and societal context.
9. to engage in life-long learning, and understand the need for, and have the desire to engage in it.
10. to understand contemporary issues.
11. to use the techniques, skills, and modern engineering tools necessary for engineering practice.
12. to apply the knowledge of advanced mathematics of differential equations, linear algebra, complex variables, and discrete mathematics.
13. to apply advanced programming techniques to solve computer engineering problems.

Computer Engineering Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the computer engineering program, established with participation of all constituencies, are consistent with the mission of Old Dominion University and the Department of Electrical and Computer Engineering.

These objectives, posted on the Department’s web site, at www.ece.odu.edu, and published in the ECE undergraduate handbook, are:

A. The required undergraduate curriculum will be broadly based so graduates will understand the impact of computer engineering solutions to the relevant societal issues.
B. Graduates will be able to analyze and solve computer engineering problems by applying fundamental knowledge of mathematics, science, and engineering using modern engineering methods.
C. Graduates will be able to identify, formulate, and solve computer engineering problems using a process that includes the steps of planning, specification development, design, implementation, and verification to meet performance, cost, time, safety, and quality requirements.
D. Graduates will be able to design and conduct scientific and engineering experiments and be able to analyze and interpret the resulting data.
E. Graduates will be able to communicate and function, both individually and within multidisciplinary teams.
F. Graduates will have an understanding of professional and ethical responsibility.
G. Graduates will recognize the need for and will have the ability and the desire to engage in life-long learning.
MECHANICAL ENGINEERING

Jen-Kuang Huang, Chair

The department offers an undergraduate program leading to a Bachelor of Science in Mechanical Engineering. The program is accredited by EAC/ABET. The department offers a varied program of graduate study and research leading to the Master of Engineering, Master of Science, and Doctor of Philosophy degrees with a major in mechanical engineering. For further information, please visit the web site: www.eng.odu.edu/me.

Bachelor of Science in Mechanical Engineering

Sushil Chaturvedi, Chief Departmental Advisor

The mechanical engineering program is among the most basic of all engineering programs, with a curriculum that embraces the major areas of power, design, and mechanics. Seniors may enroll in one of three option areas: power/energy conversion, mechanical systems/design, or aerospace. The program is designed to prepare its graduates for professional practice in many facets of engineering, such as research, development, design, planning, testing, management, and consulting. The graduate is prepared to undertake challenging and creative engineering work in almost any industry, government agency, research organization, or consulting firm. The program also provides an excellent preparation for graduate school and the Fundamentals of Engineering (FE) Exam.

An undergraduate student handbook providing rules and a detailed semester-by-semester plan for the program is available on the department website. Courses are routinely scheduled in the evening to accommodate working students. Interested persons should contact the Department of Mechanical Engineering (ME) at 683-6363.

Mechanical Engineering Mission

1. To develop and maintain high quality undergraduate program of study leading to the bachelor’s degree in mechanical engineering.

2. To develop and maintain high quality graduate programs of study and research leading to the master’s degree and doctoral degree in mechanical engineering and engineering mechanics.

3. To conduct a relevant and high quality research program in the mechanical engineering and engineering mechanics disciplines.

4. To provide practicing mechanical engineers in Virginia the opportunities to develop and maintain up-to-date technical knowledge and skills.

5. To provide the skills and knowledge uniquely those of the mechanical engineering profession to support existing government agencies, consulting firms and industry and help promote the development of more competitive and new industry in Virginia and the nation.

Outcomes

The Mechanical Engineering Department has adopted, after deliberations by its constituents, 13 outcomes for the BSME program of which 11 are ABET mandated. These outcomes are listed below:

1. An ability to apply knowledge of mathematics, science, and engineering.

2. Ability to design and conduct mechanical engineering experiments and to critically analyze and interpret data.

3. Ability to design a mechanical engineering system, component, or a process to meet desired needs.

4. Function on multi-disciplinary teams.

5. Can identify and formulate an engineering problem, collect and analyze relevant data, and develop a solution.

6. Understand professional and ethical responsibility.

7. Have ability to present ideas and technical material in writing, visually, and verbally.

8. Have broad education necessary to understand the impact of engineering solutions in a societal and global context.

9. Understand the importance of professional licensure and have a commitment to life-long learning.

10. Have knowledge of current issues and awareness of emerging technologies.

11. Can use modern engineering techniques, skills, and tools necessary for engineering practice.

12. Have skills to solve problems that require knowledge of multivariate calculus and differential equations.

13. Have proficiency in commercially available software for thermal, fluid, mechanical design and project management engineering.

Mechanical Engineering Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the mechanical engineering program, established with participation of all constituencies, are consistent with the mission of Old Dominion University and the Department of Mechanical Engineering.

The five objectives of the mechanical engineering program are to prepare graduates who

1. are well prepared to successfully practice mechanical engineering

2. are well prepared to pursue advanced studies

3. understand and effectively communicate technical, environmental, and social implications of mechanical engineering solutions.

4. understand and apply the state-of-the-art practice in mechanical engineering, and

5. understand and apply engineering ethics.

Mechanical Engineering Curriculum*

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Calculus I</td>
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<tr>
<td>CHEM 115N</td>
<td>Foundations of Chemistry</td>
<td>4</td>
</tr>
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<td>ENGL 110C</td>
<td>English Composition</td>
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<td>ENGN 110</td>
<td>Explore Engr &amp; Tech I</td>
<td>2</td>
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<tr>
<td>GEN 101</td>
<td>Perspective I NewPAGE</td>
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<tr>
<td>MATH 212</td>
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<td>PHYS 231N</td>
<td>University Physics I</td>
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<tr>
<td>CS 150</td>
<td>Introduction to Programming</td>
<td>4</td>
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<tr>
<td>ENGN 111</td>
<td>Explore Engr &amp; Tech II</td>
<td>2</td>
</tr>
</tbody>
</table>

*Does not include the University's General Education foreign language requirement. Additional hours may be required.

The General Education computer literacy requirement is met by courses in the major. ECE 489W meets the General Education oral communication requirement. The second requirement in the natural science and technology perspective is met through the major.

Continuance Regulations

It is the policy of the Department of Electrical and Computer Engineering to deny a student eligibility to enroll in ECE courses after it becomes evident that he or she is either unable or unwilling to maintain reasonable standards of academic achievement. At the end of each semester, including summer sessions, the department reviews the records of all students.

1. A student will be placed on departmental academic probation whenever his or her major grade point average falls below 2.00 (after six or more hours have been attempted in the major.)

2. A student is subject to termination from the departmental engineering program if his or her record shows one of the following:
   a. A deficiency of more than nine grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted fewer than 35 hours of their departmental engineering courses, including transfer hours.
   b. A deficiency of more than six grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted 35 hours or more of their departmental engineering courses, including transfer hours.

Appeals of termination from the engineering program are in order if extenuating circumstances warrant. Appeals are to be made in writing to the chair of the department. Once the appeal is submitted, it is considered by the faculty of the department.

Total Credits 125
**Sophomore First Semester (18 Credit Hours)**

<table>
<thead>
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<tr>
<td>PHYS 212N</td>
<td>University Physics II</td>
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<td>MATH 312 (285)</td>
<td>Calculus III</td>
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<tr>
<td>ME 204</td>
<td>Engineering Mechanics I Statics</td>
<td>3</td>
</tr>
<tr>
<td>ME 201</td>
<td>Materials Science</td>
<td>3</td>
</tr>
<tr>
<td>ME 203</td>
<td>ME Lab I-Materials</td>
<td>1</td>
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<tr>
<td>ME 100</td>
<td>Engineering Graphics</td>
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**Sophomore Second Semester (16 Credit Hours)**

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<tr>
<td>ME 205</td>
<td>Dynamics</td>
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<tr>
<td>ME 220</td>
<td>Engr Mechs II-Solid Mechs</td>
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<tr>
<td>ME 225</td>
<td>ME Lab II-Solid Mechanics</td>
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<td>MATH 307 (280)</td>
<td>Differential Equations</td>
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<td>ENGL 131C</td>
<td>Tech/Scientific Writing</td>
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**Junior First Semester (13 Credit Hours)**

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<tr>
<td>ME 311</td>
<td>Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 303</td>
<td>Mechanics of Fluids</td>
<td>3</td>
</tr>
<tr>
<td>ME 305</td>
<td>ME Lab III-Thermo/Fluids</td>
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</tr>
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<td>ME 340</td>
<td>Computational Methods in ME</td>
<td>3</td>
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<td>Perspective</td>
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**Junior Second Semester (16 Credit Hours)**

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<th>Course Title</th>
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<td>ME 312</td>
<td>Thermodynamics II</td>
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<td>ME 332</td>
<td>Mechanical Engineering Design I</td>
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<td>ME 315</td>
<td>Heat and Mass Transfer</td>
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<tr>
<td>ENGN 401</td>
<td>FE Review</td>
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<td>GEN ED</td>
<td>Perspective</td>
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<td>GEN ED</td>
<td>Perspective</td>
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**Senior First Semester (15 Credit Hours)**

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<th>Course Code</th>
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<tr>
<td>ME 434W</td>
<td>Project Design and Management</td>
<td>3</td>
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<tr>
<td>ME 433</td>
<td>Mechanical Engineering Design II</td>
<td>3</td>
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<tr>
<td>ME 436</td>
<td>Dynamic Systems &amp; Control</td>
<td>3</td>
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<tr>
<td>ME</td>
<td>Option</td>
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<tr>
<td>General</td>
<td>Education</td>
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<td></td>
<td>Upper Division Cluster</td>
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**Senior Second Semester (15 Credit Hours)**

<table>
<thead>
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<th>Course Title</th>
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<tbody>
<tr>
<td>ME 435</td>
<td>Project Design and Mgmt II</td>
<td>3</td>
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<tr>
<td>ME</td>
<td>Options (two)</td>
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</tr>
<tr>
<td>General</td>
<td>Education</td>
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<tr>
<td></td>
<td>Upper Division Cluster</td>
<td>6</td>
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</tbody>
</table>

**Total Credits**: 126

*Does not include the University's General Education foreign language requirement. Additional hours may be required. General Education computer literacy requirement is met by courses in the major. ME 434W meets the General Education oral communication requirement, and the second requirement in the natural science and technology perspective is met through the major.

**ENGINEERING TECHNOLOGY**

Gary R. Crossman, Chair

The primary goal of the Department of Engineering Technology and its programs is to provide a general yet sufficiently specialized education to equip the student for immediate employment in a variety of engineering and technical fields. In general, the engineering technology programs provide an opportunity for students who desire a technical undergraduate education with an emphasis directed toward applications of engineering knowledge to solve actual industrial problems. As a result, the engineering technology programs emphasize the practical application of technical knowledge with a strong laboratory program supporting the lecture content of the curricula. For further information, please visit the department web site: www.eng.odu.edu/et

The Department of Engineering Technology offers two program categories leading to the Bachelor of Science in Engineering Technology degree. The first program category includes programs that are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC-ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202 - Telephone (410) 347-7700, www.abet.org. Graduates of TAC of ABET accredited programs are eligible to take the Fundamentals of Engineering (FE) or the Fundamentals of Land Surveying (FLS) examination in Virginia and in most states. This exam is the first step to licensure as a professional engineer.

The Department of Engineering Technology offers a second type of degree option: the Bachelor of Science in Engineering Technology with a concentration in general engineering technology (GET). This option is designed primarily to meet the needs of students who have an associate in applied science degree from a community college in a variety of technical fields. The diverse technical education and career background of these students often requires an interdisciplinary mixture of courses utilizing more than one engineering technology field to meet specific educational and career objectives. The GET degree option meets this objective. GET degree options include technical operations management, electromechanical systems, computer and network operations, automation and control systems, construction management, and geomatics/geographical information systems. Other options may be developed in coordination with the general engineering technology degree advisor.

All upper-level courses required for all engineering technology programs are delivered via distance learning through ODU’s TELETECHNET system. Thus, students with associate degrees may complete degree requirements without attending the main campus.

**Computer Requirement for Engineering Technology Students**

The computer and the Internet are essential elements in today’s educational environment and this trend will continue and accelerate in the future. While the University provides many computer facilities on campus and at distance learning sites, the department’s programs make it impractical for a student to accomplish all computer-related assignments using only these resources. Therefore, all engineering technology majors are expected to either own a personal computer or have access to a computer on which course software can be installed and used along with Internet access.

**Civil Engineering Technology**

Vernon W. Lewis, Jr., Program Director

The civil engineering technology (CET) program is a TAC of ABET accredited program that offers options in construction management, structural design, and surveying and site development. Students in this program are prepared for employment in a wide range of professional and technical positions with the construction, consulting engineering, surveying and site development industries. Graduates are eligible to take the Fundamentals of Engineering exam, the first step to licensure as a professional engineer. Students in the surveying and site development option are eligible to take the Fundamentals of Land Surveying Examination. CET courses include topics such as computer-aided drafting, statics, strength of materials, materials testing, surveying, building construction, steel and concrete design, soil and foundation, and hydrology and drainage. Effective written, oral and graphic communications are practiced throughout the curriculum along with computer literacy. The program culminates in a senior project that integrates course work with a practical project assignment in the student’s area of interest. To satisfy the upper-division general education requirements, students are encouraged to complete a minor in either engineering management or mechanical engineering technology.

**Construction Management Option**: The construction management option prepares students for careers in the construction industry by providing a combination of knowledge and skills from a number of disciplines. In addition to the basic technical skills in structures, materials, and fluids, students in construction management take courses in scheduling, project management, estimating and other topics that allow projects to be completed on schedule and within budget. Graduates of the construction management option are employed at both large and small companies as project engineers, field engineers, assistant superintendents, estimators, schedulers, and similar construction related positions.

**Structural Design Option**: Students choosing this option will take courses in structural analysis, structural steel design, and reinforced concrete design. Graduates of this option have found employment with public utilities and transportation agencies, architectural and structural engineering firms, design-build contractors, and construction firms in positions such as designer or engineer.

**Surveying and Site Development Option**: Students choosing this option will take course work in advanced surveying, adjustment computations, geographic information systems (GIS), and photogrammetry. Graduates of this
Civil Engineering Technology Program Objectives

The goals and objectives of the Civil Engineering Technology program are listed below. The success of these goals and objectives is determined through the evaluation of performance in tests, evaluation of senior capstone project courses, performance on the FE exam (for those who take it) and the continued evaluation of the performance and career achievements of alumni.

1. Develop the students’ capabilities with an emphasis on state-of-the-art applications in one of the following areas: building structures design, construction operations, or surveying and site development.
2. Provide sufficient instruction for graduates to function in an entry-level position involving applied planning and design, field testing and inspection, on-site technical coordination and control, and other positions relevant to their emphasis area.
3. Develop the students’ basic technical skills expected of all four-year civil engineering technology graduates.
4. Provide sufficient general education studies, including liberal arts, to permit the graduate to communicate effectively and to function as a responsible citizen.
5. Recognize the need for and have the desire to engage in lifelong learning.

Civil Engineering Technology Curriculum*

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Freshman First Semester (15 Credit Hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MET 100</td>
<td>Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ENGN 110</td>
<td>Explore Engineering &amp; Tech I</td>
<td>2</td>
</tr>
<tr>
<td>MATH 162M</td>
<td>Precalculus I</td>
<td>3</td>
</tr>
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<td>CHEM 115N</td>
<td>Foundations of Chemistry</td>
<td>4</td>
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<tr>
<td>Gen Ed**</td>
<td>Social Science Perspective (S)</td>
<td>3</td>
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<tr>
<td>Freshman Second Semester (15 Credit Hours)</td>
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<tr>
<td>MET 230</td>
<td>Computer-Aided Drafting</td>
<td>3</td>
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<tr>
<td>ENGN 111</td>
<td>Explore Engineering &amp; Tech II</td>
<td>2</td>
</tr>
<tr>
<td>MATH 163</td>
<td>Precalculus II</td>
<td>3</td>
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<td>PHYS 111N</td>
<td>General Physics I</td>
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<td>ENGL 110C</td>
<td>English Composition</td>
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<td>Sophomore First Semester (17 Credit Hours)</td>
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<tr>
<td>CET 200</td>
<td>Statics</td>
<td>3</td>
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<td>MATH 211</td>
<td>Calculus</td>
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<td>PHYS 112N</td>
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<td>ENGL 131C</td>
<td>Technical &amp; Scientific Writing</td>
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<td>Literature Perspective (L)</td>
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<tr>
<td>CET 220</td>
<td>Strength of Materials</td>
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<tr>
<td>CET 305</td>
<td>Principles of Surveying</td>
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<td>CET 345</td>
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<td>EET 305</td>
<td>Advanced Technical Analysis</td>
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<td>COMM 101R</td>
<td>Public Speaking</td>
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<td>Junior First Semester (16 Credit Hours)</td>
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<tr>
<td>CET 310</td>
<td>Fundamentals of Building Construction</td>
<td>3</td>
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<tr>
<td>CET 301</td>
<td>Structural Analysis</td>
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<td>MET 330</td>
<td>Fluid Mechanics</td>
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<td>MET 335</td>
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<td>CET 340</td>
<td>Soils &amp; Foundations</td>
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<td>CET 341</td>
<td>Soils Testing Laboratory</td>
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<td>***CET 360</td>
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<td>ENMA 302</td>
<td>Engineering Economics</td>
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<td>CET 450</td>
<td>Structural Steel Design</td>
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<td>***Upper-Division Cluster or Minor</td>
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Surveying and Site Development Option*

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<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>Freshman First Semester (15 Credit Hours)</td>
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<tr>
<td>MET 100</td>
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<tr>
<td>Science</td>
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<td>MATH 162M</td>
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<td>Gen Ed**</td>
<td>Social Science Perspective (S)</td>
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<tr>
<td>MET 230</td>
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Electrical Engineering Technology

John R. Hackworth, Program Director

The electrical engineering technology (EET) program is a TAC of ABET accredited program and contains both an electrical systems technology option and a computer engineering technology option. Students can either option take courses in dc and ac circuits, electronic devices and circuits, digital electronics, linear electronics, microprocessors, and programming. Supporting laboratories provide experience in instrumentation, testing and trouble-shooting, and design and implementation. Graduates should be qualified for application positions in electronic and electrical product design and development, electronic and electrical system operation and maintenance, field operations, and various other technical functions.

Electrical Systems Technology Option: Students choosing the electrical systems technology option will take required courses in electrical power and machinery and transmission networks. The remainder of the technical program consists of senior electives in such areas as communications, high frequency and microwave technology, control systems, power systems, and other areas. To satisfy the upper-division general education requirement, students are encouraged to complete a minor in either engineering management or mechanical engineering technology.

Computer Engineering Technology Option: Students choosing the computer engineering technology (ComET) option will take a series of courses offered by both the Department of Engineering Technology and the Department of Computer Science. These include additional C++ programming and problem solving, data structures, and software engineering. The remainder of the program will consist of a combination of senior electives in computer science and specific electrical courses that support the computer engineering technology option. Computer engineering technology majors will automatically satisfy a minor in computer science.

Electrical Engineering Technology Program Objectives

The objectives of the Electrical Engineering Technology program are listed below. The success of these goals and objectives is determined through the evaluation of performance in tests, evaluation of senior capstone project courses, performance on the FE exam (for those who take it) and the continued evaluation of the performance and career achievements of alumni.

1. Identify, formulate and solve electrical and electronic technical problems which include the steps of planning, specification development, design, procurement of equipment and materials, implementation, and performance verification.
2. Conduct necessary engineering experiments, make observations, collect and analyze data, and formulate conclusions.
3. Understand the ethical and societal impact of engineering solutions.
4. Communicate and function effectively and productively both as an individual and as part of an engineering team.
5. Recognize the need for and have the desire to engage in life-long learning.

Electrical Engineering Technology Curriculum

Electrical Systems Technology Option*

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Junior First Semester (16 Credit Hours)

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Junior Second Semester (16 Credit Hours)

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<td>EET 325</td>
<td>Microprocessor Laboratory</td>
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<td>Linear Electronics</td>
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Senior First Semester (17 Credit Hours)

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Senior Second Semester (15 Credit Hours)

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TOTAL 126

*Does not include the University’s General Education foreign language requirement. Additional hours may be required.

**Students may be required to complete GEN 101 (NewPAGE) in place of one of the five perspective courses.

***Upper-Division cluster or minor 6

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**Junior First Semester (17 Credit Hours)**

- EET 205: Circuits Laboratory 2
- EET 210: Electronic Devices & Circuits I 3
- PHYS 112N: General Physics 4
- CS 150: Introduction to Programming 4

**Sophomore Second Semester (16 Credit Hours)**

- EET 220: Electronic Devices & Circuits II 3
- ***Laboratory Science*** 4
- MATH 211: Calculus I 4
- CS 250: Problem Solving & Programming 4
- CS 252: Introduction to UNIX 1

**Junior First Semester (17 Credit Hours)**

- EET 300: Advanced Circuit Analysis 3
- EET 310: Digital Electronics 3
- EET 315W: Digital Electronics Laboratory 2
- CS 361: Advanced Data Structures & Algorithms 3
- CS 312: Internet Concepts 3
- Gen Ed**: Freshman Perspective (H) 3

**Senior Second Semester (15 Credit Hours)**

- EET 355: Electrical Laboratory 1
- ComET or CS: Senior Elective 6
- CS: Senior Electives 6
- Gen Ed**: Literature Perspective (L) 3

**Sophomore Second Semester (16 Credit Hours)**

- EET 480W: Senior Project 3
- ComET or CS: Senior Elective 6
- COMM 101R: Public Speaking 3
- Gen Ed**: Fine & Performing Arts Perspective (A) 3
- Gen Ed**: Philosophy Perspective (P) 3

**TOTAL 128**

*Does not include the University’s General Education foreign language requirement. Additional hours may be required.

**Students may be required to complete GEN 101 (NewPAGE) in place of one of the five perspective courses.

***CHEM 115N is recommended, especially for those who plan to take the Fundamentals of Engineering Examination.

### Mechanical Engineering Technology
Alok Verma, Program Director

The mechanical engineering technology (MET) program is accredited by TAC of ABET and offers options in manufacturing systems, mechanical system design, nuclear engineering technology and marine engineering technology. Students in these options take common courses in areas such as computer-aided drafting, statics, strength of materials, dynamics, thermodynamics, fluid mechanics, automation and controls, and computer solid modeling. The program culminates in a senior project that integrates course work with a practical project assignment in the student’s area of interest. To satisfy the upper-division general education requirements, students are encouraged to complete a minor in engineering management. Students in mechanical engineering technology are prepared for a range of technical positions including design, fabrication, manufacturing, HVAC (heating, ventilating and air conditioning), and construction.

**Manufacturing Systems Option:** Along with the courses previously mentioned, various senior electives are available in the manufacturing areas such as robotics, computer numerical control in production, and advanced manufacturing processes. Graduates of the manufacturing systems option are prepared for employment in a wide range of professional and technical positions at both large and small companies in areas such as manufacturing engineering, quality control, production management, test engineering, and maintenance management.

**Mechanical Systems Design Option:** The mechanical systems design option provides the skills for career success in designing, building, and installing mechanical systems of all descriptions including thermal and air conditioning systems, automated production equipment, and power systems. Graduates of this option are prepared for careers in engineering, fabrication, and technical support in both the public and private sectors.

**Nuclear Engineering Technology Option:** The nuclear engineering technology option is a special program available only to graduates of the U. S. Navy Nuclear Power School or programs related to nuclear power plant operation through Dominion Energy. These students receive advanced standing credits that apply to the MET degree based on their professional education in nuclear power systems.

**Marine Engineering Technology Option:** The marine engineering technology option is being initiated in Fall 2006 with the introduction of three new senior elective courses: MET 475 Principles of Marine Engineering I, MET 476 Principles of Marine Engineering II, and MET 485 Maintenance Engineering. It should attract students interested in ships’ systems operation and the shipbuilding/repair industry.

### Mechanical Engineering Technology Program Objectives

The objectives of the Mechanical Engineering Technology programs are listed below. The success of these goals and objectives is determined through the evaluation of performance in tests, evaluation of senior capstone project courses, performance on the FE exam (for those who take it) and the continued evaluation of the performance and career achievements of alumni.

1. Identify, formulate and solve mechanical and technical problems that include the steps of planning, specification development, design, analysis, procurement of equipment and materials, implementation, and performance verification.
2. Conduct necessary engineering experiments, make observations, collect and analyze data and formulate conclusions.
3. Understand the ethical and societal impact of engineering solutions.
4. Communicate and function effectively and productively both as an individual and as part of an engineering team.
5. Recognize the need for and have the desire to engage in life-long learning.

### Mechanical Engineering Technology Curriculum*

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<td>MET 330</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>MET 335</td>
<td>Fluid Mechanics Laboratory</td>
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</tr>
<tr>
<td>MET 350</td>
<td>Thermal Applications</td>
<td>3</td>
</tr>
<tr>
<td>MET 360</td>
<td>Geometric Dimension &amp; Tolerancing</td>
<td>3</td>
</tr>
<tr>
<td>MET 370</td>
<td>Automation &amp; Controls</td>
<td>3</td>
</tr>
<tr>
<td>MET 386</td>
<td>Automation &amp; Controls Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>***Upper-Division Cluster or Minor</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
Senior First Semester (15 Credit Hours)  
MET 387 Power & Energy Laboratory  2  
MET Senior Electives  6  
ENGN 401 FE Review  1  
***Upper-Division Cluster or Minor  3  
Gen Ed** History Perspective (H)  3  

Senior Second Semester (15 Credit Hours)  
MET 435W Senior Design Project  3  
MET Senior Elective  3  
***Upper-Division Cluster or Minor  3  
Gen Ed** Philosophy Perspective (P)  3  
Gen Ed** Fine & Performing Arts Perspective (A)  3  
TOTAL  127  

*Does not include the University’s General Education foreign language requirement. Additional hours may be required.  
**Students may be required to complete GEN 101 (NewPAGe) in place of one of the five perspective courses.  
***One or more additional courses will be required to complete a minor. See advisor for details.

General Engineering Technology  
Gary Crossman, Program Director  
The Bachelor of Science in Engineering Technology with a concentration in general engineering technology (GET) is designed primarily to meet the needs of students who have an associate in applied science (A.A.S.) degree in a technical field from a community college. These A.A.S. programs include technical studies, information systems technology, industrial management, quality technology, manufacturing technology, industrial engineering technology and other similar areas. The diverse technical education and career goals of these students often require an interdisciplinary mixture of courses utilizing more than one engineering technology field to meet specific educational and career objectives. The GET program is structured to provide this flexibility. GET graduates are employed in a wide range of career positions including technical and facilities management, technical services, plant engineering, network administration, and quality management.  
Through this program, students can finish the last two years of baccalaureate study in general engineering technology on the main campus or through the Old Dominion University TELETECHNET system. To satisfy the upper-division general education requirements, GET students are encouraged to complete a minor in engineering management. Students should contact their local community college for information on articulation agreements and the GET program director for specific course selection guidance.  
Many students will find that one of the GET options described below provides course content that integrates well with their career goals: electromechanical systems, technical operations management, computer and network operations, geomatics/geographical information systems, automation and control systems, and construction management. Please consult the department web site (www.eng.odu.edu/et) for specific courses in these option areas. Other options may be developed in coordination with the general engineering technology advisor.  
Electromechanical systems: Complex machinery, automated manufacturing, and building systems often require integration of electrical and mechanical systems. This option is designed to support career goals and interests related to careers that involve this critical system interface area.  
Technical operations management: Many career opportunities involve the support of technical operations including manufacturing, maintenance, planning, quality and other related areas. This option is designed to support career interests in this area of study.  
Geomatics and GIS: Geomatics and geographical information systems (GIS) are emerging fields involving integration of data from a wide range of sensors (satellites, photographs, etc.) to develop useful geographical information. This option develops skills to enter this emerging field and is of interest in land development, site planning, and environmental careers.  
Computer and network operations: Design, operation, and maintenance of computer networks require a person with knowledge of electronic hardware, software, and topology (network planning). In addition, it is often essential to understand the interface with machine controls in an automated manufacturing environment. This option is designed for students with a career interest in filling this complex need in automated and information intensive organizations.  
Automation and Control Systems: Automation in manufacturing has evolved considerably in the past two decades. This option provides instruction in those areas supporting the automated control of manufacturing processes.  
Construction Management: Courses in this option provide the broad skill set required for long-term advancement and entry-level success. It provides an understanding of scheduling, budgeting, and contemporary construction methods.  

General Engineering Technology Program Goals  
The goals of the general engineering technology program are fully supportive of the urban mission of the University and can be summarized as follows:  
1. Develop the student’s capability to apply existing engineering methods and practices for the purposes of product design and improvement, manufacturing and construction, testing, operations, and field support.  
2. Provide opportunities for two-year associate-level engineering technicians to pursue baccalaureate level education in their fields.  
3. Develop and demonstrate a national model for delivering distance education utilizing state-of-the-art electronic media, including virtual laboratories and simulation tools.  
4. Provide sufficient general and liberal arts education to permit graduates to communicate effectively and to function as responsible citizens.  
5. Provide in-depth competencies in specialties listed above.

Naval College General Engineering Technology Program  
There is a specialized general engineering technology program for Navy personnel that offers advanced standing for specific military training. In this program, up to 24 lower-division technical credits are met by a relevant combination of credits earned through Navy technical schools, with credits awarded as recommended by the ACE Guide, or through other agreements. Some portion of the work must demonstrate basic computer proficiency. Contact the Department of Engineering Technology or the Office of Military Programs at Old Dominion University for additional details.  

NAVAL SCIENCE  
(Naval Reserve Officers’ Training Corps)  
Kelly Baragar, Department Chair  
Mission and Basic Program. The primary mission of the Department of Naval Science is to provide professional and leadership instruction to students who desire to serve as commissioned officers in the United States Navy or Marine Corps. The Naval ROTC program is administratively located under the Director of Military Activities and is situated, for academic matters, within the Batten College of Engineering and Technology.  
The NROTC program consists of two courses of instruction: the four-year program and the two-year program. Both apply to scholarship and nonscholarship (college program) students.  
The four-year program is divided into a two-year basic course and a two-year advanced course. The basic course (NAVS 101, 201, 202, 320 and accompanying naval laboratory sessions) is normally pursued by NROTC midshipmen during their freshman and sophomore years. While most freshmen begin the basic course during the fall, it is possible to enter the program in the spring semester. The advanced course (NAVS 301, 302, 401, 402, and the accompanying laboratory sessions) is normally pursued during the junior and senior years. Students seeking a commission in the Marine Corps or Marine Corps Reserve are not required to take NAVS 201, 202, 301, and 302 but instead must take NAVS 310 and 410.  
Scholarship recipients supplement classroom instruction with an at-sea training period each summer. College program students supplement classroom instruction with at-sea training during the summer between their junior and senior years. Similarly, Marine Corps option students attend the six-week Marine Officer Candidate School at Quantico, Virginia during the summer between their junior and senior years.  
The two-year NROTC program is extended to students who do not participate in NROTC during their freshman and sophomore years. Applications to join must be submitted during the sophomore year. For students entering this program, a six-week summer training period at the Naval Science Institute (NSI) in Newport, Rhode Island following their sophomore year replaces the basic course segment of the four-year program. Students successfully completing summer training enroll in the advanced course for their junior and senior years.  
Nuclear Power Option. To be most competitive, those students interested in entering the Navy’s nuclear power program should have a college grade point average greater than 3.00. While any major is acceptable, all applicants must have completed at least two semesters of calculus (MATH 211 and MATH 212, or equivalent) and two semesters of calculus-based physics (PHYS 231N and PHYS 232N). Those students with a major in science, math, or engineering are most desirable. While not required, the following courses are recommended...
MINORS IN THE BATTEN COLLEGE OF ENGINEERING AND TECHNOLOGY

The upper-division cluster requirement of General Education can be met by selecting a minor.

Minor in Aerospace Engineering

The Department of Aerospace Engineering offers a minor program comprising the following four courses: AE 403, 406, 417, 420. It may be possible to substitute other appropriate senior-level aerospace or mechanical engineering courses with prior approval of the Aerospace Engineering department. Exceptions are rare and are not encouraged. All prerequisites and corequisites must be satisfied for all courses taken.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Civil Engineering

An undergraduate minor in civil engineering may be obtained by students from outside of the major by successful completion of 12 or more semester credit hours in approved civil engineering course work at the 300 or 400 level. In addition, a student seeking a minor in civil engineering must satisfy all pre- or corequisite requirements for the courses selected.

The course requirements are: CEE 432 or 340, 310, 365 or 4xx, and 4xx where CEE 4xx can be any senior-level elective in coastal, geotechnical, structural or water resources engineering. The precise course of study must be approved by the chief departmental advisor.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete a minimum of six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Civil Engineering Technology – Construction

The minor in civil engineering technology – construction is open to all students (except civil engineering technology majors). The program consists of 12 credits and the specified courses are as follows: CET 310 Fundamentals of Building Construction, CET 445 Construction Planning and Scheduling, CET 460 Construction Estimating, and CET 465 Construction Project Management. The courses are offered both on campus and through TELETECHNET.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Civil Engineering Technology – Geomatics

The minor in civil engineering technology – geomatics is open to all students (except civil engineering technology majors). Students selecting the minor must satisfy all prerequisite requirements for the courses selected. The courses are offered both on campus and through TELETECHNET.

Two completion areas are available: land surveying and photogrammetry. The course requirements are as follows:

Land Surveying: CET 305, 320, 313, and 318 or 416.

Photogrammetry: CET 305, 320, 412, and 421.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Computer Engineering

An undergraduate minor in computer engineering may be obtained by successful completion of 12 or more semester credit hours of approved electrical or computer engineering or computer science course work at the 300 or 400 level. In addition, a student seeking a minor in computer engineering must satisfy all pre- or corequisite requirements for the courses selected. The chief departmental advisor must approve the precise course of study.

The basic course requirements are as follows: ECE 340, CS 333, CS 361 and three hours from ECE 341, 355, 446, or 495.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 for the courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete a minimum of six hours of upper division courses in the minor through courses offered by Old Dominion University. Completion of a minor in computer engineering with a GPA of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in computer engineering.

Minor in Electrical Engineering

An undergraduate minor in electrical engineering may be obtained by successful completion of 12 or more semester credit hours of approved electrical engineering course work at the 300 level or above. In addition, a student seeking a minor in electrical engineering must satisfy all pre- or corequisite requirements for the courses selected. Tracks in systems science, physical electronics, digital design, and other options are available. The chief departmental advisor must approve the precise course of study. The basic course requirements for the three main tracks are as follows:

Systems Science Track: ECE 371, 302, 304 and three hours selected from ECE 451, 455, 461, or 481.

Physical Electronics Track: ECE 304, 323, 332, and three hours selected from ECE 472, 473, 474, or 478.

Digital Design Track: ECE 304, 340, 341, and three hours selected from ECE 443 or 446. The digital design track is not available for computer engineering majors.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of a minor in electrical engineering with a GPA of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in electrical engineering.

Minor in Electrical Engineering Technology

The minor in electrical engineering technology is open to students (except electrical engineering technology majors) who have completed at least one three-credit course in calculus. It is particularly helpful for those who are preparing for the Fundamentals of Engineering examination. The courses are offered both on campus and through TELETECHNET.

The program consists of 12 credits. The specified courses are as follows: EET 350 Fundamentals of Electrical Technology, EET 360 Electrical Power and Machinery, EET 410 Communications Principles, and EET 415 Programmable Machine Controls. Certain substitutions are possible if suitable justification is provided.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Engineering Management

Opportunities for Employment and Graduate Studies

According to a recent Income and Salary Survey by the National Society of Professional Engineers, the median annual income of engineers having
executive/administrative job functions is approximately $20,000 higher than
those having technical functions. This program provides undergraduate students
with a coordinated set of courses that provide some of the basic management
concepts useful to those aspiring to an executive/administrative management position in
technology-based, project-oriented organizations. Upon graduation, this knowledge will help individuals qualify for project management or for
entrepreneurial activities. Students interested in obtaining a strong preparation in
engineering management should consider the department’s program in
Technological Leadership leading to a bachelor’s degree in engineering or
technology AND an M.S. in engineering management in five years.

Points of Interest

The minor in engineering management is intended for students with majors in
engineering, engineering technology, computer science, physics, chemistry,
mathematics, geology, or biology. Students with majors in other disciplines
may also pursue this minor, and they are encouraged to talk with their advisors
to determine its appropriateness to their educational objectives. The minor
develops the skills in team building, interpersonal communications, decision
making, project management, leadership, and quality assurance that employers
are increasingly looking for in both engineers and scientists, as well as in other
employees in “high tech” organizations. The minor also satisfies the
University’s General Education upper-division requirement.

Requirements

Applicants for the minor in engineering management must be juniors or
seniors with a declared major and a minimum GPA of 2.00. The courses can
also be taken by graduate students or other graduates. The minor requires
completion of 12 credit hours of course work with a minimum grade point average of
2.00 in the courses required for the minor exclusive of lower-level
courses and prerequisite courses. A minimum of six hours in upper-level
courses in the minor requirement must be taken through courses offered by Old Dominion
University.

Curriculum

The course work for the minor in engineering management involves
extensive writing assignments, oral presentations, and group projects, and is
designed to develop the skills needed for rapid advancement in either industrial or
government organizations.

Twelve credit hours of course work is required to meet the requirements for
the minor in engineering management. Four courses are required: ENMA 301,
302, 401, and 420. ENMA 421 is available to students who have successfully
completed a calculus-based probability and statistics course similar to ENMA
420. Students who have taken courses in subjects that overlap significantly
with the subjects of these courses may petition to substitute other engineering
management courses in their place.

For additional information about the undergraduate minor in engineering
management, contact:
Chair, Department of Engineering Management and Systems Engineering,
Old Dominion University, Norfolk, VA 23529-0248
Telephone: (757) 683-4588, FAX: (757) 683-5640

Minor in Environmental Engineering

An undergraduate minor in environmental engineering may be obtained by
students outside the major by successful completion of 12 or more semester
credit hours in approved environmental engineering course work at the 300 or
400 level. In addition, a student seeking a minor in environmental engineering
must satisfy all pre- or corequisite requirements for the courses selected.

Two tracks are available: aqueous environmental systems and environmental
protection. The course requirements are as follows:

Aqueous Environmental Systems: CEE 350 and nine hours from CEE 446,
447, 450 and 451.

Environmental Protection: CEE 350 and nine hours from CEE 452, 454,
458 and 356.

For completion of a minor a student must have a minimum overall
cumulative grade point average of 2.00 in courses required for the minor
exclusive of lower-level courses, prerequisites and corequisites and complete
a minimum of six hours of upper-level courses in the minor requirement through
courses offered by Old Dominion University. Completion of a minor in
environmental engineering with a grade point average of 3.00 or greater
partially satisfies the leveling requirements for graduate degrees in
environmental engineering.

Minor in Global Engineering

The minor in global engineering is for students who plan to seek career
opportunities in companies with global operations. With globalization of design
and manufacturing, it has become important for engineers, engaged in
transnational projects, to not only have better teamwork and communication
skills, but also a good understanding of the socioeconomic, environmental and
cultural aspects of global engineering projects. The global engineering minor
provides an understanding of these aspects through courses that develop
an understanding of global technology, quality assurance standards, and
differences in cultural, communication and business practices in a global work
environment.

Students may obtain a minor in global engineering by successful completion of
12 semester credit hours in approved course work at the 300- or 400-level. In
addition, a student seeking a minor in global engineering must satisfy all pre- or
corequisite requirements for the courses selected. Two required courses in the
minor are CEE 458 and an engineering cooperative education course,
preferably at a multinational company (AE 367, CEE 367, ECE 367, ENMA
367 or ME 367). The remaining two courses must be selected from the
following: GEOG 305, ENGL 371, and MKTG 411.

For completion of a minor, a student must have a grade point average of 2.00
in all courses required for the minor exclusive of lower-level courses,
prerequisites and corequisites and complete at least six hours in upper-level
courses in the minor requirement through courses offered by Old Dominion
University.

Minor in Mechanical Engineering

The Department of Mechanical Engineering offers a minor program with
the two emphases: thermal sciences and mechanics. The specific minimum courses
required are as follows:

1. Mechanical Engineering Minor: Thermal Sciences-ME 303, 311, 312
   (or 414), 315.


It may be possible to substitute other appropriate junior- or senior-level
mechanical engineering courses for those specified above with prior approval
of the department. Exceptions are rare and are not encouraged. All prerequisites
and corequisites must be satisfied for all courses taken.

For completion of a minor, a student must have a minimum overall
cumulative grade point average of 2.00 in all courses required for the minor
exclusive of lower-level courses, prerequisites and corequisites and complete
at least six hours in upper-level courses in the minor requirement through
courses offered by Old Dominion University.

Minor in Mechanical Engineering Technology

The minor in mechanical engineering technology is open to students (except
mechanical engineering and mechanical engineering technology majors) who
have completed at least one three-credit course in calculus. It is particularly
helpful for those who are preparing for the Fundamentals of Engineering
examination. The courses are offered both on campus and through
TELETECHNET.

The program consists of 12 credits and the specified courses are as follows:
MET 300 Thermodynamics, MET 305 Fundamentals of Mechanics, MET 310
Dynamics, and MET 330 Fluid Mechanics. Certain substitutions are possible if
suitable justification is provided.

For completion of a minor, a student must have a minimum overall
cumulative grade point average of 2.00 in all courses required for the minor
exclusive of lower-level courses, prerequisites and corequisites and complete
at least six hours in upper-level courses in the minor requirement through courses
offered by Old Dominion University.

Minor in Military Leadership

The minor in military leadership is a high quality, interdisciplinary,
multidimensional, experiential, and culturally diverse program that exposes
students to, and prepares them for, real life leadership opportunities and
challenges. Students explore issues of leadership, citizenship, and social change
within the context of an inquiry, experiential, and competency-based
instructional design. The minor is open to all students who have completed the
prerequisite courses. Students who are not enrolled in the military science or
naval science program will receive academic credit for commissioning
purposes.

The requirements for students in the Naval Science Department are
completion of NAVS 302 or 410, NAVS 301, 320 or 310, NAVS 401, NAVS

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Minor in Modeling and Simulation

An undergraduate minor in modeling and simulation may be obtained by successful completion of 12 or more credit hours of approved engineering and computer science course work at the 300 or 400 level. In addition, a student seeking a minor in modeling and simulation must satisfy all pre- or corequisite requirements for the courses selected.

The basic course requirements are as follows: a 300-level probability and statistics course (e.g., ECE 304, STAT 330), ECE 405, ECE 406, and three hours from CS 361, CS 333, CS 475, or DSCI 476.

For completion of the minor, a student must pass each course required for the minor, achieve a cumulative grade point average of 2.00 for all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites, complete a minimum of twelve hours of upper-division courses in the minor, and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. To enter the program, students must have completed calculus and one college-level computer-programming course (CS 150 or equivalent). For further information, contact the Department of Electrical and Computer Engineering.

Minor in Motorsports Engineering

The minor in motorsports engineering is open to all students. Students seeking the minor must satisfy all pre- or corequisite requirements for the courses selected.

The minor is multidisciplinary and consists of four courses in topics that are relevant to the motorsports and automotive industries. Each course is practice-oriented and consists of integrated lectures and laboratories. The basic course requirements are as follows: AE 407, AE 467, ME 407 or AE 457, and MET 480 or AE 477.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.
College of Health Sciences

http://hs.odu.edu

E. Andrew Balas, Dean
Patricia Hentosh, Associate Dean for Research
To be named, Interim Assistant Dean
Sandra S. Breeden, College Advisor

The mission of the College of Health Sciences is to improve individual and community health by advanced professional education, influential research, and responsive service. The college vision is to be an internationally recognized leader in advancing health care by educating competent practitioners, generating practically significant scientific knowledge and innovative technologies, fostering scholarly collaborations and promoting positive public health policies. The college values health and wellness, commitment to excellence, integrity and ethics, collaboration and partnership, safety and cost-effectiveness and life-long learning. The degree programs are competitive, fully accredited, and nationally recognized for quality graduates.

The college consists of the School of Community and Environmental Health, the Gene W. Hirschfeld School of Dental Hygiene, the School of Medical Laboratory and Radiation Sciences, the School of Nursing, and the School of Physical Therapy. These schools offer a variety of baccalaureate, master’s, and doctoral degrees, undergraduate, graduate, and non-degree certificate programs, accelerated and degree completion programs, minors, and professional continuing education programs. In addition, many of these programs are offered off-campus and in a variety of distance learning formats. See individual program information or the Graduate Catalog for details.

Program Application, Acceptance, and Continuance

A separate application must be submitted to be considered for acceptance into the health science majors. Application information, qualifications, deadlines, and advisors are listed in the specific program sections of the catalog and on the web site.

Acceptance to the University does not constitute or guarantee acceptance into a health science major. Students are notified by the program director of their acceptance and any other program specific requirements such as physicals, immunizations, technical standards, etc.

Continuance in the health science majors requires strong academic achievement, including successful demonstration of knowledge and use of practical and critical thinking skills in laboratory and in clinical rotations. Criminal background checks may be required as specified in course syllabi. Any student deemed unacceptable for clinical rotation due to results from a criminal background check will not be allowed to complete the program of study.

Advanced Placement

Advanced placement credit may be earned for courses offered by the College of Health Sciences upon validation of mastery of the subject matter and skills covered in the respective course(s). A fee may be charged for the assessment of competency. Please check with the school offering the course for further information.

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment, GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course. *

* GEN 101 is approved as a general education requirement for first year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.

Continuing Education Programs

http://hs.odu.edu/hbs/academics/continuing_education.shtml

Short courses, national conferences, workshops, refresher courses, certificate programs and seminars are offered by the different schools in the college on and off campus on a noncredit continuing education (CEU) basis. Professional continuing education programs cover a wide range of topics, including environmental health, dental hygiene, dental assisting, nursing, nuclear medicine technology, health-care management, medical technology, physical therapy, community health, mental health, and chemical dependency.

Continuing education serves the following functions: (1) licensure and certification for professionals and practitioners, (2) credential and degree achievement and (3) professional development to update knowledge and skills. Clientele served by the programs include nursing and allied health professionals, human service workers, managers and supervisory personnel, technicians, laboratory personnel, and health educators.

Visit the website to view current offerings.

COMMUNITY AND ENVIRONMENTAL HEALTH

http://hs.odu.edu/commhealth/

Clare A. Houseman, Chair

The School of Community and Environmental Health offers undergraduate, graduate, and certificate programs which lead to careers in health services research, public health, community health, health care administration, environmental health, and long-term care administration. Additionally, the Bachelor of Science in Health Sciences (B.S.H.S.) and the Master of Science in community health offer practicing health care professionals the opportunity to complete their degrees in a distance format.

Bachelor of Science in Environmental Health

http://hs.odu.edu/commhealth/academics/bsexiro/

A. James English, Program Director

Environmental health is the study and management of factors that adversely affect the environment and the health and well-being of humans. The curriculum in environmental health, which is accredited by the National Environmental Health Science and Protection Accreditation Council, encompasses a variety of disciplines in the preparation of environmental health specialists, industrial hygienists, and occupational safety specialists.

Environmental health specialists are responsible for education, consultation, and enforcement relating to local, state and federal laws, regulations, and standards governing the safety and sanitation of air, water, milk, food, solid, hazardous and infectious wastes, sewage, housing, institutional environments, and other health hazards. They are actively involved in the overall environmental quality within a community and prevention of diseases associated with environmental factors. Industrial hygienists conduct health hazard evaluations, perform health effects/risk assessment research, and manage health programs in industries or governmental organizations. They anticipate, recognize, evaluate, control, and eliminate health hazards in industry, the community, or the environment. Occupational safety professionals similarly anticipate, identify and evaluate hazardous conditions and practices in the workplace. They develop, implement, administer, measure and evaluate the effectiveness of hazard control programs.

The program requires six credit hours of field practice or internship within an environmental health setting, either a governmental or industrial site. A variety of internship sites are available in the Hampton Roads area for these experiences. Internship sites elsewhere in the state, nation, or world can also be arranged if desired. Internships are typically taken the summer between the junior and senior year. Students are responsible for providing their own transportation to these sites.

Upon graduation, students are eligible to sit for the professional licensing examination in environmental health. With experience, students are eligible to

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take the certification examination in industrial hygiene and/or occupational safety.

A broad spectrum of employment opportunities is available to graduates whose employment success has been outstanding. Graduates have found positions in local, state, and federal health and environmental agencies such as the FDA, USDA, EPA, OSHA, NASA, and DOD. Many work in hospitals, industries, insurance companies, laboratories, consulting firms, waste and wastewater plants, and other organizations, agencies and firms.

Admission

Students may be admitted to the program on the satisfactory completion of 60 semester hours of recommended study of required prerequisite courses and with the approval of the program director. Applications to the program, including all materials, must be submitted no later than February 1 for consideration for admission the following fall. Exemptions may be appealed through the program director. Students who fail to meet the established deadline for formal admission will usually be allowed to take environmental health courses if space is available; however, permission must be granted by the program director prior to registration.

Requirements

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Written Communication (ENGL 110C and 131C required)</td>
<td>6</td>
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<tr>
<td>Oral Communication (COMM 101R required)</td>
<td>3</td>
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<tr>
<td>Mathematics (STAT 130M and MATH 162M required)</td>
<td>6</td>
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<tr>
<td>Foreign Language</td>
<td>0-6</td>
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<tr>
<td>Computer Skills (satisfied in the major)</td>
<td>0-3</td>
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<tr>
<td>Foundation to Perspectives – GEN 101 (NewPAGE)*</td>
<td>3</td>
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<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
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<tr>
<td>Literature</td>
<td>3</td>
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<tr>
<td>Philosophy</td>
<td>3</td>
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<tr>
<td>Natural Science and Technology</td>
<td>12</td>
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<td>(BIOL 108N-109N or BIOL 115N-116N and PHYS 101N, 102N, 111N, 112N, 231N, or 232N required)</td>
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<td>Social Science</td>
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*Students majoring in environmental health may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

Departmental Requirements

BIOL 103 Basic Bacteriology | 4 |
CHEM 311-312 Organic Chemistry with lab | 5 |
CHEM 313 Organic Chemistry (lab not required) | 3 |
BIOL 190, 250 or 251 Anatomy and Physiology | 3 |

Students must complete the following courses prior to acceptance into the Environmental Health program:

BIOL 190, 108N-109N, CHEM 115N-116N, 311-312-313; COMM 101R; ENGL 131C; MATH 162M; BIOL 103; STAT 130M, and PHYS 111N.

Major Requirements

ENVH 301W Environmental Health | 3 |
ENVH 401 Occupational Health | 3 |
ENVH 402W Environmental Law | 3 |
ENVH 403 and 404 Internship I & II | 6 |
or ENVH 405 Internship III | 6 |
ENVH 406 Occupational Safety | 3 |
ENVH 420 Communicable Disease Control | 3 |
ENVH 422 Water and Wastewater | 3 |
ENVH 441 Industrial Hygiene | 3 |
ENVH 443 Toxicology | 3 |
ENVH 448 Epidemiology | 3 |
ENVH 466 Risk Assessment | 3 |
ENVH 499 Seminar | 1 |
 ENVH Electives (consult with advisor for areas of specialization) | 12-13 |

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minor in Environmental Health

A minor in environmental health requires a minimum of 12 semester hours of environmental health courses. Minor course requirements include ENVH 301W and three electives from the environmental health courses approved by the program director. For completion of the minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirements through courses offered by Old Dominion University. Twelve semester hours of science courses are preferred.

Accelerated Program-Bachelor of Science in Environmental Health (B.S.E.H.) to Master of Science in Community Health

B.S.E.H. students who have a 3.00 GPA and have senior standing may apply for acceptance into the B.S.E.H. to M.S. community health accelerated program. This program allows gifted undergraduate B.S.E.H. students the opportunity to take up to 12 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Consult with the B.S.E.H. director for more information.

Minor in Occupational Safety

A minor in occupational safety is available in the environmental health program and requires a minimum of 12 semester hours of ENVH courses in safety. The minor in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty. Minor course requirements include ENVH 406, 407, 425 and 426. For completion of the minor students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Certificate in Occupational Safety

The certificate program in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty, or to individuals already employed in the environmental health and safety field. Courses taken in the certificate program may be applied to degree requirements at both the undergraduate and graduate levels in environmental health. For completion of the undergraduate certificate program students must have a minimum cumulative grade point average of 2.00 (3.00 for the graduate certificate) in all courses taken toward the certificate. After successful completion of the program, a Certificate in Occupational Safety will be awarded.

A total of 15-16 semester hours is required comprised of three core courses and six to seven hours of electives. Core courses include: ENVH 406/506, 407/507, 425/525. Electives may be selected from the following courses:

ENVH 401/501, 426/526, 440/540, 441/541, 442/542, 446/546, or NMED 335. There are no prerequisites.

Bachelor of Science in Health Sciences (B.S.H.S.)

http://hs.odu.edu/commhealth/academics/bs_hs/

Sandra Breeden, Program Director

The Bachelor of Science in Health Sciences is designed to offer advanced educational experiences to already practicing health professionals who are licensed and/or certified and have an Associate of Science degree in a health related discipline, have credentials to practice in their field, and have a minimum of 12 months of work experience as a health care provider. This program builds on the expertise of practicing health professionals and allows them the opportunity to enhance their formal learning. The program focuses on

COLLEGE OF HEALTH SCIENCES 143
upper-level course work and general education in conjunction with an area of career enhancement chosen by the individual student. Common areas may be management or counseling. For further information, contact the director, B.S.H.S. program, College of Health Sciences.

**Bachelor of Science in Health Sciences With a Human Services or Management Minor**

Students must have an associate degree in a health-related area, license or certification to practice in a health-related area, and a minimum of 12 months work experience in a health field to be eligible for admission to the B.S.H.S. program. Eligibility must be documented with the separate admissions form to the B.S.H.S. program.

<table>
<thead>
<tr>
<th>LOWER DIVISION GENERAL EDUCATION</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (can be satisfied in the major by)</td>
<td></td>
</tr>
<tr>
<td>CHP 450</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>0-3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>8</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science with labs in sequence.</td>
<td></td>
</tr>
<tr>
<td>The additional 3-4 credit hours of Natural Science or Technology are met through the major.</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Electives**

(choose five courses from the following three-credit courses)

- Any CHP course
- Must include one writing intensive course and one oral intensive course (CHP 300 or 450)
- ENVH 301W or 401 Environmental Health/Occupational Health
- DNTH 415 Research Methods in the Health Sciences
- MEDT 403W Management in the Clinical Setting
- NMED 300 Medical Terminology

Select one minor area:

<table>
<thead>
<tr>
<th>Human Services Minor (15 hours)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HMSV 339 Interpersonal Skills</td>
<td>3</td>
</tr>
<tr>
<td>HMSV 341 Intro to Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HMSV 346 Diversity Issues in Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HMSV Elective (Choose two from COUN 447, 448, 491)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Management Minor (15 hours)**

- MGMT 325 Principles of Management
- MGMT 300-400 Electives

(Electives: MGMT 340, 350, 360, 368, 417, 418, 451, 452, 462)

**Professional Electives (39-51 hours)**

Licensure, certificate, registration as a health professional, or Associate of Applied Science degree from a Virginia Community College will be used toward satisfying the Professional Electives requirements. Consult the academic advisor for specific information as additional programs can be considered. The following programs are some that have been accepted:

- Radiation Technology, Nursing, Occupational Therapy Assistant, Dental Hygiene, Emergency Medical Technology, Respiratory Therapy, and Physical Therapy Assistant, Other (minimum 15 credits from a professional health program and A.A.S degree).

**UPPER DIVISION GENERAL EDUCATION**

Satisfied through program-required minor in human services or management. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall, in the major and in the minor, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Accelerated Program—Bachelor of Science in Health Sciences (B.S.H.S.) to Master of Science in Community Health**

B.S.H.S. students who have a 3.00 GPA from each institution attended and who have senior standing may apply for acceptance into the B.S.H.S. to M.S. community health accelerated program. This program allows gifted undergraduate B.S.H.S. students the opportunity to take up to six semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Consult with the B.S.H.S. director for more information.

**Minor in Community Health**

An undergraduate minor in community health can be obtained by the completion of 12 credit hours from the following courses: CHP 300, 318, 360, 400, 415W, 420, 425, 430W, 450, 455, 460, 470, 480. CHP 495 or 497 may count toward the minor if prior arrangements are made and approval given by the community health undergraduate advisor. DNTH 415, ENVIH 301W, ENVIH 410, MEDT 403W, or NMED 300 may be substituted for one CHP course. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Only one course may count toward both the major and the minor.

**Minor in Gerontology**

The minor in gerontology is designed to complement the student’s major field of study and will enhance opportunities for employment or graduate study. Completion of the minor will provide the student with a second recognized area of study that brings the disciplines of community health, exercise science and psychology together to provide a multidisciplinary program focused on the aging process and the needs of the elderly. The requirements include 12 credit hours from CHP 420, 425, 470, RTS 450, PSYC 353 and an optional internship, CHP 369. Students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Tracks Applied to the Bachelor of Science in Health Sciences (B.S.H.S.)**

Through special agreements and curriculum design, courses for the certificate programs in cytotechnology, offered by the School of Medical Laboratory and Radiation Sciences, and ophthalmic technology, offered by the Eastern Virginia Medical School, may be applied as special tracks in the Bachelor of Science in Health Sciences. The certificate in cytotechnology can be found in the School of Medical Laboratory and Radiation Sciences section of this Catalog. Students pursuing cytotechnology or ophthalmic technology who already have baccalaureate degrees from accredited institutions may opt for a certificate in these programs rather than a second baccalaureate degree.

**Cytotechnology Certificate Track in the B.S.H.S.**

Sophie K. Thompson, Program Director

This option is available only to second degree students. Specific information can be found in the School of Medical Laboratory and Radiation Sciences.

**Ophthalmic Technology Certificate Track in the B.S.H.S.**

[www.evms.edu/ophthalmology/optech](http://www.evms.edu/ophthalmology/optech)

Lori J. Williams, Program Director

The track in ophthalmic technology is designed to produce an ophthalmic medical technologist with a strong background in the basic sciences and a high degree of technical competence in ophthalmic technology. The certificate, offered by the Department of Ophthalmology, Eastern Virginia Medical School, fulfills the professional electives requirements in the Bachelor of Science in Health Sciences offered by the College of Health Sciences, Old Dominion University. The preclinical and general education courses will be offered at Old Dominion University and the clinical program through Eastern Virginia Medical School and its clinical affiliates.

After successful completion of the program, the student will be awarded a certificate of completion from Eastern Virginia Medical School and Old Dominion University and will be eligible to sit for the written examination or national certification through the Commission on Accreditation of Allied
Health Education Programs/Joint Commission on Allied Health Personnel in Ophthalmology.

Prior to consideration for admission to the ophthalmic technology program, each applicant must complete the required prerequisite courses, or equivalents, maintaining a grade point average of at least 2.00 (4.00 scale). For full consideration applications should be submitted by April 1 for the class starting in September.

Ophthalmic Technology Track in the Bachelor of Science in Health Sciences

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credits</th>
<th>FIRST YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>ENGL 110C or 3</td>
<td>English Composition I</td>
</tr>
<tr>
<td>BIOL 108N or 3</td>
<td>Life Science/General Biology/</td>
</tr>
<tr>
<td>CHEM 101N or 3</td>
<td>College Chemistry/Found of Chem</td>
</tr>
<tr>
<td>115N or 3</td>
<td>College Algebra</td>
</tr>
<tr>
<td>Math 102M 3</td>
<td>Computer Skills</td>
</tr>
<tr>
<td>1-3</td>
<td>GEN 101 New PAGE</td>
</tr>
<tr>
<td>3</td>
<td>Spring</td>
</tr>
<tr>
<td>BIOL 109N or 3</td>
<td>Life Science/General Biology/</td>
</tr>
<tr>
<td>CHEM 102N or 3</td>
<td>Fine and Performing Arts/History/Literature Perspective</td>
</tr>
<tr>
<td>116N or 4</td>
<td>STAT 130M</td>
</tr>
<tr>
<td>BIOL 190 or 250 3-4</td>
<td>Intro to Technical &amp; Scientific Writing</td>
</tr>
<tr>
<td>ENGL 111C or 3</td>
<td>Intro to Human Anatomy &amp; Physiology</td>
</tr>
<tr>
<td>131C</td>
<td>English Composition II/</td>
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<tr>
<td>STAT 130M 3</td>
<td>Elementary Statistics</td>
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<tr>
<td>3</td>
<td>Second Year</td>
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<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>BIOL 103 4</td>
<td>Bacteriology</td>
</tr>
<tr>
<td>Social Science Perspective 3</td>
<td>(PSYC 201S preferred)</td>
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<tr>
<td>Fine and Performing Arts/History/Literature Perspective 3</td>
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<tr>
<td>NMD 300 3</td>
<td>Medical Terminology/Research</td>
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<tr>
<td>DNTH 415 3</td>
<td>Methods--Hlth Prof</td>
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<tr>
<td>Philosophy Perspective 3</td>
<td>(PHIL 110P, 120P, or 150P)</td>
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<tr>
<td>spring</td>
<td></td>
</tr>
<tr>
<td>PHIL 345 or 303 3</td>
<td>Bioethics/Business Ethics</td>
</tr>
<tr>
<td>CHP 450 3</td>
<td>Public and Community Health Administration (satisfies oral communication requirement)</td>
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<tr>
<td>CHP 415W, 430W or MEDIT 403W Core Course in 3</td>
<td>Community Health Professions</td>
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<tr>
<td>3</td>
<td>Cluster or minor course 3</td>
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<tr>
<td>3</td>
<td>Elective (math or science preferred)</td>
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<tr>
<td>3</td>
<td>Third Year</td>
</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>OPHS 311 4</td>
<td>Patient Evaluation and Data Collection</td>
</tr>
<tr>
<td>OPHS 312 3</td>
<td>Ocular Anatomy and Physiology</td>
</tr>
<tr>
<td>OPHS 320 5</td>
<td>Clinical Sciences I</td>
</tr>
<tr>
<td>OPHS 321 3</td>
<td>Technical Skills I</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>OPHS 330 3</td>
<td>Clinical Sciences II</td>
</tr>
<tr>
<td>OPHS 335 5</td>
<td>Special Diagnostic Testing</td>
</tr>
<tr>
<td>OPHS 337 4</td>
<td>Clinical Education I</td>
</tr>
<tr>
<td>Summer</td>
<td></td>
</tr>
<tr>
<td>OPHS 350 5</td>
<td>Clinical Education II</td>
</tr>
<tr>
<td>OPHS 352 2</td>
<td>Clinical Topics/Problem Solving</td>
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</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Fourth Year</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>OPHS 420 5</td>
<td>Special Rotation I</td>
</tr>
<tr>
<td>OPHS 421 5</td>
<td>Special Rotation II</td>
</tr>
<tr>
<td>OPHS 430 3</td>
<td>Advanced Topics I</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>OPHS 422 5</td>
<td>Special Rotation III</td>
</tr>
<tr>
<td>OPHS 423 5</td>
<td>Special Rotation IV</td>
</tr>
<tr>
<td>OPHS 440 3</td>
<td>Advanced Topics II</td>
</tr>
</tbody>
</table>

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment. Additional hours may be required to meet the foreign language requirement.

**DENTAL HYGIENE**

**http://hs.odu.edu/dental/**

Deborah Blythe Bauman, Chair

The Gene W. Hirschfeld School of Dental Hygiene offers programs leading to the degrees of Bachelor of Science in Dental Hygiene and Master of Science with a major in dental hygiene. The dental hygiene program is accredited by the Commission on Dental Accreditation. Students successfully completing the bachelor of science in dental hygiene program are eligible to take the national, state, and regional board examinations in dental hygiene to become licensed dental hygienists.

The School of Dental Hygiene reserves the right to require remedial work of any student who does not perform at a level satisfactory for patient care. Annually, students are required to submit documentation of CPR certification and of certain prescribed immunizations and diagnostic procedures. Students are strongly advised to obtain the hepatitis vaccine. The University maintains liability insurance on the students while enrolled in the school.

The catalog describes the current curriculum, which is subject to revision and refinement as needed to keep abreast of current dental hygiene practices.

**The Dental Hygiene Research Center**

The focus of the center is to support research through collaborations and partnerships that will provide a foundation for dental hygiene services and practice, advance the practice of dental hygiene, and improve the oral health status of the public. Research capabilities are multifaceted with a wide variety of projects relating to occupational risk assessment and product and device testing. Multidisciplinary and interdisciplinary projects are developed with health care facilities, private industry, and other academic institutions. Undergraduate and graduate students are integrated into the research process, which contributes to the understanding between theory and practice.

**Bachelor of Science in Dental Hygiene**

The Gene W. Hirschfeld School of Dental Hygiene offers courses leading to a degree of Bachelor of Science in Dental Hygiene. The school also offers a baccalaureate program for dental hygienists who wish to obtain a bachelor’s degree after obtaining an associate degree in dental hygiene at another institution.

The baccalaureate program in dental hygiene is designed to prepare men and women as professional dental hygienists qualified for positions in a variety of health-care settings and/or for graduate study in dental hygiene.

A dental hygienist is a licensed professional and member of the oral health care team who provides services to promote optimal oral health. Dental hygienists serve as clinical practitioners, educators, researchers, administrators, managers, program developers, consultants, or dental product sales representatives, depending on the individual’s employment setting and educational background. For example, career opportunities at the certificate level include service in general dental practice, specialty dental practice, or in the armed services. In addition, dental hygienists with bachelor’s degrees may pursue careers in elementary and secondary schools, community and public health settings, institutional and industrial dental hygiene, professional education, and research. Other career opportunities exist in health maintenance organizations, community health agencies, private industry, and abroad with the Peace Corps, World Health Organization, and foreign governments.

**Admission**

Applicants for admission to the baccalaureate program in dental hygiene should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into dental hygiene without first being admitted to the University. Admission to the University does not constitute admission to the dental hygiene program.

Students are admitted to the school after completion of prerequisite courses and lower-level General Education courses. Transfer students may complete prerequisite courses at another college or university but are responsible for having a transfer credit evaluation completed by the Admissions Office to be used as documentation that transfer courses are acceptable. Candidates for admission to dental hygiene should indicate on the application to the University their intention to enter the dental hygiene program. Additionally, candidates should obtain an application to the dental hygiene program from the web site.
Admission to the program is competitive. Admission decisions are determined by the selection committee of the school on the basis of academic qualifications. Basic requirements and credentials for application are as follows for the Bachelor of Science program:

1. Submission of the application to the University, official transcript, and required credentials to the Office of Admissions.
2. Completion of prerequisite courses prior to starting in the dental hygiene major, which are required by the Commission on Dental Accreditation (BIOL 103, BIOL 250-251 or equivalent, CHEM 101N-102N, ENGL 110C, SOC 201S, and PSYC 201S) and must be completed with at least a grade of C. Completion of lower-level General Education requirements will make the applicant more competitive in the application process.
3. A minimum grade point average of 3.00 makes the applicant most competitive.
4. Applicants must complete at least twelve hours of observation in a dental facility to familiarize themselves with oral health care delivery.
5. Submission of school application, all college transcripts, two recommendation forms, and verification of observation in a dental facility by February 1. Incomplete application packets will not be reviewed and will be returned to the applicant.

Applicants accepted into the program will be notified in April by the director of dental hygiene. Those applicants who are not accepted will receive notice and should pursue general academic and science courses prior to reconsideration for admission. Applicants notified of formal acceptance by the director of dental hygiene will be advised for registration purposes by the school advisor.

Qualified high school seniors may apply for admission to the University with guaranteed entry into the program in dental hygiene. For criteria and additional information, contact the Office of Admissions.

Bachelor of Science Requirements

All courses with the prefix DNTH must be completed within two academic years due to scheduling and space limitations. A minimum grade of C (2.00) must be obtained in all of these courses. Courses must be taken in the prescribed sequence. It is recommended that students take the course, Preparation for Dental Hygiene Board Examinations, offered through the Office of Continuing Education.

Prerequisite Courses. Requirements prerequisite to the dental hygiene major are listed below. Students should enroll in other General Education courses during the prerequisite phase of study.

<table>
<thead>
<tr>
<th>LOWER DIVISION GENERAL EDUCATION</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied through major course requirements)</td>
<td>0-3</td>
</tr>
<tr>
<td>Mathematics (STAT 130M required)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (satisfied in the major)</td>
<td>0-3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>(CHEM 101N-102N, BIOL103, and BIOL 250-251 required)</td>
<td></td>
</tr>
<tr>
<td>Social Science (PSYC 201S and SOC 201S required)</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in dental hygiene may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

Departmental Requirements

Students must complete the following courses with a C or better.

CHP 318 Science of Nutrition 3

Students must complete the following courses prior to entering the Dental Hygiene program:

BIOL 103, BIOL 250-251; CHEM 101N-102N; ENGL 110C; PSYC 201S; and SOC 201S.

THIRD YEAR

Fall
DNTH 300 Dental Hygiene Theory I 4
DNTH 301 Dental Hygiene Services I 3
DNTH 302 Oral Anatomy and History 4
DNTH 303 Applied Dental Materials 3
DNTH 304 Oral Radiology I 2

Sprin
DNTH 305 Dental Hygiene Theory II 3
DNTH 306 Dental Hygiene Services II 3
DNTH 307 Pharmacology and Medical Emergency 3
DNTH 308 Oral Pathology 3
DNTH 309 Oral Radiology II 2
DNTH 310 Dental Hygiene Therapies and Practice 3

Summer
DNTH 316 Dental Hygiene Theory & Services III 3

Upper-Division General Education Course 3
Upper-Division General Education Course 3

FOURTH YEAR

Fall
DNTH 410 Dental Hygiene Theory IV 3
DNTH 411 Dental Hygiene Services IV 6
DNTH 413 Community Oral Health Planning 3
DNTH 414 Educational Concepts for Health Prof I 3
DNTH 415 Research Methods in the Health Sciences 3

Spring
DNTH 417W Dental Hygiene Theory V 3
DNTH 418 Dental Hygiene Services V 3
DNTH 419 Community Oral Health Practice 3
DNTH 416 Admin, Leadership & Prof Develop 3

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 121 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Continuance Policy

In addition to the Old Dominion University continuance policies, the following policies are specific to all declared majors in the Gene W. Hirschfeld School of Dental Hygiene. A grade of D (1.00) in any dental hygiene course will result in academic dismissal from the program.

Policy on Readmission

1. A student who has been dismissed from the program may reapply for readmission if the student is not academically dismissed. If a student has been dismissed for poor academic performance, the school will review the student's file to determine if the student is eligible for readmission.

2. A student may be readmitted to the program only once.

3. Readmitted students must maintain a minimum grade of C (2.00) in each dental hygiene course taken and a passing grade (pass) in courses taken for remediation.

4. Procedures for readmission:
   a. The student must submit a letter to the chair outlining his or her intent for readmission.
   b. The chair, in consultation with the faculty, will make a decision on the readmission request.
   c. Readmission will be granted on a space-available basis only after regular admissions have been filled. Overall and science course grade point averages are used for readmission criteria.

Degree Completion Program

The degree completion program is designed for students who have completed a certificate or associate degree program in dental hygiene and desire to continue their education toward a Bachelor of Science in Dental Hygiene. The program provides an opportunity for dental hygienists to gain knowledge, skills, and attitudes necessary for expanded careers in education, oral health promotion, research, community health, management, and marketing. This program also provides a strong foundation for graduate studies. A minimum of 120 credit hours is necessary to obtain the baccalaureate degree. The length of time required to complete the program is determined by the number of college credits acceptable for transfer; however, at least 30 credit hours must be taken at Old Dominion University. Students can expect to complete the program in three to four academic semesters of full-time study.

Admission

A dental hygienist from another institution who desires to pursue degree completion courses or seeks a Bachelor of Science in Dental Hygiene should apply to Old Dominion University as an upper-level dental hygiene transfer
student. Formal acceptance as a dental hygiene major will be determined by the selection committee of the school.

Postcertificate and associate degree transfer applicants must meet the following requirements:
1. Submission of application and official transcripts to the Office of Admissions, Old Dominion University.
2. Graduation from an accredited dental hygiene program.
3. Passing score on the National Dental Hygiene Board Examination.
4. Recommendation letters from at least two of the following: director or clinical supervisor of the dental hygiene program attended, or current or most recent dental hygiene employer.

Applications and inquiries about the degree completion program may be directed to the Degree Completion Program, School of Dental Hygiene and Dental Assisting, Old Dominion University, Norfolk, VA 23529-0499, (757) 683-4310.

Curriculum

Certificate and associate degree transfer students must satisfy the following.

Prerequisite. Certificate or associate degree in dental hygiene.

Requirements. Successful completion of the University General Education requirements or the equivalent; DNTH 412, 414, 415, 416, and CPR certification, as well as University writing examinations.

All students will be required to demonstrate clinical proficiency prior to graduation. Students may elect the accelerated bachelor’s to master’s program option.

Accelerated Bachelor’s to Master’s Program

Dental hygiene students who have a 3.25 grade point average from each institution attended and who have senior standing may apply to the bachelor’s to master’s accelerated program. This program allows gifted undergraduate students the opportunity to take up to 12 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Some courses may be taken in a distance education format. Consult with the School of Dental Hygiene for more information.

MEDICAL LABORATORY AND RADIATION SCIENCES

http://hs.odu.edu/medlab/

C. Thomas Somma, Chair

The School of Medical Laboratory and Radiation Sciences offers a coordinated program of courses and clinical laboratory experiences leading to degrees of Bachelor of Science in Medical Technology, Bachelor of Science in Nuclear Medicine Technology and a post-baccalaureate certificate in cytotenology. Students may also pursue a major in cytotenology through the Bachelor of Science in Health Sciences. In addition, the school offers a minor in medical technology and an accelerated, weekend program (BSMT) for medical laboratory technicians (MLT).

Bachelor of Science in Medical Technology

http://hs.odu.edu/medlab/academics/medtech

Faye E. Coleman, Program Director

The medical technologist/clinical laboratory scientist performs a vital role in the diagnosis and treatment of disease by performing clinical laboratory tests on patients’ blood, body fluids, and other specimens. This includes clinical tests within the areas of chemistry, microbiology, hematology, immunology/serology, urinalysis, immunohematology, and molecular pathology.

The program is nationally accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 8410 W. Bryn Mawr Ave., Suite 670, Chicago, IL 60631-3415, 773 714-8800. Satisfactory completion of the program entitles graduates to write national certification examinations.

Admission

Admission to the University does not constitute admission to the medical technology program. Students are admitted to the program after completion of two years of college study, which includes all prerequisite courses. The students then enter two years of a combined didactic and clinical phase congruent with the 2 + 2 concept. A grade of C (2.00) or better is required in all medical technology course work for continuation in the program. The program does not offer just the final clinical phase to transfer applicants from 3 + 1 program. Applications to the program, including all materials, must be submitted no later than February 1 for consideration for admission the following fall. Exemptions may be appealed only through the program director.

Prospective students who fail to meet the February 1 deadline for formal admission will usually be allowed to take on-campus medical technology courses on a space-available basis. Permission must be first granted by the program director in advance of registration.

Requirements

<table>
<thead>
<tr>
<th>Lower Division General Education</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td></td>
</tr>
<tr>
<td>(satisfied through major course requirements)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (STAT 130M required; MATH 102M required for BIOL 115N and CHEM 115N-116N)</td>
<td>3-6</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (satisfied through major course requirements)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (New PAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>(BIOL 115N, CHEM 115N-116N required)</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>*Students majoring in medical technology may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.</td>
<td></td>
</tr>
</tbody>
</table>

Departmental Requirements

BIOL 250-251 Human Anatomy and Physiology I and II
CHEM 311-312 Organic Chemistry with Lab

Students must complete the following courses prior to entering the medical technology program: BIOL 115N, 250-251; CHEM 115N-116N, 311-312; and STAT 130M.

Major Requirements

Third Year-Fall

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDT 210</td>
<td>Orientation to Med Technology/ Clinical Lab Science</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 307</td>
<td>Clinical Methods in Microbiology</td>
<td>2</td>
</tr>
<tr>
<td>MEDT 308</td>
<td>Clinical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 311</td>
<td>Hematology</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 312</td>
<td>Hematology Lab</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 324</td>
<td>Clinical Instrumentation and Electronics</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 325</td>
<td>Clinical Instrumentation Methods</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 330</td>
<td>Clinical Immunology/Serology</td>
<td>2</td>
</tr>
<tr>
<td>MEDT 331</td>
<td>Clinical Immunology/Serology Lab</td>
<td>1</td>
</tr>
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</table>

Third Year-Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDT 309</td>
<td>Medical Bacteriology</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 310</td>
<td>Urinalysis/Body Fluids</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 313</td>
<td>Diagnostic Methods in Urinalysis</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 319</td>
<td>Medical Bacteriology Methods</td>
<td>2</td>
</tr>
<tr>
<td>MEDT 326</td>
<td>Immunohematology</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 336</td>
<td>Immunohematology Lab</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 337</td>
<td>Advanced Hematology</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 339</td>
<td>Parasitology, Mycology and Virology Lab</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 340</td>
<td>Medical Parasitology, Mycology and Virology</td>
<td>1</td>
</tr>
<tr>
<td>MEDT 351</td>
<td>Clinical Biochemistry</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year-Summer

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDT 320</td>
<td>Phlebotomy Methods</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Practica 5 to 6 credits from spring courses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fourth Year-Fall

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDT 403W</td>
<td>Management in the Clinical Setting</td>
<td>3</td>
</tr>
<tr>
<td>MEDT 440</td>
<td>Statistical Applications &amp; Data Analysis in the Clinical Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDT 404</td>
<td>Clinical Hematology Practicum</td>
<td>4</td>
</tr>
<tr>
<td>MEDT 406</td>
<td>Clinical Microbiology Practicum</td>
<td>5</td>
</tr>
</tbody>
</table>
MEDT 452  Clinical Biochemistry Practicum  5
MEDT 454  Clinical Blood Bank Practicum  4
MEDT 457  Medical Technology Seminar  1
MEDT 458  Clinical Elective Practicum  1

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 121 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Bachelor of Science in Medical Technology—MLT to MT Weekend College Program
Angela Bell, Program Director

The B.S.M.T. Weekend Program is available for associate degree holders and former hospital or military program trainees. The curriculum is designed to meet the needs of local and distant practitioners. Program and University required courses are available on weekends and on TELETECHNET.

LOWER DIVISION GENERAL EDUCATION
Written Communication  6
Oral Communication (satisfied through major course requirements)  0-3
Mathematics (STAT 130M required; MATH 102M required for BIOL 115N and CHEM 115N-116N)  3-6
Foreign Language  0-6
Computer Skills (satisfied through major course requirements)  0-3
Fine and Performing Arts  3
History  3
Literature  3
Philosophy  3
Natural Science and Technology (BIOL 115N, CHEM 115N-116N required)  12
Social Science  3

Departmental Requirements
BIOL 250-251 Human Anatomy and Physiology I and II  8
CHEM 311-312 Organic Chemistry with Lab  5
Students must complete the following courses prior to entering the medical technology program: BIOL 115N, 250-251; CHEM 115N-116N, 311-312; and STAT 130M.

Major Requirements
Electives (including transfer and Experiential Learning Credit from MLT Training Program)  0-60
MEDT 309  Medical Bacteriology  3
MEDT 311  Hematology  3
MEDT 315  Clinical Laboratory Diagnosis  3
MEDT 324  Clinical Instrumentation and Electronics  3
MEDT 326  Immunohematology  3
MEDT 340  Medical Parasitology, Mycology, Virology  1
MEDT 350  Urinalysis  1
MEDT 351  Clinical Biochemistry  3
MEDT 403W  Management in the Clinical Setting  3
MEDT 440  Statistical Application & Data Analysis in the Clinical Laboratory  3
MEDT 441  Clinical Hematology Competencies  1
MEDT 442  Clinical Microbiology Competencies  1
MEDT 443  Clinical Biochemistry Competencies  1
MEDT 444  Clinical Blood Bank Competencies  1
MEDT 445  Advanced Clinical Practicum  3
MEDT 457  Medical Technology Seminar  1

UPPER DIVISION GENERAL EDUCATION
Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 may be in the major area of study.)
Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

Minor in Medical Technology
A minor in medical technology requires a minimum of 12 semester hours of 300/400-level MEDT courses. Students may choose courses from a specific laboratory science discipline (hematology, microbiology, clinical chemistry, and immuno-hematology) or from several disciplines. All prerequisite courses must be completed. Selection of a plan or program of study must be done in consultation with a program faculty advisor or the program director. For completion of the minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and a minimum of six hours in upper-level courses in the minor requirement must be taken through courses offered by Old Dominion University. Completion of the minor does not confer eligibility for certification.

Bachelor of Science in Nuclear Medicine Technology

http://hs.odu.edu/medlab/academics/nmed/
Scott R. Sechrist, Program Director

Nuclear medicine technology is the clinical specialty that utilizes radioactive materials for diagnostic, therapeutic and research purposes. Under the supervision of a physician, the nuclear medicine technologist performs both in vivo and in vitro procedures on patients. The responsibilities of nuclear medicine technologists are varied and include: preparing and administering radiopharmaceuticals; positioning patients for diagnostic imaging; performing quality control procedures on radiation detection instruments; collecting, preparing and analyzing biologic specimens for physician interpretation; and performing radiation safety surveys. Nuclear medicine technologists are generally employed in hospitals. The nuclear medicine technology program is designed to prepare individuals as entry-level nuclear medicine technologists. Upon successful completion of the program, graduates are eligible to sit for a national exam for certification as a nuclear medicine technologist.

The program is accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.
A grade of C (2.00) or better in all nuclear medicine course work is required to continue in the program.

Admission
All admission materials must be received by October 15. Interviews are then scheduled for early November.

Requirements
LOWER DIVISION GENERAL EDUCATION
Written Communication  6
Oral Communication (satisfied through major course requirements)  0-3
Mathematics (STAT 130M and MATH 102M required)  6
Foreign Language  0-6
Computer Skills (satisfied through major course requirements)  0-3
Foundation to Perspectives – GEN 101 (New PAGE)*
Fine and Performing Arts  3
History  3
Literature  3
Philosophy  3
Natural Science and Technology (CHEM 101N-102N and PHYS 101N-102N required)  16
Social Science  3
*Students majoring in nuclear medicine technology may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

Departmental Requirements
BIOL 250-251 Human Anatomy and Physiology I and II  8
PHIL 345 Bioethics  3
Students must complete the following courses (or equivalent) prior to entering the nuclear medicine technology program: BIOL 250-251; CHEM 101N-102N; PHYS 101N-102N; and MATH 102M and STAT 130M.

THIRD YEAR
Fall
NME 300  Medical Terminology  3
**Cytotechnology Track—Bachelor of Science in Health Sciences**

[http://hs.odu.edu/medlab/academics/cyto/](http://hs.odu.edu/medlab/academics/cyto/)

Sophie K. Thompson, Program Director

The School of Medical Laboratory and Radiation Sciences offers a program in cytotechnology through the Bachelor of Science in Health Sciences. Cytotechnologists are specially trained medical laboratory professionals who work with pathologists in detecting changes in cell samples from numerous body sites which is important in the early diagnosis of cancer. This is done primarily with the use of the microscope to evaluate slide preparation of cell samples for abnormalities in structure, indicating cancer, precancerous lesions, benign tumors, infectious agents and inflammatory processes. They are also trained in specimen preparatory techniques.

The program of study is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAAHP) and the American Society of Cytopathology.

Theory is reinforced through an integrated clinical phase which allows the student direct experience in a hospital or lab setting providing additional training in screening techniques and diagnostic procedures. Graduates are eligible to sit for national certifying ASCP exams.

### Requirements

**LOWER DIVISION GENERAL EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (ENGL 110C and 111C)</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (CHP 450)</td>
<td>0-3</td>
</tr>
<tr>
<td>Mathematics (MATH 102M)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>1-3</td>
</tr>
<tr>
<td>Foundation to Perspectives — GEN 101 (New PAGE)*</td>
<td></td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>16</td>
</tr>
<tr>
<td>(Biol 108N-109N or 115N-116N, Chem 101N-102N or 115N-116N required)</td>
<td></td>
</tr>
<tr>
<td>Social Science (PSYC 201S or SOC 201S preferred)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students in the cytotechnology track may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 250-251 Human Anatomy and Physiology I and II</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 103 or 315 or 426 Bacteriology/Microbiology/Histology</td>
<td>4-5</td>
</tr>
</tbody>
</table>

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.

Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

A variety of clinical facilities in the Hampton Roads area are utilized for clinical education experiences. Students are responsible for providing their own transportation to these sites. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Cytology**

**Health Sciences Core (nine hours):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHP 415W, 430W or MEDT 403W</td>
<td>3</td>
</tr>
<tr>
<td>CHP 450 (satisfies oral communication requirement)</td>
<td>3</td>
</tr>
<tr>
<td>DNTH 415 or NMED 300</td>
<td>3</td>
</tr>
</tbody>
</table>

Students must complete the following courses prior to entering the cytotechnology program: BIOL 108N-109N or 115N-116N, 250-251, 103 or 315 or 426; CHEM 101N-102N or 115N-116N; and the nine hours from the health sciences core courses.

**Major Course Requirements**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYTO 404 General Pathology</td>
<td>3</td>
</tr>
<tr>
<td>CYTO 428 Cytotopreparatory Techniques and Processes</td>
<td>2</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYTO 403 Gynecological Screening Lab</td>
<td>3</td>
</tr>
<tr>
<td>CYTO 405 Normal Gynecological Cytology</td>
<td>3</td>
</tr>
<tr>
<td>CYTO 415 Abnormal Gynecological Cytology</td>
<td>4</td>
</tr>
<tr>
<td>CYTO 442 Gastro-Intestinal Cytology</td>
<td>2</td>
</tr>
<tr>
<td>CYTO 458 Cytology Internship</td>
<td>4</td>
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</tbody>
</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYTO 424 Respiratory Cytology</td>
<td>3</td>
</tr>
<tr>
<td>CYTO 444 Genitourinary Cytology</td>
<td>2</td>
</tr>
<tr>
<td>CYTO 445 Breast Cytology</td>
<td>3</td>
</tr>
<tr>
<td>CYTO 446 Body Fluids Cytology</td>
<td>2</td>
</tr>
<tr>
<td>CYTO 448 Non-Epithelial Cytology</td>
<td>2</td>
</tr>
<tr>
<td>CYTO 468 Cytology Internship II</td>
<td>4</td>
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</tbody>
</table>

**Fourth Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYTO 455 Fine Needle Aspiration</td>
<td>5</td>
</tr>
<tr>
<td>CYTO 478 Cytology Internship III</td>
<td>8</td>
</tr>
<tr>
<td>CYTO 497 Cytology Senior Seminar</td>
<td>2</td>
</tr>
</tbody>
</table>

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.

Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Certificate Option/Second Degree**

A certificate or second degree in cytotechnology is available to students who have a Bachelor of Science degree.

**NURSING**

[Http://hs.odu.edu/nursing/](http://hs.odu.edu/nursing/)

Richardean S. Benjamin, Chair

The School of Nursing offers programs leading to the degrees of Bachelor of Science in Nursing and Master of Science in Nursing.

**Bachelor of Science in Nursing**

Kay Palmer, Undergraduate Program Director
Phyllis D. Barham, Chief Academic Advisor

Graduates of the baccalaureate program in professional nursing are generalists prepared to care for culturally diverse individuals and groups across the lifespan in a complex global community. Upon completion of the innovative, technology-enhanced program, graduates are knowledgeable about current trends in health care, assume responsibility for their professional growth, and are prepared for graduate study in nursing. The program is fully accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the Virginia State Board of Nursing.

The baccalaureate curriculum is designed to accommodate the needs of students desiring to become registered nurses (pre-licensure curriculum) and those who are already registered nurses holding hospital diplomas or associate degrees desiring to earn the B.S.N. degree (post-licensure). The pre-licensure curriculum is offered in a traditional 36-month (no summers) format and a 24-month accelerated year-round format. Most students enroll on a full-time basis. Upon satisfactory completion of the program, a graduate is eligible to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN) for licensure as a registered nurse. The post-licensure curriculum is offered in both a full-time and part-time format. As part of the TELETECHNET system, courses are offered on weekday evening times via live broadcast to a classroom
Admission

Applicants for admission to the undergraduate nursing major must initially apply and be accepted to the University and must complete prerequisite courses prior to being admitted to the School of Nursing. Transfer students may complete the prerequisite courses at another college or university but are responsible for having the Admissions Office determine that the courses are equivalent and acceptable to University requirements. In some cases, the admissions committee of the School of Nursing may require additional course work.

Students who wish to enter the nursing major must also submit a nursing application to the School of Nursing prior to February 1 in order to be considered for fall admission. An application to the nursing major may be obtained directly from the School of Nursing or from the School of Nursing website, http://hs.odu.edu/nursing/.

Admission to the School of Nursing is highly competitive and is based on a review of several criteria by the school’s Admissions, Continuance and Advanced Placement Committee. To be considered for admission a student must:

1. Apply and be admitted to the University as a degree-seeking undergraduate student.
2. Submit a School of Nursing application directly to the School of Nursing by February 1 with photopies of all previous college transcripts attached.
3. Have a transfer of credit evaluation completed by the University Office of Admissions.
4. Registered nurse students must submit a photocopy of their license to practice as an RN.

Applicant review is based on the following criteria:

1. Admission to the University.
2. Successful completion of prerequisite courses with a grade of C or better.
3. College/university academic record(s).

Qualified high school students may apply to the University for admission with guaranteed entry into the Bachelor of Science in Nursing program. For criteria and additional information, please visit the University Web site or contact the Office of Admissions.

Continuance Policies

1. A grade of C (2.00) or better is required in all nursing courses to continue in the nursing program.
2. An average of 80% or better on objective tests within a nursing course is required to earn a grade of C (2.00). A student who earns an average less than 80% on objective tests for a nursing course is awarded a grade of D or F and will not be considered in good academic standing in the major.
3. A cumulative grade point average of 2.00 or better is required to continue in the nursing program.
4. A nursing student who fails a nursing course and is readmitted to the program is allowed to repeat the failed course only once.
5. A student who leaves the major and is readmitted may be required to take additional course work prior to or concurrent with readmission.
6. A student may be readmitted to the nursing major only once.

Note: Policies and procedures are outlined in more detail in the School of Nursing Student Handbook (on the web). All students accepted into the nursing major are responsible for familiarizing themselves with this handbook upon entry into the major.

Honors Program for Nursing Majors

The School of Nursing has elected to offer departmental honors to interested and qualified students. The honors curriculum in the School of Nursing reflects the school’s commitment to scholarship, leadership, clinical practice and community service. Students who are interested in receiving a Bachelor of Science in Nursing degree with Honors will meet the following requirements:

1. A minimum GPA of 3.50.
2. An application to the Honors Committee.
3. Completion of two required departmental honors courses, Nursing 387 Nursing Science (pre- and post-licensure students) and Nursing 487W Nursing Leadership (post-licensure students).
4. Completion of one capstone course, Nursing 489 (pre-licensure students) or 486 (post-licensure students) as an honors course. The student will design a project in addition to the usual course requirements that will support honors designation.

Traditional Curriculum for Pre-licensure Students

The guide for the traditional curriculum lists the minimal prerequisite courses in the freshman year which must be completed with a grade of C or better for eligibility for admission to the major; Chemistry 101N, Chemistry 102N, Biology 250, Biology 251, English 110C and Sociology 201S. The curriculum guide below illustrates a suggested course of study for the four-year program. The nursing major begins in the sophomore year; additional non-nursing general education and support courses are also indicated. Students must complete the entire curriculum of 120-126 credits (depending upon foreign language exemption) to meet degree requirements. Nursing courses are taken in the order listed. Specified nursing departmental requirement courses must be taken prior to the junior year in nursing.

FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* CHEM 101N College Chemistry I</td>
<td>4</td>
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</tr>
<tr>
<td>* BIOL 250 Anatomy &amp; Physiology I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>* ENGL 110C Composition I</td>
<td>3</td>
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</tr>
<tr>
<td>**GEN 101 (New PAGE)</td>
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<td>14</td>
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Spring

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>* CHEM 102N College Chemistry II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>* BIOL 251 Anatomy &amp; Physiology II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>* SOC 201S Introduction to Sociology</td>
<td>3</td>
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<tr>
<td>***ENGL 111C Composition II</td>
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<tr>
<td>Total</td>
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</tr>
</tbody>
</table>

*These courses are PREREQUISITES for the nursing major and must be completed before NURS 300. A grade of C or better is required in prerequisite courses.

**Students majoring in nursing may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

SOPHOMORE YEAR/NURSING MAJOR

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>***NURS 300 Introduction to Nursing Theories &amp; Concepts I</td>
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</tr>
<tr>
<td>***NURS 302 Health Assessment Clinical Laboratory</td>
<td>2</td>
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<tr>
<td>***NURS 310 Therapeutic Diets I</td>
<td>1</td>
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</tr>
<tr>
<td>***Biol 103 Bacteriology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>***STAT 130M Statistics (pre/co req for NURS 363)</td>
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<td></td>
</tr>
<tr>
<td>***PSYC 203S Developmental Psychology</td>
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<td>Elective</td>
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Spring

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>***NURS 301 Introduction to Nursing Theories &amp; Concepts II</td>
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<tr>
<td>***NURS 303 Fundamentals of Nursing Practice</td>
<td>2</td>
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<td>***NURS 374 Nursing Process and Drug Therapy I</td>
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<tr>
<td>***NURS 430 Nursing and the Gerontological Client</td>
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<tr>
<td>Gen Ed Fine and Performing Arts/History/Literature</td>
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<tr>
<td>Gen Ed Fine and Performing Arts/History/Literature</td>
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<tr>
<td>PHIL 110P, 120P, or 150P</td>
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*** These courses must be completed prior to the Junior year.

JUNIOR YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Fall</td>
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</tr>
<tr>
<td>NURS 320</td>
<td>Adult Health Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS 321</td>
<td>Clinical Management: Adult Health Nursing I</td>
<td>2</td>
</tr>
<tr>
<td>NURS 350</td>
<td>Psychiatric/Mental Health Nursing</td>
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</tr>
<tr>
<td>NURS 351</td>
<td>Clinical Management of Psychiatric/Mental Health Problems</td>
<td>1</td>
</tr>
<tr>
<td>NURS 363</td>
<td>Nursing Science</td>
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<tr>
<td>Upper Division Elective Cluster Course I</td>
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Spring

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<tbody>
<tr>
<td>NURS 311</td>
<td>Therapeutic Diets II</td>
<td>1</td>
</tr>
<tr>
<td>NURS 330</td>
<td>Nursing Care of the Childbearing Family</td>
<td>3</td>
</tr>
</tbody>
</table>
### SENIOR YEAR

#### Fall
- NURS 312: Therapeutic Diets III 1
- NURS 420: Nursing Care of Infants and Children 3
- NURS 421: Clinical Management - Infants and Children 2
- NURS 450: Adult Health Nursing III 3
- NURS 451: Community Health Nursing I 2
- NURS 470: Community Health Nursing I 2

#### Spring
- NURS 480W: Leadership and Management 3
- NURS 481: Transition to Professional Nursing Practice 3
- NURS 440: Nursing Process in Rehabilitation 2
- NURS 441: Clinical Management of Rehab Clients 2
- NURS 471: Community Health Nursing II 2
- NURS 358: Nursing Elective 2

Please note: The University General Education requirement for six credits of foreign language must be met by any student not exempt from the requirement. The following exemptions exist for the foreign language requirement: 
- a. High school graduate prior to December 31, 1985, or 
- b. Three years of one foreign language in high school, or 
- c. Two years in each of two different foreign languages in high school

Students may also meet the foreign language requirement by completion of a university-parallel associate degree. The oral communication and social science general education requirements are met through the major.

### UPPER DIVISION GENERAL EDUCATION

**Option A.** Approved Minor, 12-24 hours; also second degree or second major.

**Option B. Cluster, 9 hours (3 hours may be in the major area of study.)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-126 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Accelerated Curriculum for Pre-licensure Students

The guide for the accelerated curriculum lists the prerequisites, general education and departmental requirement courses supporting the major. In addition to completing the prerequisite courses, students applying to this curriculum should complete all of the non-nursing courses prior to beginning the major. Nursing courses are taught in fall, spring and summer semesters for two calendar years. Summer enrollment is required.

Students desiring to enroll in the accelerated program should have completed the following courses prior to beginning the nursing major:

- Biology 250* 4 credits
- Fine Performing Arts/History/Literature Perspective 3 credits
- Biology 251* 4 credits
- Fine Performing Arts/History/Literature Perspective 3 credits
- Chemistry 101N* 4 credits
- Biology 103 4 credits
- Chemistry 102N* 4 credits
- STAT 130M 3 credits
- English 110C* 3 credits
- Philosophy Perspective 3 credits
- English 111C 3 credits
- Foreign Lang I Skills 3 credits
- Sociology 201S* 3 credits
- Foreign Lang II Skills 3 credits
- Psychology 203S 3 credits
- Elective 1 credits
- GEN 101 (New PAGE) 3 credits
- * Must be completed with a grade of C or better
- **Students majoring in nursing may substitute GEN 101 for a course in the fine and performing arts, history or literature perspective areas.

### Post-licensure Curriculum for Registered Nurses

The post-licensure curriculum is available on the main campus, at local higher education centers, at many TELETECHNET sites, and video streamed using the Blackboard format. Please check with the School of Nursing for a complete listing of available sites. RN-BSN courses are also available on-line.

Requirements for the post-licensure curriculum are listed below. ENGL 110C is required for admission. Priority for admission is given to students who have completed the additional 23 credit hours listed. The remaining 28-34 credit-hour requirements in non-nursing courses follow. It is recommended that students complete most of the lower-level requirements before beginning the
nursing major. A part-time sequence of major courses is provided. Attendance in summer session is necessary. Students who have completed all lower-level requirements may attend full time with advisor approval. To meet degree requirements, students must complete the entire curriculum of 120-126 credits (depending upon foreign language exemption). Based upon prior learning and successful progression in the major, registered nurse students are granted 33 experiential learning credits in nursing.

Required for admission
ENGL 110C  English Composition 3

Priority for admission with completion of the following requirements
CHEM 101N  College Chemistry I 4
CHEM 102N  College Chemistry II 4
B IOL 250  Anatomy and Physiology I 4
B IOL 251  Anatomy and Physiology II 4
B IOL 103  Bacteriology 4
SOC 201S  Introduction to Sociology 3

Additional General Education and Departmental Requirements
ENGL 111C  English Composition II 3
STAT 130M  Elementary Statistics 3
Foreign Language Skills 0-6
Fine and Performing Arts Perspective 3
History Perspective 3
Literature Perspective 3
Philosophy Perspective 3
PSYC 203S  Developmental Psychology 3
Elective 1
Upper-Division General Education (minimum credits for cluster listed) 6

UPPER DIVISION/MAJOR REQUIREMENTS

Fall (Students start major ONLY in Fall semester)
NURS 305  Health Assessment 3
NURS 306  Theoretical Foundations of Professional Nursing Practice 3
NURS 401  Career Pathway: Assessment 4
Cluster Elective I* (Administrative Leadership Cluster Course) 3

Spring
NURS 363  Nursing Science (STAT 130M req) 3
NURS 402  Career Pathway: Development 4
NURS 490W  Nursing Leadership 3
Cluster Elective II* (Administrative Leadership Cluster Course) 3

Summer
NURS 403  Career Pathway: Expanding Horizons 4
NURS 464  Developing Case Management Skills: Clinical Pathways and Outcomes 3
NURS 492  Community Health Nursing 3
NURS 458  Nursing Elective 3
NURS 398  Advanced Placement Credits awarded upon completion of 14 credits in major 3
NURS 498  Advanced Placement Credits awarded upon completion of 26 credits in major 3

(1) Course taken during year one of part-time enrollment
(2) Course taken during year two of part-time enrollment
*Students may satisfy the upper-level general education requirement with two cluster courses, a minor, or a previous bachelor’s degree. The Administrative Leadership Cluster course choices are: MGMT 325, MGMT 350 or MKTG 414, PSYC 303, COMM 351 and PHIL 303 or 345 (only one philosophy course may be used).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-126 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

RN to BSN/MSN Curriculum

Students accepted into this curriculum may use nine graduate credits to count toward both the B.S.N. and M.S.N. degrees. In the schedule above, students in the curriculum would take NURS 610 instead of NURS 306 in the Senior Fall Semester and NURS 611 instead of NURS 363 in the Senior Spring Semester. NURS 640 would be taken in the Senior Summer Semester instead of NURS 458. Requirements are listed below.

Students desiring to enroll must:

1. Complete all lower-division general education/departmental requirements prior to the start of the first graduate-level course.
2. Pass the Exit Examination of Writing Proficiency prior to the start of the first graduate-level course.
3. Complete and submit an Old Dominion University Graduate School Application and supplemental nursing application for the M.S.N. program by June 1 for a decision by July 1.
4. Provide evidence of testing scores by June 1 for decision by July 1 of:
   A. Miller Analogues Test (MAT) score of 45 or above; or
   B. Graduate Record Examination (GRE) combined verbal and quantitative portion score of 1000 or above (or 1500 total on all three sections).
5. Present an Old Dominion University nursing grade point average of 3.50 or above.
6. Present a cumulative and transfer grade point average of 2.8 or above.

To continue in the RN to B.S.N./M.S.N. curriculum, a student must earn a grade of B or above in each graduate-level course.

1. A student in the RN to B.S.N./M.S.N. curriculum who earns a grade of B- or C+ in a graduate course will not be able to continue in the M.S.N. curriculum as an undergraduate student, but will be allowed to count that graduate course toward the B.S.N. degree requirements.
2. A student in the RN to B.S.N./M.S.N. curriculum who earns a grade of C or below in a graduate course will not be allowed to continue in the M.S.N. curriculum as an undergraduate student, and will be required to take the corresponding undergraduate course to complete the B.S.N. degree requirements.
3. Students not admitted to the RN to B.S.N./M.S.N. curriculum may apply to the M.S.N. program upon completion of the B.S.N. degree. A student who was ineligible to continue in the RN to B.S.N./M.S.N. curriculum may reapply for admission to graduate study upon completion of the B.S.N. degree.

Nursing Transfer Courses

Students attempting to transfer nursing courses from a nationally accredited B.S.N. program to Old Dominion University must submit photocopies of their nursing course syllabi for review prior to receiving advanced placement/transfer credit in the B.S.N. curriculum. The course syllabi are reviewed by nursing faculty to determine equivalency to courses in the Old Dominion University curriculum.

General Prelicensure Policies: Physical Exam/CPR/Liability Insurance

1. All students are required to have an initial physical exam completed and submitted by the first week of courses in the major.
2. Returning students (second year, third year) must have an annual PPD completed and submitted by the first week of courses in the fall semester.
3. All students must provide written documentation of Cardio-Pulmonary Resuscitation certification (professional level course) each year by the first week of courses in the semester.
4. Professional liability insurance is required for all clinical courses. The University covers this requirement for students enrolled in required clinical courses for the activities associated with those courses.
5. Due to the intimate nature of nursing practice with vulnerable populations, criminal background/sex offender status checks are required of all pre-licensure students.

Computer Competency Requirements

Faculty have identified the following basic computer skills as imperative for students in the B.S.N. program:

1. Locate a file on: hard drive, disk, and server if appropriate
2. Save a file on a specific drive and folder
3. Change drives
4. Professional liability insurance is required for all clinical courses. The University covers this requirement for students enrolled in required clinical courses for the activities associated with those courses.
5. Due to the intimate nature of nursing practice with vulnerable populations, criminal background/sex offender status checks are required of all pre-licensure students.

Computer Competency Requirements

Faculty have identified the following basic computer skills as imperative for students in the B.S.N. program:

1. Locate a file on: hard drive, disk, and server if appropriate
2. Save a file on a specific drive and folder
3. Change drives
4. Connect to an ISP
5. Navigate between two or more applications without closing and reopening (multi-tasking)
6. Open a new file
7. Open an existing file
8. Save a file
9. Rename a file (save as)
10. Cut text
11. Paste text
12. Format text

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13. Change line spacing  
14. Download and upload e-mail attachment files

**Technical Standards**

Students admitted to the undergraduate nursing program are expected to complete all program requirements. Any student who thinks he or she does not possess one or more of the following skills should seek assistance from an academic counselor, faculty advisor and Disability Services concerning any flexibility in program requirements and possible accommodation through technical aids and assistance. Students are expected to:

1. Assimilate knowledge acquired through lectures, discussions, demonstrations and readings and make appropriate judgments/decisions in a timely manner during clinical practice.
2. Comprehend and apply basic mathematical skills, e.g. ratio and proportion concepts, use of conversion tables, calculation of drug dosages.
3. Demonstrate competence in concepts from biological, sociological and psychological sciences.
4. Communicate effectively (verbally and non-verbally) and prepare written documents that are correct in style, grammar and mechanics.
5. Read charts, records, scales, fine print, handwritten notations and distinguish colors.
6. Distinguish tonal differences and use phones.
7. Distinguish odors.
8. Differentiate changes in sensation, e.g. pulses, temperature, texture.
9. Manipulate equipment necessary for providing nursing care to clients, e.g. syringes, infusion pumps, life support devices.
10. Move from room to room and maneuver in small places.
11. Perform one-rescuer/two-rescuer cardiopulmonary resuscitation (CPR) on adults, children and infants without any limitation to space or environment.
12. Establish interpersonal rapport with individuals, families and community groups who have a wide range of social, emotional, intellectual and cultural differences.

**Nursing Practice/Performance Expectations**

The curriculum for the B.S.N. program includes 66 credits in the nursing major and provides classroom instruction, laboratory and clinical practice experience for students. This comprehensive program includes experiences in a variety of nursing specialties (critical care, obstetrics, pediatrics, adult health, community, rehabilitation and psychiatric nursing) giving the graduate a broad-based foundation in nursing practice. Graduates are not specialists, but generalists prepared for entry-level practice in these areas of nursing practice.

Students in the B.S.N. program are expected to provide total, intimate personal care to both male and female clients of all ages, ethnic and racial backgrounds. These activities may include, but are not limited to:

1. Complete baths
2. Urinary catheterizations
3. Colonic enemas
4. Vaginal douches
5. Perineal care
6. Breast exams
7. Testicular exams
8. Providing nutrition (feeding) with all types of diets

Students are expected to interact in a professional, non-judgmental manner with clients, classmates, faculty and other health team members of all ethnic, religious and national backgrounds. No exceptions for cultural differences will be made for any student.
College of Sciences

Richard V. Gregory, Dean
Joseph H. Rule, Associate Dean
Terri Mathews, Assistant Dean

The College of Sciences’ degree programs are designed to prepare students for careers in the sciences or to lay broad foundations for specialized training in these fields of knowledge. The college is comprised of the Departments of Biological Sciences, Chemistry and Biochemistry, Computer Science, Mathematics and Statistics, Ocean, Earth and Atmospheric Sciences, Physics, and Psychology. The Departments of Biological Sciences, Chemistry and Biochemistry, Mathematics and Statistics, Ocean, Earth and Atmospheric Sciences, and Physics cooperate with the Darden College of Education to provide the necessary courses for certification to teach in the Commonwealth.

Undergraduate Degree Requirements for all Majors in the College of Sciences

Core Requirements

Fulfilling the University General Education Requirements for a specific program satisfies the degree requirements for the College of Sciences. All degrees offered by the college, except for the Bachelor of Science in Computer Science, are traditional in terms of the General Education program. Refer to the University General Education section of this Catalog for details about which courses satisfy the skills, perspectives, and upper-division requirements of the General Education program.

Additional major requirements are listed under the various departmental programs.

General Requirements

A. Students wishing to take a major or a minor in the College of Sciences must declare with the appropriate department.

B. The College of Sciences allows a maximum of four hours of activity credit to be applied toward any degree granted by the college. Activity credit beyond the four-hour maximum may be permitted in unusual circumstances with the written approval of the dean of the college. Activity credit required by a student’s major department will not be counted toward the credit limitation. (See the Catalog section on Activity Credits for the definitions and other restrictions on activity course credits.)

General Education – New Portal to Appreciating our Global Environment

New Portal to Appreciating our Global Environment, GEN 101, is a general education course required for all first-year and transfer students with fewer than 12 transfer credits. GEN 101 may be substituted for one three- or four-hour general education perspective course.* The College of Sciences has approved the following substitutions. Students majoring in biology may substitute GEN 101 for a course in the history or social science perspective areas. Students majoring in chemistry, biochemistry, and physics must substitute GEN 101 for a course in the social science perspective. Students majoring in computer science may substitute GEN 101 for a course in the history, philosophy or social science perspective areas. Students majoring in mathematics may substitute GEN 101 for a course in the fine and performing arts, history, literature, philosophy, or social science perspective areas or the third course in the natural science and technology perspective. Students majoring in ocean and earth science may substitute GEN 101 for a course in the fine and performing arts, literature, philosophy or social science perspective areas. Students majoring in psychology may substitute GEN 101 for a course in the social science perspective or the third course in the natural science and technology perspective. Students should consult their advisors for additional information.

*GEN 101 is approved as a general education requirement for first year students and transfer students with fewer than 12 transfer credits who enter Old Dominion in Fall 2006.

College of Sciences Degree Programs

<table>
<thead>
<tr>
<th>Programs of Study</th>
<th>B.S.</th>
<th>M.S.</th>
<th>Ph.D.</th>
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<tr>
<td>Biomedical Science</td>
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<td>Physics</td>
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Notes:
1. Ph.D. in biomedical science offered jointly by Old Dominion University and Eastern Virginia Medical School with tracks in clinical chemistry, biological chemistry, neuroscience, vector-borne diseases and environmental health, molecular and cellular biology, cellular endocrinology and reproductive biology, immunology and cancer biology, cardiovascular sciences, and general biomedical sciences.
2. Track within chemistry master’s degree program.
3. Doctor of Psychology (Psy.D.) offered through the Virginia Consortium Program in Clinical Psychology, sponsored by the College of William and Mary, Eastern Virginia Medical School, Norfolk State University, and Old Dominion University.
4. Ecological sciences. Optional dual degree program with master’s degree in computational and applied mathematics with emphasis in statistics. Training opportunities are available with faculty in the Departments of Biological Sciences, Chemistry and Biochemistry, and Ocean, Earth and Atmospheric Sciences.
5. Applied experimental, human factors, or industrial/organizational psychology.
6. Computational and applied mathematics, with emphases in applied mathematics and statistics/biostatistics.
7. Computational and applied mathematics, with emphases in applied mathematics and statistics and biostatistics.
8. Offered jointly with the College of Engineering and Technology.
9. Offered jointly with the College of Business and Public Administration.

Old Dominion University/Eastern Virginia Medical School Joint Program in Medicine

The joint program in medicine is designed to encourage highly qualified students to receive a B.S. from Old Dominion University and an M.D. from Eastern Virginia Medical School. Students apply after completion of their freshman year at Old Dominion University. Upon successful completion of requirements and graduation from Old Dominion University, a student accepted in the ODU/EVMS Joint Program in Medicine will be guaranteed admission to Eastern Virginia Medical School.

Eligibility and Selection of Students for the Program

1. Applications will be accepted from students without regard to state of residency.
2. Students apply for the program at the beginning of their sophomore semester at Old Dominion. A joint committee of ODU/EVMS faculty reviews and selects applicants for this program with approval by the Committee on Admissions at EVMS.
3. Criteria for the program include a combined Scholastic Aptitude Test minimum score of 1250, a high school class rank in the top 10% and an overall high school grade point average of at least 3.40. Students are expected to complete one year of general chemistry and the first semester of organic chemistry by the end of the first semester of their
Other Advantages of the Program

Because students enrolled in this program will be assured of a position at Eastern Virginia Medical School, they will be encouraged to take courses that meet their interest and needs, rather than courses perceived as necessary to gain entrance into medical school.

Students in this program will be expected to complete the requirements for a baccalaureate degree before beginning medical school.

Policy for the Awarding of Bachelor’s Degrees To Students Attending Professional School in Medically Related Fields

Old Dominion University students attending an accredited medical, dental, pharmacy, or veterinary school without a bachelor’s degree shall be given the opportunity of receiving the bachelor’s degree in accordance with the prescribed criteria as follows.

1. The student applying for the degree must complete a minimum of 90 semester hours of undergraduate credit prior to attending professional school.
2. The student must fulfill the General Education requirements of the University and the College of Sciences.
3. Thirty of the last thirty-six hours prior to professional school must be taken at Old Dominion University.
4. This policy is applicable to any bachelor’s degree offered by Old Dominion University. It must be kept in mind, however, that all departmental requirements must be met either prior to professional school or by using courses taken during the first year of professional school. This latter course of action requires written petition to and approval by the appropriate departmental chair. In either case the student must complete at least two-thirds of the major requirements for the degree prior to attending professional school.
5. The degree is to be awarded only after completion of one year of professional school with acceptable academic performance (to be determined by a letter from the professional school stating that the student is eligible to matriculate for the second year).
6. The student would apply for the bachelor’s degree on completion of one year of professional school. Certification by the appropriate department chair is required as usual.

Prehealth Advisement—Prehealth Advisory Committee

Students seeking careers in medicine, dentistry, osteopathy, optometry, podiatry or veterinary medicine should request advisement as early as possible from the College of Sciences prehealth advisor, as well as from their major or other academic advisor. This is to obtain general information of value in gaining acceptance to the professional school of choice, such as how and when to apply for admission, preparation for preprofessional tests and interviews, obtaining letters of evaluation and recommendation, and choosing among the many different schools and professions. Advice is also given on course selection, although only the academic advisor can formally approve these selections.

Students seeking admission to medical, dental and other medically related professional schools should confer with the Prehealth Advisory Committee in their junior year concerning the preparation of letters of evaluation by the Committee.

The prehealth advisor is Terri Mathews, Assistant Dean, College of Sciences, (757) 683-5201.

B.S./M.B.A. Five-Year Program

This program allows students to complete a B.S. degree in biology, chemistry, computer science, mathematics or psychology and an M.B.A. degree in five years. Students interested in this program should contact the M.B.A. program director as early as possible. The M.B.A. program director will act as an advisor to the student in addition to the undergraduate advisor. The M.B.A. Program Office is located in Constant Hall room 1026 and can be contacted at 683-3585.

Entrance Requirements

To be accepted into the program students should have:
- completed at least 24 credit hours at Old Dominion University with a GPA of at least 3.00;
- completed all lower-level general education requirements;
- achieved senior standing at Old Dominion University;
- completed a calculus course, equivalent to MATH 200;
- achieved a minimum Graduate Management Admissions Test (GMAT) score of 550; and
- achieved a minimum index of 1200. (The index is computed as 200 times the Old Dominion University GPA plus the GMAT score.)

Admissions Procedure

Students should plan to take the GMAT at least two semesters prior to the semester in which they plan to enroll. Official applications and credentials should be submitted to the M.B.A. Program Office according to published deadlines.

Students accepted into the five-year B.S./M.B.A. program must complete the following courses from the M.B.A. core during their senior year. These credit hours will count toward the undergraduate degree and satisfy the upper-division general education requirement for graduation (or technical electives for students majoring in computer science). Students must maintain a 3.00 GPA in these courses.

- Accounting for Managers ACCT 601 3 hours
- Statistics for Business and Economics DSCI 600 3 hours
- Managerial Economics and International Trade ECON 604 3 hours
- Financial Management FIN 605 3 hours
- Organizational Management MGMT 602 3 hours
- Marketing Management MKTG 603 3 hours

After students have satisfactorily completed their undergraduate requirements, they must complete an additional 30 hours in the M.B.A. program. For detailed information on courses and concentrations, please refer to the M.B.A. information found in this Catalog.

Research and Service Centers

Center for Computational Science. The center provides a focus for the University’s efforts to perform scientific investigation through large-scale computer models of natural phenomena. It complements the Virginia Modeling, Analysis and Simulation Center, which focuses primarily on the simulation of human-engineered systems, though some underlying methodologies overlap.
With close ties to the Department of Energy and NASA laboratories and support from these agencies and NSF, center personnel perform computationally intensive research, develop algorithms and software for high-end parallel computers, train computationally oriented graduate students and post-docs, and disseminate the products of their research, directed scientific results and software libraries, within and beyond the University.

**Center for Science and Mathematics Literacy.** The center provides educational services, helpful in teaching science or mathematics or for making the general public more literate in these areas. The center has developed a science/mathematics resources center, encourages instructors of credit courses to address the science/mathematics literacy problem, develops or aids in developing proposals for funding better science/mathematics education.

**Commonwealth Center for Coastal Physical Oceanography.** The Commonwealth Center for Coastal Physical Oceanography focuses research efforts on major physical processes in the coastal ocean. These processes include continent scale currents, exchange with the open ocean, and effects of global change. Techniques focus on computer modeling and analysis of existing data bases. The center provides advanced computer resources, technical support, and funding for faculty, research associates, and students. Visitors are encouraged to use the facility during either short- or long-term stays.

**BIOLOGICAL SCIENCES**

Lynton J. Musselman, Chair  
Kneeland Nesius, Chief Departmental Advisor

The Department of Biological Sciences provides the student with a broad selection of course offerings in biology. The degree program in biology contains six core courses and allows the selection of elective subjects most suited to the individual’s vocational interests.

To help students tailor their degree program to their specific learning and career goals, the Department of Biological Sciences organizes its courses into three general degree tracks, each of which includes a series of more narrowly tailored concentration areas. The tracks and their concentration areas are:

1. **Professional:** prepares students for specific careers or entry into professional programs; concentration areas include:
   a. Secondary Science Education  
   b. Pre-Health (prepares students for application to medical, dental, physical therapy, and physicians assistant school)  
   c. Pre-Optometry  
   d. Pre-Pharmacy  
   e. Pre-Veterinary Medicine

2. **Physiology/Cellular Biology/Molecular Biology**
   a. Microbiology  
   b. Physiology  
   c. Cell/Molecular Biology

3. **Ecology/Organismal Biology**
   a. Marine Biology  
   b. Botany  
   c. Zoology  
   d. Ecology and Conservation Biology

For detailed course requirements for the concentrations not specifically listed below, please contact the Biology Department advisor, Dr. Kneeland Nesius, Mills Godwin Building 108C.

**Bachelor of Science—Biology Major**

<table>
<thead>
<tr>
<th>LOWER DIVISION GENERAL EDUCATION</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (Satisfied by BIOL 405W)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 162M required)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (Competence must be at the 102 level)</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (CS 149D or higher required for Biology and Marine Biology; teacher education satisfied in the Professional Education core by ECI 3041)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives - GEN 101 New PAGE*</td>
<td>8</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology (Satisfied by PHYS 111N-112N or OEAS 111N-112N)</td>
<td>8</td>
</tr>
<tr>
<td>Technology Requirement (Satisfied in the major)</td>
<td>3-4</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in biology may substitute GEN 101 for a course in the history or social science perspective areas.

**DEPARTMENTAL REQUIREMENTS**

BIOL 115N-116N must be passed with a C (2.0) or better to continue in the program.

**BIOL 115N-General Biology I**  
**BIOL 116N-General Biology II**

Upon completion of Biology II students must complete the following core of biology courses (BIOL 290, 291, 292, 293, 303) which are prerequisites* or corequisites** for all of the upper-level biology courses (see course descriptions for individual courses). These core courses have MATH 162M, Precalculus, as a pre- or corequisite. BIOL 290 should be taken within two semesters of completing General Biology II and BIOL 405W should be taken during the junior or senior year. Students may not have a grade lower than a C (2.0) in any of the biology core courses.

*Prerequisite – designated course must be completed before enrolling in the course requiring the prerequisite.

**Corequisite – designated course may have been completed or taken during the same semester the student is enrolling in the course requiring the corequisite.

**BIOL 290 Practice of Science**  
**BIOL 291 Ecology**  
**BIOL 292 Evolution**  
**BIOL 293 Cell Biology**  
**BIOL 303 Genetics**  
**BIOL 405W Biology Seminar**

**Biology Electives.** Students must choose 16 elective hours from the following list of courses. Three of the courses must have a laboratory component. Laboratory courses are those indicated with an asterisk (*) on the lists below. The laboratory course selections must be from two of the three sub-discipline areas listed below. Students may not have a grade lower than a C- (1.7) in any of the biology elective courses.

**Molecular/Cellular**

BIOL 312* Cellular Physiology  
BIOL 314* Developmental Biology  
BIOL 315* General Microbiology  
BIOL 402* Pathophysiology  
BIOL 407* Molecular Immunological Tech  
BIOL 409 Immunology  
BIOL 410* Immunology Laboratory  
BIOL 412* Plant Physiology  
BIOL 416* Clinical Immunology  
BIOL 423 Cellular and Molecular Biology  
BIOL 424* Comparative Animal Physiology  
BIOL 425 Microbial Physiology  
BIOL 426* Histology  
BIOL 427 Neurobiology  
BIOL 428 Physiological Ecology of Animals  
BIOL 439* Microbial Physiology Laboratory  
BIOL 455 Molecular Systematics  
BIOL 456 Population Genetics  
BIOL 459 Geonics  
BIOL 485* Immunological Methods  
BIOL 493 Human Neurophysiology

**Organismal/Evolutionary**

BIOL 221 Field Botany  
BIOL 307* Invertebrate Zoology  
BIOL 308 Botany  
BIOL 314* Developmental Biology  
BIOL 322 Ethnobotany  
BIOL 330 Vertebrate Zoology  
BIOL 400* Vascular Plant Families  
BIOL 401* Entomology  
BIOL 414 Plants of the Bible and The Koran  
BIOL 420* Ichthyology  
BIOL 421 Ornithology  
BIOL 422* Field Studies in Ornithology  
BIOL 430 Microbial Pathogenesis  
BIOL 431* Mammalogy  
BIOL 433* Cave Biology  
BIOL 438* Dendrology  
BIOL 441 Animal Behavior  
BIOL 446 Comparative Biomechanics  
BIOL 454 Parasitology

**BIOL 290 Practice of Science**  
**BIOL 291 Ecology**  
**BIOL 292 Evolution**  
**BIOL 293 Cell Biology**  
**BIOL 303 Genetics**  
**BIOL 405W Biology Seminar**

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BIOL 430 Microbial Pathogenesis  
BIOL 431* Mammalogy  
BIOL 433* Cave Biology  
BIOL 438* Dendrology  
BIOL 441 Animal Behavior  
BIOL 446 Comparative Biomechanics  
BIOL 454 Parasitology
Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional core and overall, with no grade less than a C- in the content area and the professional education core, and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and professional education core and complete all degree requirements for the major in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate PRAXIS II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising. Education 152. The PRAXIS II Biology Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major, minor, and professional education core; and complete a minimum of 128 credit hours. The Professional Education core courses and requirements are as follows:

Take PRAXIS I (after 60 credit hours)
ECI 301 Social Cultural Foundations of Education 3
ECI 304 Educational Applications of Computers (satisfies computer skills requirement) 3
ECI 360 Classroom Management and Discipline 2
ECI 408 Reading and Writing in Content Areas 3
ECI 454 Developing Instructional Strategies: Science 4
ESSE 406 Students with Diverse Learning Needs-General Ed Class 3
ESSE 413 Fundamentals-Human Growth and Development 3
Passing PRAXIS I Score
ECI 485 Student Teaching 12
Achieve overall 2.75 GPA

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.odu.edu.

Professional Concentration

Biology students seeking careers in medicine, dentistry, osteopathy, optometry or podiatry should request advisement from Dr. Ralph W. Stevens III, the prehealth advisor, who is located in the Department of Biological Sciences.

Science courses required by all of the above professional programs are BIOL 115N-116N; CHEM 115N-116N, 311-312-313; PHYS 111N-112N (or 231N-232N) and MATH 200. Students should confer with their advisors to select the most appropriate math courses and additional science courses. The most frequently recommended biology courses are in the areas of human or vertebrate anatomy and physiology and those stressing the molecular and cellular levels of organization. However, students also are encouraged to explore other disciplines while they have the opportunity, such as ecology, to develop a broader view of life processes and the human condition.

Minor in Biology

The minor in biology requires completion of at least 12 semester credit hours in departmental courses at the advanced level (300 and 400 level). BIOL 115N-116N are prerequisite courses for the minor and are not included in the calculation of the grade point average for the minor.

Students obtaining a Bachelor of Science in Medical Technology or Environmental Health may complete a minor in biology by taking an additional 12 hours in biology at the 300 and 400 levels.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200 level courses and prerequisite courses and complete a
minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Honors Program in Biology

A. Honors Research
Undergraduates with junior or senior standing and a GPA of 3.00 or better are eligible to participate in Honors Research. After consultation with the program director (Dr. Deborah A. Waller), students select a professor who agrees to oversee the research project. Students then enroll in two or four credit courses, BIOL 487 and 488. The courses may be taken in any sequence: fall-spring, spring-summer, summer-fall. Normally both semesters are required but a student may receive credit for only one semester. The research project, time commitment by the student and the basis for the grade are mutually determined by the student and professor. Because first-semester research results are often preliminary, the grade for BIOL 487 is based on a review paper and/or research proposal, which provides the student with an overview of the field. The second semester is graded on the final research paper and a seminar presented to the honors committee and interested faculty. Professors should encourage students to publish results and present papers at scientific meetings when appropriate. Students should also be urged to apply for funds from agencies that provide seed money to undergraduates. The program director can provide information on scientific societies that sponsor meetings and/or offer small grants.

B. Bachelor’s Degree with Honors in Biological Sciences and Honors Designation for Biology courses

Students maintaining an overall GPA of at least 3.25 and of 3.50 in biology can receive a “Bachelor’s Degree with Honors in Biological Sciences” subject to satisfaction of the minimum University standards for the Honors degree and completion of one of the following two options:

Option 1: Successful completion of two semesters of biological research, taken as BIOL 487/488 (Honors Research).

Option 2: Successful completion of three upper-division courses in Biological Sciences and achievement of the “Honors” designation in each.

Students petitioning for designation of an upper division biology course as “Honors” must have a minimum overall GPA of 3.25 and a GPA of at least 3.50 in biology.

To receive the “Honors” designation for a course, students must achieve a final course score of at least 95% or the equivalent of an “A” on the University grade scale.

Faculty are encouraged to assign and work with students on other activities deemed appropriate for an “Honors” course designation and utilize the results of these activities in the assignment of a course grade.

Advanced Placement

Students may receive advanced placement for BIOL 115N or 116N (4 credits) by a score of 3 on the advanced placement examinations. Students receiving a score of 4 or 5 will receive credit for BIOL 115N and 116N (8 credits). Application may be made directly to the Testing Center in Academic Skills Programs prior to fall registration. Students may also refer to the section of this Catalog on Experiential Learning Credit Options at the Undergraduate Level.

CHEMISTRY AND BIOCHEMISTRY

Kenneth G. Brown, Chair
Jennifer Adamski, Chief Departmental Advisor

The Department of Chemistry and Biochemistry offers a program in biochemistry and an American Chemical Society accredited program in chemistry, with an optional secondary education emphasis. Chemistry has been called the “central science” because it makes major contributions to agriculture, biology, electronics, engineering, environmental science, medicine, mineralogy and pharmacology. Either undergraduate degree program gives the student the necessary background for continued academic study at the master’s and Ph.D. level, entry into medical, dental, and pharmacy schools, as well as a career in the chemical industry. Students not only gain an excellent education but also have many research opportunities available to enrich their understanding of real-world problems. Cooperative arrangements exist with the nearby Eastern Virginia Medical School, NASA Langley Research Center and the Thomas Jefferson National Accelerator Facility.

Bachelor of Science–Chemistry Major

<table>
<thead>
<tr>
<th>Lower Division General Education</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
</tbody>
</table>

158 OLD DOMINION UNIVERSITY
Bachelor of Science—Chemistry Major with Teaching Licensure

This program leads to eligibility for teacher licensure in Virginia and is available only to individuals holding a baccalaureate degree or completing requirements for a Bachelor of Science degree in chemistry. Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.odu.edu.

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

Continuation. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate PRAXIS II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education web site or the Office of Teacher Education Services and Advising, Education 152. The PRAXIS II Chemistry Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 134 credit hours. Additional hours may be required to meet the foreign language requirement. The professional education core satisfies the Upper Division General Education requirement.

The curriculum is as follows:

### Lower Division General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 162M required)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>12</td>
</tr>
<tr>
<td>Social Science (GEN 101 New PAGE required instead of one social science course)</td>
<td>6</td>
</tr>
</tbody>
</table>

In addition to completing the University’s lower-division general education requirements and upper-division general education requirements, a chemistry major seeking teacher licensure must complete the following courses.

### Chemistry Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115N-116N Foundations of Chemistry I &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 311-313 Organic Chemistry Lecture I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 312-314 Organic Chemistry Laboratory I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 321 Analytical Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 322 Analytical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 331-333 Physical Chemistry Lecture I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 333W-334 Physical Chemistry Laboratory I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 423 Spectroscopic Methods</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 424 Electrochemical Methods</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 425 Separations</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 441 Introductory Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 451 Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 452 Advanced Inorganic Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 485 Chemistry Seminar</td>
<td>1</td>
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</table>

### Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 163 Precalculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 211 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 212 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 312 (285) Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 231N-232N University Physics I &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>CS 149D Elements of Computer Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*Chemistry electives must be selected from the following courses: CHEM 251-252, 293, 303, 315, 407, 409, 412, 423, and 424.

Biochemistry majors must have a C or better in CHEM 115N-116N, 311-313, 312-314, 321, and 322, and must complete a minimum of 12 credits in upper-level (300/400) chemistry courses at Old Dominion University. Written permission by the chief departmental advisor or chair is required prior to taking upper-level chemistry courses at other institutions.

### Bachelor of Science—Chemistry Major with Teaching Licensure

This program leads to eligibility for teacher licensure in Virginia and is available only to individuals holding a baccalaureate degree or completing requirements for a Bachelor of Science degree in chemistry. Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.odu.edu.

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Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 134 credit hours. Additional hours may be required to meet the foreign language requirement. The professional education core satisfies the Upper Division General Education requirement.

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</tr>
<tr>
<td>Mathematics (MATH 162M required)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>12</td>
</tr>
<tr>
<td>Social Science (GEN 101 New PAGE required instead of one social science course)</td>
<td>6</td>
</tr>
</tbody>
</table>

In addition to completing the University’s lower-division general education requirements and upper-division general education requirements, a chemistry major seeking teacher licensure must complete the following courses.

### Chemistry Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115N-116N Foundations of Chemistry I &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 311-313 Organic Chemistry Lecture I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 312-314 Organic Chemistry Laboratory I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 321 Analytical Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 322 Analytical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 331-333 Physical Chemistry Lecture I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 333W-334 Physical Chemistry Laboratory I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 423 Spectroscopic Methods</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 424 Electrochemical Methods</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 425 Separations</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 441 Introductory Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 451 Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 452 Advanced Inorganic Chemistry</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 485 Chemistry Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

### Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 163 Precalculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 211 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 212 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 312 (285) Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 231N-232N University Physics I &amp; II</td>
<td>8</td>
</tr>
<tr>
<td>CS 149D Elements of Computer Science</td>
<td>3</td>
</tr>
</tbody>
</table>

*Chemistry majors must have a C or better in CHEM 115N-116N, 311-313, 312-314, 321, and 322, and must complete a minimum of 12 credits in upper-level (300/400) chemistry courses at Old Dominion University. Written permission by the chief departmental advisor or chair is required prior to taking upper-level chemistry courses at other institutions.

### Upper Division Requirements: Minor in Secondary Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 301 Social &amp; Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 304 Educational Applications of Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECI 360 Classroom Management and Discipline</td>
<td>2</td>
</tr>
<tr>
<td>ESSE 406 Students with Diverse Learning Needs in the General Education Classroom</td>
<td>3</td>
</tr>
<tr>
<td>ECI 408 Reading &amp; Writing in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413 Fundamentals of Human Growth &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td>ECI 454 Developing Instructional Strategies for Teaching in the Middle/High School: Science</td>
<td>4</td>
</tr>
<tr>
<td>ECI 485 Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

Preparation for Medical and Dental Studies

Students seeking careers in medicine, dentistry, or veterinary science are advised to complete a major in a specific discipline. Such students electing chemistry as their major must meet all of the requirements listed above for the degree of Bachelor of Science with a major in chemistry. In addition, the recommended course selections should include BIOL 115N-116N. (Office of the Dean, College of Sciences, 757 683-5200)
Preparation for Pharmacy School

The following courses are recommended for students who wish to complete their pharmacy prerequisites in two years. This program is particularly designed to meet requirements at the School of Pharmacy of Virginia Commonwealth University, which will accept only students who present at least 65 hours of credit. Students should consult schools of their interest regarding entrance requirements. Recommended courses are: CHEM 115N-116N, 311-313, 312-314; BIOL 115N-116N; ENGL 110C and three additional hours in English; MATH 162M, 163 and 211; PHYS 231N-232N; COMM 101R; PHIL 345; electives (liberal arts and behavioral sciences), 18 hours; Contact the Office of the Dean, College of Sciences, 757 683-5200.

Pre-optometry Program

Old Dominion University has an affiliation agreement with the Pennsylvania College of Optometry whereby students may transfer to the latter institution at the end of their third year and/or receive reduced tuition if they are Virginia residents. Students should contact the Office of the Dean, College of Sciences, 757 683-5200.

Minor in Chemistry

Students may only select one minor from the Department of Chemistry and Biochemistry to fulfill upper-division general education requirements. CHEM 115N-116N are prerequisite courses for the minor in chemistry and are included in the calculation of the grade point average for the minor. The minor requires completion of CHEM 311-313, 312-314, 321, and 322. Appropriate additions may be authorized by the chair of the Department of Chemistry and Biochemistry for completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Minor in Biochemistry

Students may only select one minor from the Department of Chemistry and Biochemistry to fulfill upper-division general education requirements. CHEM 115N-116N are prerequisite courses for the minor in biochemistry and are not included in the calculation of the grade point average for the minor. The minor requires completion of CHEM 311-313, 312-314, 441-443, and 442W. Appropriate additions may be authorized by the chair of the Department of Chemistry and Biochemistry. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Honors in Chemistry

The honors program provides qualified students the opportunity for supervised individual study in their areas of interest. Admission to the program requires a cumulative GPA of 3.25 or higher and a GPA of 3.50 or higher in the major. Students must take two upper-division courses designated by the department to be honors courses. These are termed “Contract Honors Courses.” A description of the procedures for these contract courses is found in the Honors College section of this Catalog.

Advanced Placement

Students who receive a qualifying score on the Advanced Placement of the College Board exam in chemistry may receive credit for introductory chemistry courses. Students who score a 3 on the AP exam may receive 4 credits for either CHEM 101N or CHEM 115N. Students who receive a score of 4 or 5 on the AP exam will receive 8 credits for CHEM 115N-116N. Credit for CHEM 102N is not awarded by the AP exam. Students may also refer to the section of this Catalog on Experiential Learning Options at the Undergraduate Level.

COMPUTER SCIENCE

Kurt J. Maly, Chair
Janet Brunelle, Chief Departmental Advisor

160 OLD DOMINION UNIVERSITY

The Department of Computer Science (CS) offers programs leading to the Bachelor of Science in Computer Science, Master of Science with a major in computer science, and Doctor of Philosophy with a major in computer science. At the undergraduate level the Department of Computer Science jointly offers a program with the Department of Electrical and Computer Engineering in the College of Engineering and Technology leading to a Bachelor of Science in Computer Engineering. The CS department also supports the computing technology emphasis of the Engineering Technology bachelor’s degree.

Computer science traces its foundation to mathematics, logic and engineering. Students in this program are exposed to the broad theoretical and practical basis of computer science in lectures and laboratory experiences. Through laboratories, students are introduced to both the experimental and the design aspects of computer science.

The CS Department has a unique curricular model that applies computer science education to the real world. The Professional Workforce Development courses (CS 410 and CS 411W) expand upon the experimental and design approach of typical computer science curricula by addressing the creativity and productivity required for business and industrial applications today. Students in CS 410 and 411W engage in projects that investigate each stage of transforming a creative idea into an innovative product. In addition, the CS Department offers a set of professional development tracks: database administration and network design and administration. These tracks provide a basis for students to pursue career paths and the foundation for professional certification in these areas. Alternatively, students may choose their electives to obtain an emphasis in databases, networks, web programming, or systems programming.

Bachelor of Science in Computer Science

Curriculum Requirement

The Bachelor of Science in Computer Science requires the successful completion of a minimum of 120 semester credit hours of approved coursework. In order to gain appropriate exposure and competency in basic computer science theory and applications, students must satisfy the General Education requirements for a professional degree and the following departmental requirements:

Computer Science Required Courses (37 credits): CS 110, CS 150, CS 170, CS 250, CS 252, CS 270, CS 300, CS 330, CS 350, CS 361, CS 410, CS 411W, and CS 471. A grade of C (2.0) or better is required for each class listed here except CS 110 and CS 252 in which a grade of P is required.

Mathematics/Statistics (23 credits): MATH 211, MATH 212, MATH 316, STAT 330, CS 381, CS 390, and CS 417. A grade of C (2.0) or better is required in the CS courses listed here.

Computer Science Electives (12 credits): Four CS 400-level electives, excluding required CS 400-level courses. Up to six credits of work experience in CS 367 or CS 368 may be used. CS 312 and CS 355 can be counted toward these electives.

Technical Electives (6-8 credits): The technical elective requirement is designed to broaden the student’s technical background in quantitative methods. Courses must be chosen from the natural science (N) courses (excluding BIOL 108N-109N and PHYS 103N-104N and N courses that already are counted toward the natural science general education requirement), or cluster courses in biology, chemistry, ocean, earth and atmospheric sciences, and physics. With the approval of a computer science advisor, other technically oriented courses may be used to meet this requirement.

General Education Requirements (minimum of 41 credits). Students must meet the General Education requirements for professional degrees. The General Education computer literacy requirement and the second requirement in the natural science and technology perspective are met through the major. Only three credit hours each of the history and social science perspectives are required. GEN 101 can fulfill either the history, philosophy, or social science perspective requirement.

The sample curricular plan provided below assumes the student has been certified by the mathematics placement examination as ready for calculus (MATH 211). Students who place lower than this should obtain an alternative sample plan from their CS advisor.

FRESHMAN FIRST SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 110</td>
<td>Intro to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 150</td>
<td>Intro to Programming</td>
<td>4</td>
</tr>
<tr>
<td>CS 170</td>
<td>Fundamentals of Computer</td>
<td>3</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>GEN 101</td>
<td>NewPAGE</td>
<td>3</td>
</tr>
</tbody>
</table>
**FRESHMAN SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 250</td>
<td>Intro to UNIX for Programmers</td>
<td>4</td>
</tr>
<tr>
<td>CS 270</td>
<td>Intro to Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>GEN ED</td>
<td>Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**SOPHOMORE FIRST SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 330</td>
<td>Object-Oriented Program Design</td>
<td>3</td>
</tr>
<tr>
<td>CS 381</td>
<td>Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>STAT 330</td>
<td>Intro Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 110C</td>
<td>English Comp I</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>History/Philosophy/Social Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**SOPHOMORE SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 361</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 300</td>
<td>Computers in Society</td>
<td>3</td>
</tr>
<tr>
<td>MATH 316</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 111C/131C</td>
<td>English Comp II/Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>Literature Perspective</td>
<td>3</td>
</tr>
</tbody>
</table>

**JUNIOR FIRST SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 350</td>
<td>Intro to Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CS 390</td>
<td>Intro to Theoretical Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>History/Philosophy/Social Science</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>Natural Science Perspective</td>
<td>4</td>
</tr>
</tbody>
</table>

**JUNIOR SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 417</td>
<td>Computational Methods and Software</td>
<td>3</td>
</tr>
<tr>
<td>UPPR GEN ED</td>
<td>Cluster I/Minor</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>Fine Arts Perspective</td>
<td>3</td>
</tr>
<tr>
<td>GEN ED</td>
<td>Natural Science Perspective II</td>
<td>4</td>
</tr>
</tbody>
</table>

**SENIOR FIRST SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 410</td>
<td>Professional Workforce Development I</td>
<td>3</td>
</tr>
<tr>
<td>CS 471</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CS Elective 3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>UPPR GEN ED</td>
<td>Cluster 2/Minor</td>
<td>3</td>
</tr>
<tr>
<td>TECHNICAL ELECTIVE</td>
<td>1</td>
<td>3 or 4</td>
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</tbody>
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**SENIOR SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 411W</td>
<td>Professional Workforce Development II</td>
<td>3</td>
</tr>
<tr>
<td>CS Elective 4</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>UPPR GEN ED</td>
<td>Cluster 3/Minor</td>
<td>3</td>
</tr>
<tr>
<td>TECHNICAL ELECTIVE</td>
<td>2</td>
<td>3 or 4</td>
</tr>
</tbody>
</table>

Computer science majors must earn a grade of C or better in all CS courses to meet graduation requirements. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passing of the Exit Examination of Writing Proficiency, passing of the Computer Science Exit Exam and other University assessments as described in the Requirements for Undergraduate Degrees. Additional hours may be required to meet the foreign language requirement.

**Honors Program.** Students may obtain a Bachelor of Science in Computer Science with an honors designation through the completion of three junior/senior level computer science courses with honors designation and by achieving a 3.50 in-major GPA.

**Advanced Placement**

The Department of Computer Science awards credit for CS 149D to students who achieve a score of 3, 4, or 5 on the AP Computer Science A or AB exams or a 5, 6, or 7 on the IB Computer Science exams. The department awards credit for CS 101D to students who achieve a score of 3, 4 or 5 on the CLEP Information Systems and Computer Applications Exam. A departmental exam is available for students desiring to challenge CS 101D. Students who wish to receive other credits for prior knowledge should refer to the Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog. They should contact the Office of Experiential Learning if further information is needed.

**Minor Program in Another Discipline**

A minor in a discipline other than computer science is optional and may replace the upper-level general education cluster requirement. Business, mathematics, engineering, and engineering technology are the most common fields chosen by computer science majors. Students must obtain approval and specific requirements from the minor department and meet the University's requirements for a minor as described under Requirements for Undergraduate Degrees.

**Cooperative Education**

Computer science majors interested in gaining practical experience and on-the-job training while completing undergraduate or graduate degree requirements may find opportunities through participation in the Cooperative Education Program.

A student usually starts in the junior year working with an employer in a field of computer science on an alternating semester or parallel schedule. The alternating plan allows for semesters of full-time work separated by semesters of full-time study. The parallel plan allows for concurrent study and work. Students must apply for participation in the Cooperative Education Program through the Career Management Center prior to registering for Cooperative Education credit. All work experiences must be approved by Career Management and the academic department concerned.

Undergraduates can earn a maximum of six semester credits through cooperative education that apply toward degree requirements. For further information, see the Career Management section of this Catalog.

**Professional Development Tracks**

**Database Administration with Oracle Software.** This track was developed in cooperation with Oracle Corporation. It requires CS 450 Database Concepts as the first course and prepares students for roles in modern database environments. Key concepts, techniques and skills required for administering a state-of-the-art database platform are developed. The courses in this track include CS 450 Database Concepts, CS 456 Database Administration I, and CS 457 Database Administration II.

**Network Design and Administration.** This track is intended for students who wish to establish a career in network design and administration in either Local Area Network (LAN) or Wide Area Network (WAN) environments. Students will get hands-on experience in designing networks by configuring routers and switches and work with LAN and WAN routing protocols. This track includes coverage of the information required to take the CISCO CCNA and CCNP certification. Courses under this track are CS 454 Network Management, CS 455 Introduction to Networks and Communication, and CS 464 Advanced Network Design.

**Computer Science Add-on Endorsement for Professional Education Licensure**

A person licensed by the Commonwealth of Virginia to teach in secondary schools may add an endorsement for computer science by completing this program. The required courses are CS 150, 170, 250, 252, 312, 330 or 355, 361, and 381 (24 credit hours). For more information, refer to the Darden College of Education section of this Catalog.

**Bachelor of Science in Computer Engineering**

The computer engineering undergraduate degree program is designed to provide both a broad engineering background and comprehensive foundation in the technical principles underlying the computer area. Students develop a background through course work in mathematics, the basic sciences, and general engineering. The technical core consists of courses from electrical and computer engineering to address hardware aspects of computer engineering and coursework from computer science to address software aspects. In addition, course work in General Education perspectives and communication skills is required to assure a well rounded program of study. Specific degree requirements can be found listed under the Department of Electrical and Computer Engineering.

Due to limited laboratory facilities, admission to the computer engineering program is on a competitive basis. Students should apply to the Department of Electrical and Computer Engineering. Applications are reviewed and acceptances made each fall.
Bachelor of Science in Engineering Technology with an Emphasis in Computer Engineering Technology

The goal of the computer engineering technology program is to prepare students for employment in areas defined by the rapidly expanding opportunities of computer applications. With new hardware and software products being introduced monthly, students who wish to succeed in this field should develop a background in both software and hardware. This program provides such a background by combining a grounding in basic theory with hands-on, application courses selected from the disciplines of Computer Science and Electrical Engineering Technology. The curriculum emphasizes practical design and the utilization of systems and hardware. Areas of concentration include network design and management, modern communication systems, microcomputer systems and applications, and application program development. Specific degree requirements can be found listed under the Department of Engineering Technology.

Minor in Computer Science

The curriculum for the Bachelor of Science in Engineering Technology with an emphasis in computer technology curriculum contains a built-in minor in computer science. Those majoring in computer engineering may minor in computer science by taking a minimum of two additional three credit 400-level CS electives. Others may minor in computer science by taking CS 250, either CS 330 or 361, and two courses from the following list: CS 312, 330, 350, 355, 361, 381, 390, and all 400-level CS courses. A grade of C or better is required in any of these courses if they are used as a prerequisite to any other CS course. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Grades in courses that are prerequisites for courses required for the minor will not be computed in the grade point average for the minor.

Minor in Web Programming

Students may minor in Web Programming by taking CS 312, 330, 418 or 419, and one three-credit upper-level CS elective. A grade of C or better is required in any of these courses if they are used as a prerequisite to any other CS course. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Five-year Bachelor of Science in Computer Science and Master of Business Administration

This program allows students to earn a Bachelor of Science in Computer Science and a Master of Business Administration. After students have satisfactorily completed their undergraduate requirements, they must complete 30 credit hours in the MBA program. Additional information can be found in the section on B.S./M.B.A. Five-year Program listed at the beginning of the College of Sciences section of this Catalog. Students interested in this program should contact the MBA Program Director as early as possible. The MBA Program Director will act as an advisor to the student in addition to the Computer Science advisor.

Accelerated Bachelor of Science in Computer Science and Master of Science in Computer Science

This program allows exceptionally successful students to earn both a bachelor’s and master’s degree in computer science within five years by allowing them to count up to 12 credits of graduate coursework toward both their undergraduate and master’s degrees in computer science.

Admission

To be admitted to the accelerated program, students must have completed at least 60 undergraduate credit hours with at least 24 credit hours from ODU. Students must have completed CS 361, CS 381, MATH 212 and all prerequisites for those courses. At the time of admission, they must have an overall GPA of 3.00 or better, and an overall GPA of 3.00 or better in CS and MATH courses.

Interested students who meet the admission requirements should apply to the graduate program director, after consulting with the undergraduate chief departmental advisor, as soon as possible upon completing the required courses and 60 credit hours. In consultation with the graduate program director, a student will:

1. Officially declare an undergraduate Computer Science major with the undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate to be presented to the undergraduate chief departmental advisor.
3. Apply, during their senior year, to the Office of Admissions for admission to the master’s in computer science program. Students who have completed at least six hours of graduate courses upon attaining senior standing (completion of 90 credit hours) and who have earned a GPA of 3.00 or better in those courses will not be required to take the Graduate Record Exam (GRE) for admission to the master’s program. Otherwise, in keeping with normal admission requirements for the M.S. in computer science, students will take the GRE as an undergraduate and will subsequently be reevaluated for continuation into the master’s program.

Once students have been awarded their bachelor’s degree and fulfilled all regular admission requirements for the M.S. in computer science, they will be officially admitted into the M.S. program.

Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a Bachelor of Science in Computer Science and an M.S. in computer science with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses, at the 500 or 600 level, taken as an undergraduate toward both the bachelor’s and master’s degrees in computer science.
2. Students in the program may substitute computer science graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
   a. Students may substitute 500- and 600-level courses for the upper-level CS electives in the undergraduate program so long as they have the prerequisites for those courses. 700- and 800-level courses may not be used.
   b. Students will not receive credit for both the 400 and 500 level version of the same course.
   c. Students in the program may make a written petition for other substitutions to the graduate program director, who will consider them in consultation with the chief departmental advisor and the instructor(s) of the courses involved.

NOTES:

1. In accordance with University policy, up to 21 hours of graduate courses taken as an undergraduate may be counted toward the bachelor’s degree in computer science. However, only 12 hours of graduate courses taken as an undergraduate may also be counted toward the M.S. degree in computer science. This will limit students’ scheduling flexibility subsequently.
2. Like students in the regular M.S. in computer science program, students in the accelerated B.S.C.S./M.S. computer science degree may count no more than 12 hours at the 500-level toward their M.S. degree. Students are advised against taking all 12 of those 500-level credits as an undergraduate, since doing so will limit their scheduling flexibility subsequently.

Computing Facilities

The research wing of the Computer Science Department is housed in the Engineering and Computational Sciences building and the instructional resources are located in Hughes Hall. The research facility has five state-of-the-art research labs, an open research lab, and an access grid room. The instructional annex has several teaching labs, a Beowulf cluster lab, and an open instructional lab. The department has over 750 high-end workstations running various flavors of the UNIX operating system and Microsoft operating systems. All resources are connected via gigabit Ethernet and both the research and instructional facilities have access to wireless Ethernet connectivity. The department network is connected to the Internet at 155mbps. The department
Mathematics and Statistics

J. Mark Dorrepaal, Chair
John E. Kroll, Chief Departmental Advisor

Bachelor of Science—Mathematics Major

Requirements

Lower Division General Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (met in the major by MATH 317)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 162M-163)</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills (requires CS 150)</td>
<td>4</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (NewPAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy (recommend PHIL 120P)</td>
<td>3</td>
</tr>
<tr>
<td>Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Computer Skills (requires CS 150)</td>
<td>4</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (NewPAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy (recommend PHIL 120P)</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
</tbody>
</table>

MATH 211 Calculus I 4
MATH 212 Calculus II 4
MATH 307 Ordinary Differential Equations 3
MATH 311 Modern Algebra I (writing intensive) 3
MATH 312 Calculus III 4
MATH 316 Introductory Linear Algebra 3
MATH 317 Calculus IV; Introductory Analysis 3
STAT 310W or 431 Intro Data Analysis or Theory of Statistics 3
STAT 330 or 331 Elementary Probability and Statistics or Theory of Statistics 3

A grade of C+ or higher is required in the courses listed above. All students are required to choose one of the following options:

Applied Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 401 Partial Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 408 Applied Numerical Methods Γ</td>
<td>3</td>
</tr>
</tbody>
</table>

Math Teaching Licensure

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.odu.edu.

Admission. Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, no grade less than a C- in the Math/Statistics content area and the professional education core, and a passing score on Praxis I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, a passing Praxis I score or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in ECI 301.

The PRAXIS II Mathematics Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching. Please consult the Department of Mathematics and Statistics for information on a PRAXIS II Math tutorial that runs each semester. There is a charge for this tutorial.

Continuance. Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. To obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate PRAXIS II speciality area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website or the Office of Teacher Education Services and Advising, Education 152.

Graduation. Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major, minor, and professional education core; and completion of a minimum of 134 credit hours. Passage of the PRAXIS II exam is required for teacher education licensure.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 400 History of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 404 Fundamental Concepts of Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 406 Number Theory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 417 or 422 Inter Real Analysis or Applied Complex Variables</td>
<td>3</td>
</tr>
<tr>
<td>MATH 400-level electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Professional Education Core:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 301 Social and Cultural Foundations of Ed</td>
<td>3</td>
</tr>
<tr>
<td>ECI 304 Educational Applications of Computers</td>
<td>3</td>
</tr>
<tr>
<td>ECI 360 Classroom Management and Discipline</td>
<td>2</td>
</tr>
<tr>
<td>ECI 408 Reading and Writing in Content Area</td>
<td>3</td>
</tr>
<tr>
<td>ECI 453 Developing Instructional Strategies: Math</td>
<td>4</td>
</tr>
<tr>
<td>ECI 485 Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>ESSE 406 Students w/ Diverse Learning Needs in Gen Ed Class</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413 Human Growth and Development</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper Division General Education

Option A. Approved Minor, 12-24 hours; second degree or second major. (Professional Education core satisfies this requirement.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option B: Cluster, 9 hours (3 hours may be in the major area of study,)</td>
<td></td>
</tr>
<tr>
<td>Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment.</td>
<td></td>
</tr>
</tbody>
</table>
Practicum

Any student who wishes to receive a practicum or internship experience may do so as an integral part of the degree program. Students in the secondary school teacher track are required to complete both a practicum and a student teaching internship as part of the degree requirements. Otherwise, students may substitute the practicum experience for one of the optional courses listed in the other two tracks.

Minor in Mathematics

Students may pursue a minor in mathematics with an emphasis in one of the three following areas: applied mathematics, statistics/biostatistics or actuarial mathematics.

The applied mathematics option consists of MATH 307, 312, 317 and two courses chosen from MATH 316, 401, 408, 409, 417, 420, 421, 422, 424, 427, 428, 457, or approved topics courses.

The statistics/biostatistics option consists of 12 hours of statistics at the 300/400 level, of which at most six hours can be at the 300 level. STAT 306 cannot be applied to this option.

The actuarial mathematics option consists of MATH 312, 316, STAT 330 or 331 and either MATH 408 or STAT 431.

At least twelve credit hours in the chosen option must be taken through courses offered by Old Dominion University. Students must have an overall grade point average of at least 2.00 in the courses required for the minor in their chosen option exclusive of 100/200-level courses and prerequisite courses.

Advanced Placement

Students who have achieved a qualifying score on the Calculus AB or Calculus BC advanced placement examinations receive credit for MATH 211 (and MATH 162M and 163). Credit for MATH 162M and 163 is also given for qualifying scores on the placement tests administered by the University Testing Center. Refer to the Academic Testing and the Experiential Learning Credit Options at the Undergraduate Level sections of this Catalog. Advanced placement credit is not available for MATH 102M.

OCEAN, EARTH, AND ATMOSPHERIC SCIENCES

Richard Zimmerman, Chair
Ronald Johnson, Chief Departmental Advisor

The Department of Ocean, Earth and Atmospheric Sciences offers an undergraduate major in ocean and earth science. Undergraduate majors select one of five emphases (biological oceanography, chemical oceanography, physical oceanography, geology, earth science education) that lead to the Bachelor of Science in ocean and earth science. Minors in geology and in oceanography are also offered. Two graduate programs are offered: the Master of Science in ocean and earth sciences and the Doctor of Philosophy in oceanography.

The Master of Science degree in ocean and earth sciences has both thesis and non-thesis options. Areas of emphasis in oceanography are biological oceanography, chemical oceanography, geological oceanography, and physical oceanography. Interdisciplinary studies are encouraged. The curriculum is designed to prepare graduates for professional practice in their area of interest.

The department receives considerable support from the Commonwealth and local philanthropic sources, as well as from private industry and area citizens. Establishment of the Virginia Graduate Marine Science consortium by the General Assembly in 1979 demonstrated the Commonwealth’s determination to achieve excellence in marine science. The purpose of the consortium is to advance marine science instruction, research, training, and advisory services and to enhance Virginia’s position in seeking funding to carry out these activities. Charter members of the consortium are Old Dominion University, the University of Virginia, Virginia Polytechnic Institute and State University, and the College of William and Mary. The Samuel L. and Fay M. Slover endowment to Old Dominion University in 1986 has significantly accelerated the program of marine studies. In 1991, a Center for Coastal Physical Oceanography (CCPO) was established at Old Dominion University by the Commonwealth of Virginia. The center is a Designated Center for Excellence.

The Department of Ocean, Earth, and Atmospheric Sciences is housed in two buildings. The Oceanography/Physical Sciences Building contains state-of-the-art teaching laboratories, computer facilities, and research laboratories for biological, chemical and geological oceanography. The Center for Coastal Physical Oceanography is located in a building near campus and houses all of the department’s physical oceanography laboratories. The department maintains a 55-foot research vessel, the R/V Fay Slover, primarily for estuarine and coastal studies. In addition to the Slover, the department has a number of small boats, suitable for near shore investigations. The department also has a Coastal Bay & Barrier Island Program (CoBBI) located on Virginia’s Eastern Shore at the Virginia National Wildlife Refuge. This Field Station is outfitted to accommodate 2-4 scientists for overnight stays.

Bachelor of Science—Ocean and Earth Science Major

R.E. Johnson, Advisor

Students in the ocean and earth science program focus on global systems that control environmental conditions on the planet. They also learn to develop solutions to complex environmental problems by working in interdisciplinary teams. All majors in the department complete courses in the basic sciences and mathematics, core courses in earth systems science, and a capstone field research experience. In addition, students complete a suite of specialty courses according to one of the following emphases.

Oceanography Emphasis

The oceanography emphasis is designed for students considering graduate work or employment in the pure and applied fields of oceanography. Students select specialty courses in biological oceanography, chemical oceanography, or physical oceanography. If students select the biological subdiscipline, they are strongly encouraged to minor in biology and select 12 credits from 300/400 level biology courses. If students select the chemical subdiscipline, they are strongly encouraged to minor in chemistry and select CHEM 311-313, 312-314, 321, and 322. If students select the physical subdiscipline, they are strongly encouraged to minor in applied mathematics and select MATH 312, 316, 317, and 401.

Geology Emphasis

The geology emphasis is designed for students with a wide range of professional goals in the sciences, engineering, business, and the arts. Students considering graduate work or employment in pure and applied fields of geology, including environmental geology, geological oceanography, hydrogeology, geophysics, and geochemistry, should build their backgrounds to support certification as a professional geologist (see later information). Students with a strong interest in geological applications of geographic information systems (GIS) and remote sensing tools should consider the geology emphasis with a minor in geography; the certificate program in spatial analysis of coastal environments (see later description) also emphasizes this area of study.

Earth Science Education Emphasis

The earth science education endorsement option is designed for students preparing to teach earth science in secondary schools. This program meets the requirements for teacher licensure in Virginia.

Requirements for all Emphasis Areas

<table>
<thead>
<tr>
<th>LOWER DIVISION GENERAL EDUCATION</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication (satisfied by OEAS 442)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (requires MATH 211)</td>
<td>4</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skill (requires CS 149D or higher; satisfied by ECT 304 for earth science education track)</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives – GEN 101 (NewPAGE)*</td>
<td>3</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology (CHEM 115N-116N required)</td>
<td>8</td>
</tr>
<tr>
<td>Additionally, 3-4 credit hours of natural science and technology are met in the major.</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in ocean and earth science may substitute GEN 101 for a course in the fine and performing arts, literature, philosophy or social science perspective areas.
Students must select one of the following options:

Course Requirements – Biological Oceanography Emphasis

- BIOL 115N-116N General Biology I-II 8
- CHEM 115N-116N Foundations of Chemistry (satisfies natural science perspective) 8
- CS 149D Elements of Computer Science (satisfies computer skills requirement) 3
- OEAS 111N Physical Geography 4
- MATH 211-212 Intro Calculus 8
- OEAS 306 Oceanography 3
- PHYS 231N-232N University Physics 8
- STAT 330 Intro to Probability and Statistics 3
- OEAS 310 Global Earth Systems 3
- OEAS 440 Biological Oceanography Lecture/Lab 4
- BIOL 292 Evolution 3
- BIOL 415 Marine Ecology 3
- CHEM 311, 312, 313 Organic Chemistry Lecture and Lab 8
- CHEM 445 Biochemistry 3
- OEAS 403W Aquatic Pollution 3
- Elective (from OEAS 404, 410, 412, 414, 420) 6
- STAT 310W 3

OEAS 441-442 Ocean and Earth Science Field Study I-II (OEAS 442 satisfies oral communication requirement) 6

Course Requirements – Chemical Oceanography Emphasis

- BIOL 115N-116N General Biology I-II 8
- CHEM 115N-116N Foundations of Chemistry (satisfies natural science perspective) 8
- CS 149D Elements of Computer Science (satisfies computer skills requirement) 3
- OEAS 111N Physical Geography 4
- MATH 211-212 Intro Calculus 8
- OEAS 306 Oceanography 3
- PHYS 231N-232N University Physics 8
- STAT 330 Intro to Probability and Statistics 3
- OEAS 310 Global Earth Systems 3
- OEAS 410 Chemical Oceanography Lecture/Lab 4
- CHEM 311/313 Organic Chemistry Lecture 6
- CHEM 322 Experimental Physical Chemistry or 452 Inorganic Chemistry Laboratory 2
- CHEM 451 Advanced Inorganic Chemistry 3
- OEAS 403W Aquatic Pollution 3
- Elective (from OEAS 412, 413, 418) 3

OEAS 441-442 Ocean and Earth Science Field Study I-II (OEAS 442 satisfies oral communication requirement) 6

Course Requirements – Physical Oceanography Emphasis

- BIOL 115N-116N General Biology I-II 8
- CHEM 115N-116N Foundations of Chemistry (satisfies natural science perspective) 8
- CS 149D Elements of Computer Science (satisfies computer skills requirement) 3
- OEAS 111N Physical Geography 4
- MATH 211-212 Intro Calculus 8
- OEAS 306 Oceanography 3
- PHYS 231N-232N University Physics 8
- STAT 330 Intro to Probability and Statistics 3
- OEAS 310 Global Earth Systems 3
- OEAS 410 Chemical Oceanography Lecture/Lab 4
- CHEM 311/313 Organic Chemistry Lecture 6
- CHEM 322 Experimental Physical Chemistry or 452 Inorganic Chemistry Laboratory 2
- CHEM 451 Advanced Inorganic Chemistry 3
- OEAS 403W Aquatic Pollution 3
- Elective (from OEAS 412, 413, 418) 3

OEAS 441-442 Ocean and Earth Science Field Study I-II (OEAS 442 satisfies oral communication requirement) 6

Course Requirements – Earth Science Education Emphasis

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.odu.edu. 

**Admission.** Students wanting to be admitted to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than C- in the content area and the professional education core and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file in the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses on developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

**Continuation.** Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and the professional education core with no grade less than a C- for continuation in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must earn passing scores on the appropriate PRAXIS II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website at education.odu.edu or the Office of Teacher Education Services and Advising, Education 152. The PRAXIS II Earth Science Content Examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major and professional education core; and completion of a minimum of 126 hours. The curriculum is as follows:

- BIOL 115N General Biology I 4
- CHEM 115N-116N Foundations of Chemistry (satisfies natural science perspective) 8
- MATH 211 Calculus 4
- STAT 310W Intro to Data Analysis or STAT 330 Intro to Probability and Statistics 3
- PHYS 111N-112N Intro General Physics 8
- OEAS 111N Physical Geography 4
- OEAS 312N Historical Geology 4
- OEAS 306 Oceanography 3
- OEAS 310 Global Earth Systems 3
- OEAS 303 Palaeontology 3
- OEAS 313 Mineralogy 3
- OEAS 314 Petrology 4
- OEAS 344W Geomorphology 3

**Course Requirements – Geology Emphasis**

- BIOL 115N General Biology I 4
- BIOL 116N General Biology II or OEAS 303 Paleontology 3-4
- CHEM 115N-116N Foundations of Chemistry

**Course Requirements – Metallogeny Emphasis**

- BIOL 115N General Biology I 4
Requirements for a minor in geology are a minimum of 12 credit hours at the 300 and 400 levels in ocean and earth sciences with the chair’s approval. OEAS 110N-112N or 111N-112N are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Students who are majoring in ocean and earth sciences cannot minor in geology. Students in other majors may select only one minor from the Department of Ocean, Earth and Atmospheric Sciences.

Minor in Oceanography

R.E. Johnson, Minor Advisor

Juniors and seniors who are declared majors in biology, chemistry, computer science, geology, engineering, mathematics, or physics are eligible to enter the minor in oceanography program. Students with majors in other disciplines should consult the minor advisor before applying to the program. Applicants for the oceanography minor must have already declared their major and have a minimum GPA of 2.00. Twelve hours of ocean and earth sciences courses at the junior/senior level are required to complete the minor. The minor curriculum consists of OEAS 306 and a choice of three additional OEAS courses that can be selected in consultation with, and approval by, the minor advisor. For completion of the minor a student must also have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University.

Students who are majoring in ocean and earth sciences cannot minor in oceanography. Students in other majors may select only one minor from the Department of Ocean, Earth and Atmospheric Sciences.

Certificate in Spatial Analysis of Coastal Environments (Undergraduate and Graduate)

The certificate in spatial analysis of coastal environments provides an interdisciplinary program for students wishing to pursue careers in coastal management or research, remote sensing, or geographic information systems (GIS) applications. Rendered upon completion of the requirements, the certificate is an academic affidavit comprised of courses in geography and ocean and earth science and is administered by the two departments. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to postgraduate professionals who meet the requirements. Students with comparable professional experience may be able to show competence in selected courses through examination.

Students seeking undergraduate certification complete the 400-level courses, and those seeking graduate certification complete the 500-level courses.

I. Core Courses: GEOG 404/504 and OEAS 414/514 (six credits)

II. Interpretive Analysis Courses: Select two three-credit courses from the following: GEOG 402/502, OEAS 436/536, GEOG 422/522, GEOG 490/590, OEAS 495/595, or GEOG 495/595 (six credits)

III. Capstone Seminar: GEOG/OEAS 419/519 (three credits)

PHYSICS

Gail E. Dodge, Chair
Charles I. Sukinen, Chief Departmental Advisor

Bachelor of Science—Physics Major

The Department of Physics offers a major in physics with three program tracks leading to the B. S. degree and the B. S. degree with honors.

1. Track A (Research) is designed primarily for students preparing to do graduate study in physics and related fields or for students preparing to work professionally upon completion of the B. S. degree in various technical fields requiring the strongest preparation in physics.

2. Track B (Professional) is designed for students who wish to create a specialized program of study which combines a strong foundation in physics with strong preparation in another field. Such other fields include engineering, medicine, computer science, business, and communications, to name a few.

| PHYS 408 | Astronomy for Teachers | 3 |
| OEAS 441-442 | Ocean and Earth Science Field Study I-II (OEAS 442 satisfies oral communication requirement) | 6 |

Professional Education Courses

| ECI 301 | Social Cultural Foundations of Education | 3 |
| ECI 304 | Educational Applications of Computers (satisfies computer skills requirement) | 3 |
| ECI 360 | Classroom Management and Discipline | 2 |
| ECI 408 | Reading and Writing in Content Areas | 3 |
| ECI 454 | Developing Instructional Strategies; Science | 4 |
| ECI 485 | Student Teaching | 12 |
| ESSE 406 | Students w/Diverse Learning Needs--General Ed Class | 3 |
| ESSE 413 | Fundamentals-Human Growth and Development | 3 |

UPPER DIVISION GENERAL EDUCATION

Completion of the professional education courses for earth science majors satisfies this requirement.

Option A. Approved minor 12-24 hours; also second degree or second major.

Students completing an oceanography emphasis should see the information in the emphasis areas encouraging them to complete specific minor requirements.

Option B. Cluster, 9 hours.

Requirements for graduation in all options listed above except earth science education include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Requirements for earth science are noted under course requirements for earth science education earlier in this section.

Practicum Experiences

Students majoring in ocean and earth science have the chance to participate in a practicum—a hands-on course-length experience that closely ties their classroom learning with “real life.” All students must complete OEAS 441/442, Field Study, Earth science education track students must complete ECI 485 which places them in science classrooms in secondary schools. All students may complete an internship (OEAS 368) with a municipal, state, or federal government agency, a non-governmental organization, or a business. In addition, Honors students may develop a senior research project in OEAS 487.

Honors Program in Ocean and Earth Science

Students admitted by the faculty to the ocean and earth science honors program engage in supervised individual study in areas of their interest. Honors students must complete all courses required by the department with a minimum grade point average of 3.50 and a total of at least three credits in OEAS 487, 488 or 497.

Professional Geologist Certification

Ocean and earth science graduates who work for several years as geologists and then pass a national standardized test can be certified as a Professional Geologist by the Commonwealth of Virginia or other states. The standardized tests commonly cover the following topics (listed in order of emphasis on the test): Research, Field Methods, and Communications; Structural Geology; Hydrogeology; Sedimentology/Stratigraphy; Petrology; Geomorphology; Engineering Geology; Mineralogy; Geophysics; Paleontology; Geochemistry; Mining Geology; and Petroleum Geology.

Credit by Examination

Students with prior training or experience may receive credit for three hours of OEAS 111N by passing the DANTES Physical Geology exam. Both tests are administered by the Testing Center. Because OEAS 111N is a four credit course students must also complete a physical geology laboratory course (one credit) in order to use this advanced placement credit. Interested students should contact the program director of geological sciences about this course. Students may also refer to the Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog.

Minor in Geology

R.E. Johnson, Advisor
3. **Track C (Education)** is designed for students who are preparing to be high school physics teachers. This curriculum provides a solid foundation in both contemporary physics and in education pedagogy.

**Degree requirements** are comprised of three components: 1) lower-level general education requirements, 2) departmental requirements, and 3) upper-level general education requirements. Some departmental requirements also satisfy upper- or lower-level general education requirements. Students earning the A.S., A.A., or A.A.S. (university parallel) degree from a Virginia Community College or Richard Bland College automatically satisfy the lower-level general education requirements. For Tracks A and B, the upper-level general education requirement can be satisfied by any University-approved second major, minor, or cluster. For Track C, the upper-level general education requirement is satisfied by the Secondary Education Endorsement.

**Graduation requirements** for all tracks include completion of a minimum of 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of the Physics Exit Exam and Senior Assessment. Additional hours may be required to meet the foreign language requirement. All tracks require a minimum grade of C in PHYS 231N-232N. Tracks A and B require a minimum cumulative grade point average of 2.00 overall and in the major. Track C requires a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major, minor, and professional education core. The professional education core satisfies the upper-level general education requirement.

**Math Minor:** Physics majors in Tracks A or B wishing to complete a minor in Applied Mathematics can do so with just two additional math courses [provided credit has been received for MATH 307 (not 280) and MATH 312 (not 285)]. The applied mathematics minor consists of MATH 307, 312, 317, and two courses chosen from MATH 316, 401, 408, 417, 420, 421, 422, 424, 427, 428, 457, or approved topics courses.

### Lower Level General Education Requirements

**A. Skills**

<table>
<thead>
<tr>
<th>Composition–6 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 110C</td>
</tr>
<tr>
<td>ENGL 111C or ENGL 131C</td>
</tr>
</tbody>
</table>

**Oval Communication–3 credits**

Satisfied by Physics 499W

**Mathematics–3 credits**

Satisfied by Major

**Foreign Language Skills–0-6 credits**

B.S. students’ competence must be at the 102 level. High School credit may satisfy requirement.

**Computer Skills–3 credits**

Satisfied by Major

**B. Perspectives**

**Fine and Performing Arts–3 credits**

One of ARTH 121A, ARTS 122A, COMM/THIA 270A, DANC 185A, MUSC 264A, THEA 241A

**History–6 credits**

Two of HIST 101H, 102H, 103H, 104H, 105H

**Literature–3 credits**

One of ENGL 112L, 144L, FLET 100L

**Philosophy–3 credits**

One of PHIL 110P, 120P, 150P

**Natural Science and Technology–11 to 12 credits**

Satisfied by Major

**Social Science–6 credits**

Social Science I

Social Science II or GEN 101 NewPAGE


--Social Sciences I and II must be two separate disciplines (if two social science courses are required instead of GEN 101).

### Departmental Requirements for Research Track (A)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MATH 212</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MATH 312 (285)</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MATH 307 (280)</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>MATH 316 or 401 or 421 or 422</td>
<td></td>
</tr>
<tr>
<td>CHEM 115N</td>
<td>Foundations of Chemistry I</td>
</tr>
<tr>
<td>CHEM 116N</td>
<td>Foundations of Chemistry II</td>
</tr>
<tr>
<td>CS 150</td>
<td>Intro to Programming</td>
</tr>
<tr>
<td>PHYS 231N</td>
<td>University Physics I</td>
</tr>
<tr>
<td>PHYS 232N</td>
<td>University Physics II</td>
</tr>
<tr>
<td>PHYS 323</td>
<td>Modern Physics</td>
</tr>
<tr>
<td>PHYS 319</td>
<td>Analytical Mechanics</td>
</tr>
<tr>
<td>PHYS 320</td>
<td>Electricity &amp; Magnetism</td>
</tr>
<tr>
<td>PHYS 352</td>
<td>Intro to Quantum Mechanics</td>
</tr>
<tr>
<td>PHYS 303 or 403</td>
<td>Laboratory</td>
</tr>
<tr>
<td>PHYS 413</td>
<td>Methods of Exp Physics</td>
</tr>
<tr>
<td>PHYS 404 or 414 or 420</td>
<td></td>
</tr>
<tr>
<td>PHYS 453</td>
<td>Radiation &amp; Optics</td>
</tr>
<tr>
<td>PHYS 454</td>
<td>Thermal Physics</td>
</tr>
<tr>
<td>PHYS 456</td>
<td>Intern Quantum Mechanics</td>
</tr>
<tr>
<td>PHYS 499W</td>
<td>Senior Thesis</td>
</tr>
<tr>
<td>PHYS 120 or 309</td>
<td>Seminar</td>
</tr>
</tbody>
</table>

Two of: PHYS 313, 350, 411, 415, 416

with at least three credits at the 400-level

### Bachelor of Science—Physics Major with Teacher Education Licensure

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at education.virginia.edu.

**Admission.** Students seeking admission to the teacher education program must have a 2.75 grade point average in the major, the professional education core and overall, with no grade less than a C- in the content area and the professional education core, and have passed PRAXIS I or achieved State Board of Education-approved SAT or ACT scores. Although students may enroll in a limited number of education courses, passing PRAXIS I scores or approved equivalent test scores must be on file with the Office of Teacher Education Services and Advising prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the PRAXIS I exam prior to, or during, enrollment in ECI 301.

**Continuance.** Students must maintain an overall grade point average of 2.75 and 2.75 in the academic major and the professional education core and complete all degree requirements for the major and in the professional education core with no grade less than a C- for continuance in the College of Education. In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate PRAXIS II specialty area tests. A list of the passing scores established by the Virginia Department of Education is available on the Virginia Department of Education website or the Office of Teacher Education Services and Advising, Education 152. The PRAXIS I Physics Content examination must be passed before the candidate may begin the teacher internship. Passing PRAXIS II scores must be on file in the Office of Teacher Education Services and Advising prior to student teaching.

The curriculum is as follows:
Departmental Requirements for Education Track (C)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>4</td>
</tr>
<tr>
<td>MATH 212</td>
<td>4</td>
</tr>
<tr>
<td>MATH 307 (280)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 115N</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 116N</td>
<td>4</td>
</tr>
<tr>
<td>CS 150</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 103N</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 231N</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 232N</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 319</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 320</td>
<td>3</td>
</tr>
<tr>
<td>Approved Physics Elective, 300 and above</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 303 or 403</td>
<td>Laboratory</td>
</tr>
<tr>
<td>PHYS 120 or 309</td>
<td>Seminar</td>
</tr>
<tr>
<td>PHYS 413</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 499W</td>
<td>3</td>
</tr>
<tr>
<td>ECI 301</td>
<td>3</td>
</tr>
<tr>
<td>ECI 304</td>
<td>3</td>
</tr>
<tr>
<td>ECI 360</td>
<td>2</td>
</tr>
<tr>
<td>ESSE 406</td>
<td>3</td>
</tr>
<tr>
<td>ECI 408</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 413</td>
<td>3</td>
</tr>
<tr>
<td>ECI 454</td>
<td>3</td>
</tr>
<tr>
<td>ECI 485</td>
<td>12</td>
</tr>
</tbody>
</table>

Professional Education Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Cultural Foundations</td>
<td>3</td>
</tr>
<tr>
<td>Educational Applications of Computers</td>
<td>3</td>
</tr>
<tr>
<td>Management &amp; Discipline</td>
<td>2</td>
</tr>
<tr>
<td>Students with Diverse Learning Needs</td>
<td>3</td>
</tr>
<tr>
<td>Reading &amp; Writing</td>
<td>3</td>
</tr>
<tr>
<td>Human Development</td>
<td>3</td>
</tr>
<tr>
<td>Science Teaching</td>
<td>3</td>
</tr>
<tr>
<td>Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

Senior Thesis: An important feature of all tracks is the Senior Thesis, which is based on individual research done under the supervision of a faculty advisor. The Senior Thesis is a capstone experience which gives a student the opportunity to apply knowledge and skills acquired in the classroom to real-life research problems in physics. This research can be done either in on-campus laboratories and facilities or at other scientific institutions in the region where departmental faculty members perform research, such as the Thomas Jefferson National Accelerator Facility (including the Applied Research Center) or the Langley Research Center of NASA. On completion of the project, the student must prepare a written final report and make an oral presentation of the results to the department.

Minor in Physics

PHYS 231N-232N must be completed as prerequisites for the minor in physics and are not included in the calculation of the grade point average for the minor. The minor in physics requires completion of PHYS 319, 320, and six additional credits of 300-level or 400-level physics (PHYS) courses, with an overall cumulative grade point average of 2.00 or better in these courses exclusive of 100/200 level courses and prerequisite courses. Students must complete a minimum of six credit hours of 300-level or 400-level PHYS courses in the minor requirement through courses offered by Old Dominion University. Up to three credits can be in Independent Study courses, with approval of the chief departmental advisor. Any substitutions must be approved in writing by the chief departmental advisor.

B. S. Degree with Honors

Qualified students may receive the B.S. degree with honors (to be noted on their diplomas) by completing specified additional requirements. At the time of application for this designation, a student must have a GPA of 3.50 or higher in physics, a GPA of 3.25 or higher overall, must have completed two contract honors courses, and must have completed 60 credit hours (of which at least 54 must be in grade-point graded courses) at Old Dominion University. Contract honors courses are specialized courses of individual study under the direct supervision of a professor. Permission to take these courses is granted jointly by the Department of Physics and the Honors College.

Advanced Placement

Advanced placement credit for the lecture portion of PHYS 111N-112N (three credits each, for a total of six credits) may be received for a score of 3, 4, or 5 on the Physics B examination, and advanced placement credit for the lecture portion of PHYS 231N (three credits) may be received for a score of 4 or 5 on the Physics C examination, each administered by the Advanced Placement Program of the College Board. Credit for the laboratory portions of these courses can be earned by completing PHYS 113 or 114, registration for which requires permission of the chief departmental advisor.

Advanced placement credit for courses other than PHYS 111N-112N and PHYS 231N may be received on the basis of examinations administered by the Department of Physics. Permission to take such an examination must be obtained from the chief departmental advisor. Students may also refer to the Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog.

Clifford L. and Lillian R. Adams Scholarship

The Department of Physics selects one or more students each year to receive the Clifford L. and Lillian R. Adams Scholarship. The recipient must be a declared physics major and may be an entering freshman, a transfer student, or a continuing student. Selection is based on a student’s academic record, relevant test scores, and recommendations. The award is renewable.

PSYCHOLOGY

Janis V. Sanchez-Huces, Chair
Jennifer Younkin, Chief Departmental Advisor

Bachelor of Science—Psychology Major

A student who intends to major in psychology must attend a Declaration Session in the Department of Psychology. (Students who attend Preview and meet with the Psychology Department advisor may declare psychology as their major at that time.) Students are advised by the chief departmental advisor until they have accumulated 60 credit hours. Once students accumulate 60 credit hours, they are assigned an individual faculty advisor within their interest area of psychology. Students should visit the Undergraduate Program Office (MGB 246) for information about the major and advising schedules. If the office is closed students may refer to the bulletin board across from MGB 246 or visit the Psychology Department web page at http://sci.odu.edu/psychology/.

LOWER DIVISION GENERAL EDUCATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (STAT 130M or higher; MATH 162M or higher may be substituted)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-6</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>3</td>
</tr>
<tr>
<td>Foundation to Perspectives - GEN 101 (NewPAGE)*</td>
<td>11-12</td>
</tr>
<tr>
<td>Fine and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science and Technology</td>
<td>11-12</td>
</tr>
<tr>
<td>Eight credit hours of Natural Science or Technology are required.</td>
<td></td>
</tr>
<tr>
<td>Social Science (PSYC 201S and 203S may not be used to satisfy this requirement)</td>
<td>6</td>
</tr>
</tbody>
</table>

*Students majoring in psychology may substitute GEN 101 for a course in the social science perspective or the third course in the natural science and technology perspective.

Departmental Requirements for the Major in Psychology (38 hours)

A grade of C- or better is required in all psychology courses counted towards the major.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 201S</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 317</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 318W</td>
<td>4</td>
</tr>
<tr>
<td>Students must take at least one course from Area I:</td>
<td></td>
</tr>
<tr>
<td>Area I (Foundation Courses) PSYC 410, 413, 414, 424, or 430</td>
<td>3</td>
</tr>
<tr>
<td>Students must also select at least one course from three different areas of the other five areas (Areas II, III, IV, V, VI):</td>
<td></td>
</tr>
<tr>
<td>Area II (Developmental) PSYC 321, 322, 334, 351, 352, or 353</td>
<td>9</td>
</tr>
<tr>
<td>Area III (Social/Personality) PSYC 304, 305, 363, or 408</td>
<td></td>
</tr>
<tr>
<td>Area IV (Clinical) PSYC 306, 325, 405, 412, or 461</td>
<td></td>
</tr>
<tr>
<td>Area V (Cultural Context) PSYC 311, 323, 403, 420, 432, or 463</td>
<td></td>
</tr>
<tr>
<td>Area VI (Industrial/Organizational) PSYC 303, 343, 344, or 345</td>
<td></td>
</tr>
<tr>
<td>PSYC electives</td>
<td>15</td>
</tr>
<tr>
<td>Total (minimum)</td>
<td>38</td>
</tr>
</tbody>
</table>

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Additional Information for Students with Interest in Clinical or Industrial/Organizational Psychology

Clinical Psychology. The undergraduate interest area in clinical psychology was designed for students who wish to develop cognitive and behavioral competencies at the bachelor’s level of mental health specialization. The suggested curriculum, in addition to the requirements for the psychology major, includes:

- PSYC 203S, 304, 321, or 322 3
- PSYC 369 Practicum in Clinical Psychology 3
- PSYC 371 Clinical Supervision in Psychology 1
- PSYC 405 Abnormal Psychology 3
- PSYC 408 Theories of Personality 3
- PSYC 412 Psychological Tests 3

Industrial/Organizational Psychology. The undergraduate interest area in industrial/organizational psychology is designed for psychology majors who have a special interest in industrial, engineering, and organizational psychology. The suggested curriculum, in addition to the general requirements for the psychology major, includes:

- PSYC 303 Industrial/Organizational Psychology 3
- PSYC 343 Personnel Psychology 3
- PSYC 344 Human Factors 3
- PSYC 345 Organizational Psychology 3

UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.
Option B. Cluster, 9 hours (3 hours may be in the major area of study.) Seven clusters include at least one psychology course. See the section of this Catalog on Requirements for Undergraduate Degrees for approved clusters.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

B.S./M.B.A. Program

Students interested in pursuing a Master of Business Administration (M.B.A.) advanced degree can earn such a degree in conjunction with a B.S. in psychology. The combined program requires five years. Students should contact the department’s Undergraduate Program Office (MGB 246) for more details about this program and entrance requirements.

Minor in Psychology

PSYC 201S must be completed as a prerequisite for the minor in psychology and is not included in the calculation of the grade point average for the minor. The minor in psychology requires at least one course from Area I and at least one course from three different areas of the other five areas (Areas II, III, IV, V, VI). Refer to the previous section on required psychology courses for a listing of the courses in each area. PSYC 201S is a prerequisite for most 300- and 400-level psychology courses. Additional prerequisite courses may also be required. A student must earn a minimum overall cumulative grade point average of 2.00 in all psychology courses required for the minor exclusive of 200-level courses and prerequisite courses. A minimum of six hours in the minor must be taken through courses offered by Old Dominion University. Courses in the minor may not be taken on a Pass/Fail basis.

Honors Program in Psychology

Qualified undergraduate psychology majors have the opportunity to participate in the Honors Program in Psychology (program chair: Dr. Thomas F. Cash). Students who complete the program and also meet the University’s standards for graduation with honors (see description in this Catalog) may earn the designation of departmental honors on their diplomas. This program is a three-course sequence that involves working on a research project under the supervision of a psychology faculty member.

In the junior year, interested students should discuss their interests with a psychology faculty member who agrees to serve as the research supervisor for PSYC 497 (Supervised Research). In PSYC 497 (see prerequisites under course listing), the student gains research experience and develops a research proposal. In addition to meeting regularly with the faculty supervisor, the student attends and participates in a required seminar for the course.

The following semester, the student applies for admission to the Honors Program in Psychology and, if requirements are met (see below), enrolls in PSYC 487 (Honors I). In this course, the student finalizes the proposal, presents it to the Psychology Honors Program committee, secures research ethics approval, and begins the thesis research. The student continues to work with the faculty supervisor and participates in the course seminar.

In the third semester, the student enrolls in PSYC 488 (Honors II), participates in the seminar, completes the research and thesis, and presents it to the Psychology Honors Program committee for approval.

Eligibility for the Honors Program in Psychology includes:

- Completion of PSYC 317, 318W, and 497
- At least 23 hours earned in psychology
- A 3.50 GPA in the psychology major (with no grades of “Incomplete”)
- A 3.25 cumulative GPA

Psychology Awards

The Alan L. Chaikin Psychology Honors Thesis Award is given each year to a student in the Department of Psychology for the outstanding honors thesis.

The Elizabeth C. Guy Outstanding Psychology Service Award is given each year to the student selected by the faculty who has contributed significant service to the department or field of psychology. Service is primarily defined as participation in departmental, University, community, or professional organizations. However, other qualifications, such as research activity, may be considered. Eligible students must have a minimum overall grade point average of 3.0 and 18 credits in psychology at Old Dominion University.

The Elizabeth C. Guy Outstanding Psychology Academic Award is given each year to the graduating senior with the highest overall grade point average. To be eligible, a student will have completed a minimum of 60 hours at Old Dominion University by graduation. Further, the student will have completed a minimum of 18 psychology credits at Old Dominion University. In the case where two or more students meet the criteria and have identical GPAs, the student with the highest number of credit hours earned at Old Dominion University will receive the award.

Advanced Placement

The Department of Psychology offers course credit for PSYC 201S and PSYC 205S through testing procedures or Advanced Placement credit from the College Board exam. Students may also earn credit for some courses via experiential learning options. Interested students should visit the Undergraduate Program office (MGB 246) for more information.
Courses of Instruction

Courses in which the leading number is zero, e.g. 050, are nondegree noncredit courses primarily in developmental studies.

Courses numbered 100 are primarily for freshmen, 200 for sophomores, 300 for juniors, 400 for seniors. 500-, 600-, 700-, and 800-level courses are exclusively for graduate credit.

Courses at the 500 level are available for graduate credit only and correspond to undergraduate 400-level courses. However, a different grading scale is used for 500-level registrants and additional and higher quality work is required.

General education courses are designated by the fourth digit in the course number. At the lower division, the following designations are used: for Skills courses, C=Composition, D=Computing, F=Foreign Language, M=Mathematics, and R=Oral Communication; for Perspectives courses, A=Fine and Performing Arts, H=History, K=Natural Science (beyond the eight-credit "N" sequence) L=Literature, P=Philosophy, N=Natural Science, S=Social Science, and T=Technology. Writing intensive courses are designated by a W in the fourth digit.

Many of the courses listed indicate the semester the course will be offered. Every attempt will be made to offer the courses in the semester(s) indicated. However, this may not always be possible.

The University reserves the right to withdraw any course for which there is insufficient registration.

Course Prefixes

Accounting-ACCT
Aerospace Engineering-AE
African-American Studies-AAST
American Studies-AMST
Anthropology-ANTR
Arabic-ARAB
Art History-ARTH
Studio Art-ARTS
Arts & Letters-AL
Asian Studies-ASIA
Biological Sciences-BIOL
Biomedical Sciences-BMID
Business Administration-BUSN
Chemistry and Biochemistry-CHEM
Chinese-CHIN
Civil and Environmental Engineering-CEE
Civil Engineering-Technology-CET
Communication-COMM
Community College Leadership-CCL
Community Health Professions-CHP
Computer Science-CS
Counseling-COUN
Criminal Justice-CRJS
Cytotechnology-CYTO
Dance-DANC
Decision Sciences-DSCI
Dental Hygiene-DNTH
Early Childhood, Speech Language Pathology and Special Education-ESSE
Economics-ECON
Educational Curriculum & Instruction-ECI
Educational Leadership & Services-ELS
Electrical and Computer Engineering-ECE
Electrical Engineering Technology-EET
Engineering-ENGN
Engineering Management-ENMA
English-ENGL
Environmental Health-ENVH
Exercise Science-EXSC
Exercise Science, Sport, Physical Education and Recreation-ESPR
Filipino-American Studies-FAST
Finance-FIN
Foreign Languages-FL
Foreign Literature in English Translation-FLET
French-FR
General Education-GEN
Geography-GEOG
German-GER
Graduate-GRAD
Health-HLTH
Health Education-HE
Health & Physical Education-HPE
Health Sciences-HLSC
Hebrew-HEBR
Higher Education-HIED
History-HIST
Honors-HNRS
Human Services-HMSV
Humanities-HUM
Information Technology-IT
Instructional Design and Technology-IDT
Interdisciplinary Studies-IDS
International Business-INBU
International Studies-IS
Italian-ITAL
Japanese-IAPN
Jewish Studies-JST
Latin-LATN
Management-MGMT
Maritime, Ports and Logistics Management-PORT
Maritime and Supply Chain Management-MSCM
Marketing-MKTG
Master of Business Administration-MBA

Master of Public Health-MPH
Mathematics-MATH
Mechanical Engineering-ME
Mechanical Engineering Technology-MET
Medical Technology-MEDT
Middle Eastern Studies-MIDE
Military Science and Leadership-MSL
Modeling and Simulation-MSIM
Music-MUSIC
Applied Music-MUS
Naval Science-NAVS
Nuclear Medicine Technology-NMED
Nurse Anesthesia-NURA
Nursing-NURS
Occupational and Technical Education-OTED
Occupational and Technical Studies-OTS
Ocean, Earth and Atmospheric Sciences-OEAS
Operations Management-OPMT
Ophthalmic Science-OPHS
Philosophy-PHIL
Physical Education-PE
Physical Therapy-PT
Physics-PHYS
Political Science-POLS
Portuguese-PRTG
Psychology-PSYC
Psychology-Master-PSYD
Public Administration-PADM
Public Administration and Urban Policy-PAUP
Recreation and Tourism Studies-RTS
Religious Studies-REL
Russian-RUS
Sciences-SCI
Sociology-SOC
Spanish-SPLAN
Sport Management-SMG
Statistics-STAT
Taxation-TAX
Theatre-THEA
Urban Studies-URBN
Women’s Studies-WMST

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Accounting—ACCT

201-202. Principles of Accounting. 201 or 226 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Elementary accounting concepts and procedures used in the preparation of financial statements for sole proprietorships, partnerships, and corporations; statement analysis; operational accounting; and use of accounting data for special-purpose decision making.

226-227. Honors: Principles of Accounting. Open only to students in the Honors College. Prerequisite: ACCT 226 is prerequisite to 227. Special honors sections of ACCT 201-202. Elementary accounting concepts and procedures used in the preparation of financial statements for sole proprietorships, partnerships, and corporations; financial statement analysis; operational accounting; and use of accounting data for special-purpose decision making.

301-302. Intermediate Accounting. Lecture 3 hours; 3 credits each semester. Prerequisites: ACCT 201-202 or 226-227, ACCT 301 with a C or better is prerequisite to 302. Students must have a C or better in ACCT 301 to proceed to upper level accounting courses. All students must have a C- or better in ACCT 302 to graduate with a concentration in accounting. Preparation of financial statements and other reports in accordance with prevailing accounting standards established by the accounting profession.

311. Managerial Accounting. Lecture 3 hours; 3 credits. Prerequisites: ACCT 201-202 or 226-227, DSCI 206. Students must have a C- or better in ACCT 311 to graduate with a concentration in accounting. This course focuses on recording and allocating costs within traditional managerial accounting systems. Common and joint cost allocations are performed under job order, process and standard costing systems. Income models are developed for exploring cost-volume-profit relationships.

317. Accounting Information Systems. Lecture, individual and group projects, and discussion 3 hours; 3 credits. Prerequisite: ACCT 201-202 or 226-227, DSCI 206. Students must have a C- or better in ACCT 317 to graduate with a concentration in accounting. This course focuses on recording and allocating costs within traditional managerial accounting systems. Common and joint cost allocations are performed under job order, process and standard costing systems. Income models are developed for exploring cost-volume-profit relationships.

405/505. Auditing and Accounting in the Public/Nonprofit Sector. Lecture 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227 or ACCT 601, senior standing or permission of the chief departmental advisor. Students must have a C- or better in ACCT 405 to graduate with a concentration in accounting. The application of accounting principles to governmental funds and not-for-profit organizations. Emphasis is placed on budgeting and control as well as auditing concerns for such entities.

411/511. Financial Auditing. Lecture, case studies and discussion 3 hours; 3 credits. Corequisite: ACCT 302. Prerequisites: ACCT 301 with a C or better, senior standing or permission of the chief departmental advisor. Students must have a C- or better in ACCT 411 to graduate with a concentration in accounting. Standards and ethics of the public accounting profession, generally accepted auditing standards, and public reporting are covered, as well as exposure to other types of auditing such as operational and compliance auditing.

421/521. Taxation. Lecture 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227 or ACCT 601, and junior standing or permission of the chief departmental advisor. Students must have a C- or better in ACCT 421 to graduate with a concentration in accounting. An analysis of federal income tax law and its application to personal and business tax situations. Reconciliation of tax and accounting concepts.

422/522. Federal Income Taxation of Individuals and Small Business Organizations. Lecture and wind tunnel experiments. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521. Students must have a C- or better in ACCT 422 to graduate with a concentration in accounting. An analysis of federal income tax laws and its application to individuals and business entities.

450/550. International and Advanced Accounting. Lecture 3 hours; 3 credits. Prerequisites: ACCT 301 with a C or better, ACCT 302 and senior standing or permission of the chief departmental advisor. Students must have a C- or better in ACCT 450 to graduate with a concentration in accounting. The study of accounting for international operations and business combinations.

460. Accounting Information Systems. Lecture 3 hours; 3 credits. Corequisite: ACCT 421. Prerequisites: ACCT 301 with a C or better, 302, 311, 421 and computer literacy course, or permission of the instructor. Students must have a C- or better in ACCT 460 to graduate with a concentration in accounting. The theoretical and practical approaches to the analysis, design, and implementation of manual and/or computerized accounting systems. Emphasis is placed on the investigation and documentation of internal controls, accounting cycle attributes, and auditing techniques for computer-based systems. Individual projects include comprehensive documentation of an accounting application and two case studies using a current financial accounting software package. The group project involves development of an accounting system for a specific application and design of a practical control system. The class qualifies as a CAP experience. Students will complete a comprehensive final examination on materials covered in ACCT 301, 302, 311, 421, and 460.

495. Selected Topics in Accounting. 1-3 credits. Prerequisites: ACCT 301 with a C or better or permission of the chief departmental advisor. Students must have a C- or better in ACCT 495 to graduate. Study designed for students desiring additional work in an area of particular interest in accounting. This course may not be substituted for any required accounting course.

Aerospace Engineering—AE

403/503. Flight Mechanics. Lecture 3 hours; 3 credits. Prerequisites: AE 406, ME 436. Aircraft concepts including performance prediction and optimization, flight and maneuver envelopes, and steady flight performance. Additional topics: longitudinal and lateral stability and control, advanced aircraft performance models; aircraft stability and dynamics; development, separation and solution of aircraft equations of motion; natural modes; dynamic stability; sensors and actuators; and design of stability augmentation and autopilot systems.

406/506. Flight Vehicle Aerodynamics. Lecture 3 hours; 3 credits. Prerequisites: AE 303, ME 312, 340. Inviscid flow concepts including: Euler equations, stream function, velocity potential, singularities, vorticity and circulation laws. Viscous flow topics including boundary layers, separation, and turbulent flow. In addition, external flows, lift and drag, thin airfoil theory, finite wing theory and airfoil design will be discussed.

407/507. Ground Vehicle Aerodynamics. Lecture 3 hours; 3 credits. Prerequisite: ME 303 or MET 330 or CEE 330. Review of basic fluid mechanics principles pertaining to the incompressible flow of air. Introduction to bluff body aerodynamics, production and control of aircraft and vehicle flows, lift and drag, and transitional turbulence for truck and bus aerodynamics. Discussion of experimental and computational methods for evaluating vehicle aerodynamic performance. Discussion of the optimization of high performance vehicle design for low drag and/or high downforce and the facilities and techniques required. Introduction to the aerodynamics of other surface vehicles such as sailboats and trains. Lecture and wind tunnel experiments.

417/517. Propulsion Systems. Lecture 3 hours; 3 credits. Prerequisite: ME 312 or 414. Basic principles of design, operation and performance of propulsion systems - including turbojet, turboprop, turbofan, and ramjet engines. Introduction to chemical rockets, ion and plasma thrusters.

420/520. Aerospace Structures. Lecture 3 hours; 3 credits. Prerequisite: ME 332. Analysis of aircraft and space vehicle structural components. Effects of bending, torsion and shear on typical aerospace structural components, statically indeterminate beams, shear center and shear flow. Introduction to typical aerospace structures. Introduction to composite structures.

438. Applied Analog and Digital Control. Lecture 3 hours; 3 credits. Prerequisite: ME 436, ECE 461 or equivalent. Computer-aided analysis and design of practical control systems.

AEROSPACE ENGINEERING COURSES 171
Introduction to state-space, digital signal processing and digital control. Laboratory sessions on aliasing, analog control, system identification, and real-time control.

440/540. Introduction to Space Systems Engineering. Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and PHYS 232N. Introduction to spacecraft systems starting from mission design and space environment considerations and proceeding through propulsion, altitude control, spacecraft structural design, thermal control, power and communications for spacecraft.

457/557. Motorsports Vehicle Dynamics. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: ME 205 and MATH 307. Basic mechanics governing vehicle dynamic performance. Analytical methods in vehicle dynamics. Laboratory consists of various vehicle dynamics tests on model vehicles and full-size racecars. (cross-listed with ME 407/507)

467/567. Racecar Performance. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: AE 407/507 and 457/557. On-track performance of typical racecars (Legends and Baby Grand) to demonstrate and evaluate the interplay between vehicle aerodynamics, suspension system geometry adjustments, tire selection and operating pressure on overall racecar performance and handling. Laboratory testing via on-board instrumentation during skid pad and road course evaluation; computer simulation to investigate various car set-ups.

472/572. Statistical Foundations for Experimenters. Lecture 3 hours; 3 credits. Prerequisite: MATH 311. Introduction to applied statistics for engineers and experimenters. Descriptive statistics for data analysis, introduction to probability, frequency distributions and sampling. Hypothesis testing and confidence intervals of one and two sample problems. ANOVA, one-factor experimental designs, fixed and random effects, multiple comparisons, correlation and regression analysis, control charts. Application to aerospace testing.

477/577. High Performance Piston Engines. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: ME 312, 315 or MET 300, 350. A study of the fundamental principles and performance characteristics of spark ignition and diesel internal combustion engines. Overview of engine types and their operation, engine design and operating parameters; ideal and semi-empirical models of engine cycles; combustion, fluid flow and thermal considerations in engine design and performance. Laboratory evaluation of engine performance using flow and diamometer systems. (cross-listed with MET 480)

492/592. Topics in Aerospace Engineering and Engineering Mechanics. 1-3 credits. Prerequisite: permission of the instructor. Special topics of interest with emphasis placed on recent developments in aerospace engineering or engineering mechanics.

497/597. Independent Study in Aerospace Engineering and Engineering Mechanics. 1-3 credits. Prerequisite: permission of the instructor. Individual analytical, computational, and/or experimental study in an area selected by student. Supervised and approved by the advisor.

American Studies—AMST

300. Perspectives in American Studies. Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C, HIST 104H or permission of instructor. An exploration of current methodological approaches utilized in the interdisciplinary field of American Studies. Through integrative themes that cut across time, place and cultural identity, this course will allow students to build a working definition of civilization in the United States. 300 hours; 3 credits. Prerequisite: ENGL 111C or 131C. Rotating course content in American Studies, with interdisciplinary focus. Course can be used to fulfill a requirement in the American Studies minor.

Anthropology—ANTR

Anthropology courses are taught by members of the Department of Sociology and Criminal Justice. 110S. Introduction to Anthropology. Lecture 3 hours; 3 credits. A survey of what we know about the emergence of humans: where we came from; how we developed physically and why; how human cultures became more complex through time; and the variety of human ways of life today.

226S. Honors: Human Origins and Ways of Life—An Introduction to Anthropology. Lecture 3 hours; 3 credits. A special Honors section of ANTR 110S. Open only to students in the Honors College.

300. Human Cultures Around the World. Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S. A cross-cultural examination of human economic, social and ideological behavior, with the aim of showing both human cultural diversity and the ways in which the various parts of culture (e.g., trade, marriage practices, witchcraft, etc.) go together to make coherent wholes.

303. Biological Anthropology. Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S. Human physical and cultural evolution from our earliest primate beginnings through the appearance of anatomically modern humans.

304. Digging Up the Past. Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S or completion of social science requirement or permission of the instructor. A comprehensive study of the philosophical and scientific foundations of archaeology and of a general prehistory to which they are applied. The course includes discussions of methods and theories used to reconstruct ancient Egypt and Mexico and other early cultures.

305. North American Archaeology. Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S, or completion of the social science requirement or permission of the instructor. The study of the prehistory of native cultures north of Mexico from the peopling of the New World to contact with Europeans.

306. North American Indians. Lecture 3 hours; 3 credits. Prerequisites: ANTR 110S or historical perspective, or permission of the instructor. A regional and a regional and cultural focus on American Indian cultures in North America at about the time of European contact, with an update on what has happened to these cultures since.

320. The Sexes in Cross-Cultural Perspective. Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S, completion of the social science perspective or permission of the instructor. An examination of the socialization and perpetuation of sex roles in different societies around the world. The course investigates issues of gender and sexuality throughout an individual’s life.

369. Practicum. 1-3 credits. Prerequisite: permission of the department. (qualifies as a CAP experience)

377/378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: Approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Available for pass/fail grading only.

395/495, 396/496. Topics in Anthropology. 1-3 credits each semester. Prerequisite: ANTR 110S or permission of instructor. A study of selected topics, designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

495/595, 496/596. Topics in Anthropology. 1-3 credits each semester. Prerequisite: senior standing or approval of the department chair. A study of selected topics designed for either majors or nonmajors. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

497/597, 498/598. Tutorial Work in Special Topics in Anthropology. 3 credits each semester. Prerequisites: senior standing and approval of department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Art

1. Studio Art Courses—ARTS

122A. Visual Communication. Lecture 1 hour; studio 5 hours; 3 credits. An introduction to essential themes and means of visual communication in the fine arts with an emphasis
271. Graphic Design I. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202, 231, and 279. Pre- or corequisite: ARTS 304. This course is intended for art majors and art minors only. Students must be approved by the instructor or the chief departmental advisor. An introduction to graphic theory, principles, and methods. This includes a study of the basic characteristics of letter forms, compositional principles, and visual communication with sign, symbol, and image.

279. Fundamentals of Digital Art. Lecture 1 hour; laboratory 5 hours; 3 credits. An introduction to the Macintosh computer and operating system and its applications to visual arts project production. Includes an overview of computer hardware and software used in print multimedia and imaging for visual communications.

281. Crafts 1: Fibers. Lecture 1 hour; studio 5 hours; 3 credits. An introduction to various looms, tools, materials and techniques used in weaving and fabric dyeing; individual design projects.

291. Crafts 1: Metalsmithing and Jewelry. Lecture 1 hour; studio 5 hours; 3 credits. An introduction to the basic tools, materials and techniques used in centrifugal casting, soldering and piercing. Individual projects in silver, brass and copper.

302. Design Application. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202 and 203; Pre- or corequisite: ARTS 304. The application of basic design concepts to the solution of functional and environmental problems. (Offered once per year.)

304. Color. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the underlying principles of color interaction, color selection, contrast and harmonies, relationships between light, color and vision, as well as the basics of pigments, mixing, and color terminology. An option for the cluster, Aesthetics in Art and Science.

305. Elementary Art Education. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing. Designed for students majoring in art education and early childhood education, this course covers the conceptual foundations of art education in the early years and an exploration of art materials and procedures for kindergarten and elementary school teaching. Demonstrations, workshops, and discussions place special emphasis on the scope, sequence, and philosophy of art in the elementary curriculum.

311. Advanced Photography. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 211. An exploration of visual content and expression through regular group assignments and critiques with attention to advanced photographic techniques and presentation.

331. Drawing: Composition. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 231. Continuation of ARTS 231 with emphasis on composition.

341. Painting: Composition. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 241. Introduction to various compositional approaches as specifically applied to painting.

350. Advanced Printmaking. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 279 and any introductory printmaking course (ARTS 251, 252, 253, or 254). May be taken for repeat credit. Further investigation of chosen print technique (screenprint, lithography, relief, or intaglio) with special attention to the implementation of color.
software with Freehand, Photoshop and Cinema 4D XL applications. (Offered once every 2 years)

376. Typographic Design. Lecture 1 hour; studio 5 hours; 3 credits. Co- or prerequisite: ARTS 375. A study of the history and theory as well as practice of typography; emphasis on principles and methods of typographic design. A complete examination of the design and arrangement of letter forms. The history of letter forms and typographic methods from ancient Sumer and Assyria to the present. Current topics in typographic design such as legibility, composing methods, and image setting will also be covered.

377/378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

381. Crafts II: Fibers. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 281. An introduction to pattern drafting, advancedloom technique, off-loom weaving, and fabric painting.

391. Crafts II: Metalsmithing and Jewelry. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 291. Additional techniques in casting and soldering with an introduction to basic metal-forming techniques of raising and forging.

395/396. Topics in Studio Art. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: appropriate survey or introductory course or permission of instructor. A study of selected topics and techniques in the studio art medium. Topics selected and variable in content. Such credit may be applied toward graduation by majors in the Visual and Performing Arts, and may be repeated for credit.

400. Senior Show. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of department. A study of techniques and techniques of selecting, assembling, and producing student works of art in a variety of media. This course may be repeated for credit.

401. Design Portfolio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 401. The preparation and presentation of portfolio and related materials necessary for professional work in the fields of graphic design, advertising, editorial design, and corporate communications. Students will prepare a portfolio of their work for presentation to employers in the field. The course will also cover career strategies, resume preparation and interviewing skills. (Offered spring) (qualifies as a CAP experience)

406. Secondary Art Education. Lecture 3 hours; 3 credits. Prerequisites: ARTS 305 and passing score on PRAXIS I or appropriate SAT score. This course is designed to prepare preservice art educators for student teaching by addressing theoretical and practical aspects of lesson and unit planning, curriculum content and design, and various innovative instructional approaches to secondary visual arts education.

407. Art Education Practicum. 3 credits. Prerequisites: ARTS 305, ECI 301, and passing score on PRAXIS I or appropriate SAT score. Enables students to interact with a master teacher in the classroom and practice a variety of teaching methods under supervision. Weekly seminars provide opportunities to engage in discourse related to pedagogical issues, theory, practice, and curriculum design found in current literature in art education. (Offered spring)

411/511. Photography Seminar. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 311 or permission of the instructor; for 511 student must be an MA/MFA candidate. Independent photographic investigation of a subject/technique to be selected under the advisement of the instructor. Individual conferences with the instructor, weekly critiques, demonstrations, and lectures with peers.

431/531. Drawing: Studio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 331. Further concentration on conceptual content and drawing skills, development of individual body of work exploring preferred concepts, subject matter, techniques, and media. May be repeated for credit.

432/532. Figure Drawing Anatomy. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 331 or permission of the instructor. A study of visualy important aspects of the structural, skeletal and muscular systems of the body. Anatomical study will be related to drawing from the live model.

433/533. Figure Drawing/Composition. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 432/532. This course places the emphasis on advanced composition using the figure as the central theme. The figure’s expressive potential, along with a study of historical responses to figure drawing, will be examined in depth.

441. Advanced Painting: Special Problems. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 341. Experimental use of media combined with an exploration of content through creative manipulation of popular themes.

442/542. Painting Studio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 441. Independent work in painting with focus on developing content. Frequent critiques may be taken for repeat credit.

450/550. Printmaking Studio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 350 or permission of the instructor. Experimental work in selected print media. May be taken for repeat credit.

461/561. Sculpture Studio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 361 or permission of the instructor. Experimental work reflecting individual initiative and attitude.

463/563. Advanced Ceramics. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 263 and 363. An advanced course in the science and art of ceramics. Students will engage in guided independent research, developing their own direction by investigating clay bodies, glazes, firing methods, and contemporary ceramic art. This course may be taken for repeat credit.

464/564. Figurative Sculpture. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 263. Three-dimensional studies of the human figure working from the live model. Sketches will be used as the basis for sculptural forms in clay or other media.

469/569. Assemblage. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Assemblage is an art form which often combines elements of sculpture, painting, drawing, etc. In many cases it is made up of non-art store materials such as hardware store items, or even “junk.” The lecture portion will consist of slides of various well known artists’ work, museum, gallery, and studio visits, and discussions of students’ work. The studio time will allow each student to explore personal directions in the medium of assemblage.

471/571. Graphic Design Studio. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 372. Intended to provide the student with advanced experience in graphic design topics. Students will solve complex design problems using multiple pieces combined to meet an overall communications objective. This course may be repeated for credit.

473/573. The Book. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202, 279, 304, and junior standing or permission of the instructor. The book as a work of art. Lecture sessions will explore historical and technical aspects of book design and production. Laboratory sessions will be devoted to the production of a series of books by each student involving page design, paper selection, printing and binding. (Offered once every 2 years.)

474. Advertising Design. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 370 and junior standing or permission of instructor. Provides a basic understanding of the practical and theoretical principles that are necessary to design and produce effective advertising. Problems will be assigned in local and national retail, institutional and corporate advertising. Print, direct mail, radio, and television media production will be covered.

475/575. Editorial Design. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 370 or permission of the instructor. An examination of the problems associated with the conception, design, and layout of newspapers, newsletters, and magazines. Emphasis is placed on editorial position, content, audience, frequency, budget, and production methods.

477. Hypermedia. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite or corequisite: ARTS 376. This course will present the computer as a medium for visual communication. Emphasis will be on producing interactive documents. Various media—photography, typography, videography and traditional analog art media—will be combined using the computer as an instrument and display device. Communication theory and creative problem-solving methods will be presented as part of the course.

481/581. Crafts III: Fibers. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 381. Advanced work in pattern drafting, loom techniques, off-loom weaving and fabric painting.

491/591. Crafts III: Metalsmithing and Jewelry. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 391. Further exploration in casting and soldering with concentration in the metal-forming techniques of raising and forging. Additional introduction to the techniques of working in steel.

495/595. Topics in Studio Art. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on studio projects of mutual interest.

497/597. Tutorial Work in Special Studio Topics. 3 credits. Prerequisite: senior standing and permission of the chief departmental advisor. Independent investigation of a subject to be selected under the advisement of the instructor. Conferences, papers, field trips, portfolios, or exhibitions as appropriate.
ART COURSES

498. Tutorial Work in Special Studio Topics. 3 credits. Prerequisite: senior standing and permission of the chief departmental advisor. Independent investigation of a subject to be selected under the advisement of the instructor. Conferences, papers, field trips, portfolios, or exhibitions as appropriate.

II. Art History Courses—ARTH

121A. Introduction to the Visual Arts. Lecture 3 hours; 3 credits. Corequisite: ENGL 111C, HIST 111C or PHIL 111C. A survey of the history of art from the ancient cultures of the Mediterranean world to the Gothic period of the Middle Ages. Museum visits and writing assignments will help to develop students’ analytical, critical, and writing skills.

121. Ancient and Medieval Art. Lecture 3 hours; 3 credits. Corequisite: ENGL 111C, HIST 111C or PHIL 111C. A survey of the history of art from the ancient cultures of the Mediterranean world to the Gothic period of the Middle Ages. Museum visits and writing assignments will help to develop students’ analytical, critical, and writing skills.

211. Northern Renaissance Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. This course traces the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

309. Architecture of the Middle Ages. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. The course traces the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

310. Women in the Visual Arts. Lecture 3 hours; 3 credits. Prerequisite: ARTH 121A, 211 or 212 and junior standing or permission of the instructor. The contributions of women in the various fields in the visual arts—painting, graphics, sculpture, architecture, and the crafts—from pre-history to the present.

314. Northern Renaissance Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. The course covers the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

315. Eastern Renaissance Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. The course covers the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

316. Later Italian Renaissance Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. The course covers the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

319. Baroque Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. The course covers the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

320H. History of Design. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the historical development of the design arts in both utilitarian and communicative areas including advertising, crafts, film, the decorative arts, fashion, furniture, and the built environment.

323. Nineteenth-Century European Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. Survey of the mainstreams of European art during the first century of the Modern era. Includes discussion of architecture, sculpture, painting, and the graphic arts.

324. Twentieth-Century Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. Beginning in the 1880’s and continuing through the present, a survey of modern art and architecture, which stresses the growing interpenetration of the arts.

325. American Art Before 1865. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. A survey of American art in the decades since 1865, focusing on the development of a native style in painting, sculpture, the decorative arts, and architecture.

326. American Art Since 1865. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. A survey of American art in the decades since 1865, focusing on the development of a native style in painting, sculpture, the decorative arts, and architecture.

327. History of Photography. Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A or 212 and junior standing or permission of the instructor. An examination of the development of photography as a scientific curiosity, a tool for artists, and as a fine art in itself, from its invention to the present day.

350W. Introduction to Art Criticism. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 and permission of the instructor. A study of the analysis, theoretical approaches, methodologies, and effects of the practice of art criticism, with practical experience in critiques of works on display.

351W. Research Methods in Art History. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. A study of methods of research and the gathering of evidence for the historiography of art. Students participate in a series of writing assignments designed to strengthen their research and writing skills, culminating with the presentation of original research in oral and written form.

352T. Visual Communication and Technology. Lecture 3 hours; 3 credits. Prerequisite: junior standing. The course will explore developments in technology that have affected how humans think and interact socially. The techniques examined will be critical, material, mechanical, electronic, and digital. The issues presented range from defining language as a human function that extends beyond visual verbal communication and how technical developments in media serve to determine and re-direct social organization.

360. Asian Art. Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A, 211 or 212 or permission of instructor. An introduction to the architecture, sculpture, calligraphy, pottery, ink painting, miniature painting, and gardens of India, China, Japan. Emphasis will be placed on the connections among the cultures: Buddhism and pilgrimage, the importance of the scholar painters, the role of trade routes, and the influence of native writing. (cross-listed with ASIA 360)

368. Internship. 1-3 credits. May be repeated for credit. Prerequisite: approval by the department chair and Career Management is necessary prior to registration. Available for pass/fail grading only. A structured work experience involving the practice of art or craft, filmmaking, video, museum or gallery work, either with or without remuneration. Criteria for evaluation will be determined by work supervisor and cooperating faculty advisor. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Prerequisite: approval by the department chair. (qualifies as a CAP experience)

377, 378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: appropriate survey or introductory course or permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

421/521. Early Medieval Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. The art and architecture of the Latin West and Byzantium from the early Christian centuries and the fall of Rome to the Carolingian and Ottoman empire and the fully developed Romanesque of the twelfth century, including manuscripts, metalwork, ivory and enamels.

422/522. Gothic Art and Architecture. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. The painting, sculpture, and architecture of the Gothic period from the mid-twelfth century to the refined and courtly art of the later International Style in France, England, Germany, and Italy as seen in both the monumental and the decorative arts.

423/523. Romanesque Art and Architecture. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211. This course will cover art of the period from about 1000 to 1150 in western Europe. The period witnessed the first “international style” of the Western Middle Ages from the first millennium up to the Gothic era. The style manifests in monumental architectural forms, monumental painting and increased book production.

425/525. The Illustrated Manuscript. Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of instructor. A study of the development of the illuminated manuscript from the form of the scroll in the ancient world to the fully illustrated and decorated codices (books) produced in the Middle Ages. A history of painting within the miniatures of the book from the early Christian era to the late Gothic period.

434. Romantic Architecture. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. A survey of
the aesthetic, technological and social forces that transformed international architecture in the 18th and 19th centuries.

435W/535. Modern Architecture. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. An examination of the architecture, planning, and related design of the twentieth century around the globe. Special emphasis is placed on the formation of the international style between the world wars and its disintegration in the recent past. An option for the cluster, The Designed World.

438/538. Fin de Siecle European Art. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. An intensive examination of the major styles, movements, and individuals working in Europe's avant-garde at the end of the 19th century to the beginning of the first world war.

439/539. Art Between the Wars: 1919-1939. Lecture 3 hours; 3 credits. Prerequisites: ARTH 212, 324 or permission of instructor. A study of the international movements in visual arts and design in the interwar years from Dada to the New York World’s Fair. An option for the cluster, The Designed World.

440/540. Mid-Century Modern Art (1940-1960). Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. An intensive study of the two decades when modernist styles and theories in art, design, and architecture were codified and challenged internationally.

460/560. Art Since 1960. Lecture 3 hours; 3 credits. Prerequisites: ARTH 212, 324 or permission of the instructor. Lectures and critical discussion of the development and configurations of the various styles emerging since 1960, both in America and Europe.

480. Senior Thesis. 3 credits. Prerequisites: 12 hours of art history electives at the 300 and 400 levels and senior standing. The research and writing of a thesis on an advanced topic in art history to be determined by the student in concert with a faculty advisor. The thesis option is intended for students preparing for graduate study in the field, and it may be taken in place of another upper-level art history elective within the major.

495/595, 496/596. Topics in Art. 3 credits each semester. Prerequisite: appropriate survey or introductory courses or permission of the instructor. The advanced study of selected topics in art, designed to permit qualified students to investigate subjects, which due to their specialized nature, may not be offered regularly. The courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

497/597, 498/598. Tutorial Work in Special Art Topics. 3 credits each semester. Prerequisites: senior standing and permission of the department chair. Independent research on a topic to be selected under the advisement of the instructor. Conferences, papers, and portfolios as appropriate.

Arts and Letters—AL

The Arts and Letters designation has been established to facilitate the offering of interdisciplinary courses in the College of Arts and Letters. These courses are coordinated through the Office of the Dean of the College of Arts and Letters. These courses are coordinated through the Office of the Dean of the College of Arts and Letters.

100. Introduction to Arts and Letters: Scholarship in the Disciplines. Lecture 1 hour; 1 credit. Through guest presentations from each major department in the college, the Career Management Center and other University resources, students will learn about majors, minors, career options, effective goal-setting, study skills, and time management strategies. Coursework includes weekly reading and journal assignments, attendance at campus events, and visits to campus resources.

367. Internship in Peer Advising. 1-3 credits. Prerequisite: Approval of the College Director of Academic Advising. Students receive training in communications, counseling practices and College and University resources and services, and then serve as Peer Advisors to undecided Prospective Arts & Letters students. Up to 150 hours required. Weekly staff meetings, readings, and a peer advising journal are also required. (qualifies as a CAP experience)

395. Topics in Humanities. 3 credits. Prerequisite: junior standing or permission of the instructor. An interdisciplinary study of selected topics in the humanities. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

396. Topics in Social Studies. 3 credits. Prerequisite: junior standing or permission of the instructor. An interdisciplinary study of selected topics in the social sciences. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

495/595. Topics in Humanities. 1-3 credits. Prerequisite: junior standing or permission of the instructor. An advanced study of selected topics in humanities. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

496/596. Topics in Social Studies. 3 credits. Prerequisite: junior standing or permission of the instructor. An advanced study of selected topics in social studies. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

497/597. Tutorial Work in Arts and Letters Topics. 1-3 credits. Prerequisite: junior standing or permission of the instructor.

Asian Studies—ASIA

332. South Asia Since Independence. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. This is a comparative study of the main political, economic and social developments in the major countries of South Asia. Themes will include democratization, problems of economic development, the role of caste and religion, the causes of intrastate conflict and interstate conflict and the influence of global forces on the region. (cross listed with POLS 336 and HIST 332)

333. The Emergence of New China. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of China covering late Imperial China, the impact of Western imperialism, the Republican Period, and the establishment of the People’s Republic. (Cross listed with HIST 336)

337. Japan’s Era of Transformation. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of Japan since 1800. The decline of the Tokugawa Shogunate, modern national building in the Meiji period, domestic conflicts and war in the twentieth century, and the roots of Japan’s economic prominence today. (cross-listed with HIST 338)

338W. Politics of East Asia. Lecture 3 hours; 3 credits. Prerequisite: six hours of social science and junior standing or permission of the instructor. This writing intensive course examines political culture, traditions, institutions, decision-making processes, public policies, political organizations, and significant socio-political issues of such East Asian countries as China, Japan and Korea. In addition, it explores the collective impact of these countries on world politics and global economy. (cross listed with POLS 333W)

339. Asian Religions. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of religious and philosophical traditions of India, China and Japan. Primary emphasis will be given to Hinduism, Buddhism, Confucianism and Taoism. (cross listed with PHIL 335)

360. Asian Art. Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 111C or 131C and ARTH 121A, ARTH 211 or ARTH 212 or permission of instructor. An introduction to the architecture, sculpture, calligraphy, pottery, ink, painting, miniature painting, and gardens of India, China and Japan. Emphasis will be placed on the connections among the cultures: Buddhism and pilgrimage, the importance of the scholar painters, the role of trade routes and the emergence of native writing. (cross-listed with ARTH 360)

395. Topics in Asian Studies. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H or permission of the instructor. A study of selected topics designed for nonmajors or for elective credit within a major. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

435. Chinese Politics. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S, 102 or permission of the instructor. A study of origins of the Chinese revolution; development and functions of the Chinese Communist Party; government institutions; the defense establishment; evolution of foreign policy; and post-Mao political and economic reforms. (cross listed with POLS 435)

460. Major Issues in Asia. Lecture 3 hours; 3 credits. Prerequisite: ARTH 121A, or ARTH 211 or ARTH 212 or permission of instructor. An introduction to the economics, systems and major social issues in Asia from the perspective of the humanities. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

461W. Asian Studies Capstone Seminar. 3 credits. Prerequisite: HIST 101H and junior standing. As a required course for the Asian Studies major, the course helps students synthesize the knowledge they have learned from the undergraduate courses, write a capstone research paper and present the paper in class.

495/595. Topics in Asian Studies. 1-3 credits. Prerequisites: appropriate survey course or permission of the instructor. This course is designed for small groups of qualified students to conduct advanced study of selected topics on Asian Studies, topics which may not be taught in regularly scheduled classes. The description of the course for each offering will appear in the course schedule booklet that is distributed to each advisor.

Biological Sciences—BIOL

103. Basic Bacteriology. Lecture 3 hours; laboratory 2 hours; 4 credits. A course designed to
acquaint the student with the elementary principles of bacteriology and other disease causing microorganisms. Emphasis is placed on microorganisms as etiological agents in disease, on practical aspects of their identification and control, and on the factors of infection and immunity.

108N, 109N. Life Science I, II. Lecture 3 hours; laboratory 3 hours; 4 credits each semester. An introductory biology course for nonbiology majors. 108N focuses on science process, ecology, evolution, biodiversity and conservation. 109N focuses on human biology, including infectious disease; diet, exercise, and health; and human genetics and development. BIOL 108N or 109N cannot be substituted as BIOL 115N or 116N.

115N, 116N. General Biology. Lecture 3 hours; laboratory 3 hours; 4 credits each semester. Prerequisite: placement into MATH 102M and ENGL 110C. 115N emphasizes the characteristics and basic chemistry of living systems, cell exchange, major tissues and their roles, gaseous exchange, circulation and metabolic wastes, and autotrophic and heterotrophic nutrition. 116N emphasizes molecular and cellular reproduction, transmission of genetic information, adaptation and specialization, plant and animal phylogeny, and human reproduction and development. A student receiving credit for 115N or 116N cannot receive credit for BIOL 108N or 109N, respectively.

122N/123N. Honors: Life Science I, II. Lecture 3 hours; laboratory 3 hours; 4 credits. Open only to students in the Honors College. A special honors version of BIOL 108N/109N.

126N/127N. Honors: General Biology. Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of BIOL 115N/116N.

190. Introduction to Human Anatomy and Physiology. Lecture 3 hours; 3 credits. A course in human anatomy and physiology emphasizing all body systems and their processes. This course may not be used for the departmental requirement in physiology.

221. Field Botany. Lecture 2 hours; laboratory 5 hours; 4 credits. Prerequisites: BIOL 115N-116N. Identification, ecology and uses of native plants and mushrooms. Most classes are field trips.

246. Plant Geography. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N. The distribution and characteristics of major plant community types in North America are discussed. Abundant pictures are used to illustrate the flora and plant communities.

250-251. Human Anatomy and Physiology I and II. Lecture 3 hours; laboratory 3 hours; 4 credits each. 250 is prerequisite to 251. BIOL 250 emphasizes the gross anatomical relationships and the molecular, cellular, physiological, and metabolic process of the integument musculoskeletal neural and immune systems. BIOL 251 emphasizes the physiology and pathophysiology of the cardiac, pulmonary, renal, endocrine, and reproductive systems. BIOL 250-251 may not be used for the departmental requirement in physiology.

290. Practice of Science. Lecture 1 hour; 1 credit. Prerequisites: BIOL 115N, 116N or permission of the instructor. A writing intensive course that introduces students to the formulation and testing of hypotheses in the biological sciences, the use of biological databases, presentation skills and other topical areas in modern biological research.

291. Ecology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N or permission of the instructor. An introduction to the basic concepts of ecology for both biology majors and nonmajors. The concepts are introduced with respect to terrestrial, aquatic, and marine ecosystems.

292. Evolution. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N or permission of the instructor. A study of the concepts and mechanisms of evolution in both animals (including humans) and plants. Molecular evolution, disease and the maintenance of genetic variation in natural populations are addressed. Recommended for its cultural value to all students.

293. Cell Biology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N and 116N. Corequisites: MATH 162M and CHEM 311. A comprehensive course in the structural and functional features of cells, including prokaryotic and eukaryotic cells. The course will also examine biomacromolecules techniques in cell and molecular biology and current frontiers in cell biology research.


307. Invertebrate Zoology. Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: BIOL 115N, 116N. An examination of the invertebrate phyla with emphasis on classification, morphology, phylogeny, and general biology.

308. Botany. Lecture 3 hours; laboratory 3 hours; 4 credits; Prerequisites: BIOL 291, 292. A general introduction to the structure, function, ecology, and diversity of plants.

312. Cellular Physiology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 115N, 116N and CHEM 311-313. A basic course in physiology at the cellular level of organization. Includes discussions of cell structure and function, osmosis, membrane transport, enzymes, photosynthesis, respiration and intermediary metabolism, movement, and irritability.

314. Developmental Biology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 250-251. Corequisites: MATH 162M. A semester in organic chemistry is recommended. An analysis of development in animals. Lectures will explore experimental approaches to the study of gametogenesis, fertilization, cleavage and morphogenesis. Laboratory emphasizes the morphological features of the developing vertebrate embryo.

315. General Microbiology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 293 and 303. Designed to be a general survey of the nature and diversity of microorganisms (especially the bacteria but also including viruses and fungi), the roles and functions of the microorganisms of the human body. Precautionary and laboratory work in the Department focuses on experimental approaches to the study of common microorganisms. Laboratory emphasizes fundamental techniques in culturing, studying and identifying microorganisms.

322. Ethnobotany. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N-116N. A survey of plants used by people for food, fiber, medicine, dyes, perfumes, and building. A survey of local edible, toxic and useful native plants and mushrooms is included. Two Saturday field trips are required.

330. Vertebrate Zoology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 292. An introduction to the vertebrate animals, including overviews of their evolution, systematics, morphology, physiology, ecology and behavior. Class discussions focus on important ideas in evolutionary biology, systematics, morphology and ecology that inform our conceptual understanding of continuing patterns of diversity.

331. Marine Biology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N-116N or 108N-109N. A survey of the variety, ecology and adaptations of marine organisms. The course is designed to broadly introduce students to life in the oceans and the many special features of marine species that have evolved in the Earth’s oldest and most extensive ecosystem.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department chair and Cooperative Education/Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program, prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

369. Internship. 1-3 credits. Prerequisite: approval by department chair. Available for pass/fail grading only. Student participation in a professional work experience situation. (qualifies as a CAP experience)

377/378. Extracurricular Studies. 1-6 credits. Prerequisite: permission of the department chair. University credit may be obtained for activities or student projects relevant to the academic interests of the department. The student must make formal application to the chair, describing the project in detail and justifying its academic value. If the project is approved, the student will conduct the work under faculty supervision. Prerequisites: pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program, prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

400/500. Vascular Plant Families. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 292 and 303. A survey of major plant families, emphasizing local representatives to develop recognition and identification skills. A field-oriented course.

401/501. Entomology. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: BIOL 115N-116N and 8 hours of biology at the 200 level or above. A comprehensive survey of the insects, including taxonomy, morphology, physiology, reproductive and developmental biology and ecology. Research techniques in entomology will be emphasized through both laboratory work and laboratory assignments. Laboratory emphasizes fundamental techniques in culturing, studying and identifying microorganisms.

402/502. Pathophysiology. Lecture 4 hours; 4 credits. Prerequisites: BIOL 250-251 or permission of the instructor. A study of abnormal states of human physiology and related disease status. Emphasis is on etiology and mechanism of disease, not on diagnosis or clinical management. This includes the molecular and cellular etiology of various drugs. This course does not meet the departmental physiology requirement for biology majors.

404/504. Conservation Biology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 115N, 116N. One course in ecology, and junior standing or permission of instructor. The
application of fundamental biological principles to the preservation of biodiversity, including the role of ecological and evolutionary theory to the preservation of biotas on a regional and global basis. Laboratories will involve modern approaches to conservation biology, including conservation ethics and management issues. Laboratories will include discussion of case studies, introduction to software applicable to conservation biology, presentations by regional conservation practitioners, and visits to relevant field sites.

405W. Biology Seminar. 2 credits. Prerequisite: junior standing. This course provides a capstone experience in independent, faculty mentored library research, oral presentations and technical writing. Taken during either the junior or the senior year.

407/507. Molecular and Immunological Techniques. Lecture 1 hour; laboratory 6 hours; 4 credits. Prerequisites: BIOL 293 and 303. A laboratory intensive, hands on course covering many current methods in molecular biology.

409/509. Immunology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 315 or permission of the instructor. A comprehensive study of the phenomena of immune resistance, the cells and tissues involved in immune responses, and the consequences of immunization.

410/510. Immunology Laboratory. Laboratory 4 hours; 2 credits. Prerequisite: junior standing. Serologic and cellular immune reactions and other immunologic methodologies.


414/514. Plants of the Bible and The Koran. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N and junior standing. A survey of plants occurring in the sacred texts, their uses, history and lore.

415/515. Marine Ecology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 331 and previous course in ecology. When offered during the fall semester, Marine Ecology Laboratory (BIOL 442/542) is a corequisite. An introduction to ecological processes as manifested in the marine environment, with an emphasis on coastal ecosystems. The course covers synthetic topics as well as the ecology of specific marine habitats.

416/516. Clinical Immunology. Lecture 2 hours; 2 credits. Prerequisite: BIOL 409/509. A description of common immunological problems seen in the clinic.

419/519. Wetland Plants. Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisites: BIOL 292 and 303. A field-oriented course dealing with the identification of plants used to delineate wetlands. Lab and field sessions stress skills in recognition, environmentally induced variability, ecology, and distribution.

420/520. Ichthyology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 115N, 116N, and junior standing. The biology of marine and freshwater fishes including studies of their morphology, physiology, evolution, distribution, ecology, and reproduction.

421/521. Ornithology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N or permission of the instructor. The course concerns the basic biology of birds, their evolution, behavior, classification, and ecological relationships. Biology majors must take BIOL 422 to receive concentration credit for this course.

422/522. Field Studies in Ornithology. Lecture 2 hours; laboratory 4 hours; 3 credits. Prerequisites: BIOL 293 and 303. The molecular organization of eucaryotic cells is presented along with cell evolution, molecular genetics, the internal organization of the cell and the behavior of cells in multicellular organisms.

424/524. Comparative Animal Physiology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 115N, 116N. An introduction to the basic mechanisms by which different animals function. How organisms acquire and use energy, regulate their internal environment, circulate and exchange gases and wastes, receive and conduct information about their environment, and move and use muscles will be some of the topics covered. Emphasis will be placed on how organisms make changes in these basic mechanisms to deal with differing environmental conditions.

425/525. Microbial Physiology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 315 or permission of the instructor. A study of the biochemical and physiology of microbial metabolism. Emphasis will be placed on energy yielding mechanisms and biosyntheses in the bacteria.

426/526. Histology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 250, 251 or equivalent. An analysis of the microscopic structure of mammalian (especially human) tissues and organs. Emphasis is placed on microscopic identification of tissues and cells.

427/527. Neurobiology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 250/251 or 458/558. Survey of current areas of neurobiology including evolution of the nervous system from invertebrates through primate and mechanisms of nervous system function such as sensation and biological clocks.

428/528. Physiological Ecology of Animals. Lecture 3 hours; 3 credits. Prerequisite: BIOL 115N and 116N. An integrative approach to understanding how animals function in and respond to their natural environment. Adaptations by a variety of invertebrate and vertebrates to marine, coastal/estuarine, freshwater, terrestrial, and parasitic environments will be covered. Responses of intertidal organisms to periodic aerial and aquatic exposure, osmotic stress on crustaceans in brackish waters, sensory adaptations in freshwater fish, thermal regulation by reptiles in desert climates, and respiratory adaptation by parasites are among the topics that will be discussed.

430/530. Microbial Pathogenesis. Lecture 3 hours; 3 credits. Prerequisite: BIOL 315. Examination of bacterium-host interactions with an emphasis on how bacteria cause disease, particularly the means by which the bacterium is able to circumvent host defense mechanisms.

431/531. Mammalogy. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisite: junior standing or permission of the instructor. This course deals with the ecology, behavior, distribution, physiology, diversity, and evolution of mammals.

433/533. Cave Biology. 4 credits. Prerequisite: permission of the instructor; basic knowledge of ecology, invertebrates, and geology preferable. An examination of the distribution, ecology, and evolution of invertebrates in karst, calcrete, and cave ecosystems. Four-day field trip to selected caves and karst areas in the Appalachians.

438/538. Dendrology. Lecture 2 hours; laboratory 5 hours; 4 credits. Prerequisite: BIOL 220 or equivalent. The study of trees, their identification, ecology, wood structure and uses.

439. Microbiological Laboratory. 4 hours; 2 credits. Prerequisite or corequisite: BIOL 425 or permission of the instructor. A laboratory dealing with experimental methodologies of microbial metabolism.

441/541. Animal Behavior. Lecture 3 hours; recitation 1 hour; 4 credits. Prerequisites: BIOL 115N, 116N; an introductory course in either ecology or evolution and junior standing or permission of the instructor. An examination of all facets of animal behavior with special attention to its evolution and ecological significance. Course emphasizes the observational and experimental techniques used to study behavior and the major conceptual models guiding past and current research.

442/542. Marine Ecology Laboratory. 4 hours; 2 credits. When offered during the fall semester, Marine Ecology (BIOL 415/515) is a corequisite. A laboratory/field course in which students gain practical experience with research techniques common to coastal marine ecology, and become familiar with the organisms and ecological conditions present in the various marine habitats visited by the class. A field trip of several days is required.

443/543. Environmental Impact Assessment. Lecture 3 hours; 3 credits. Prerequisite: biology major or permission of the instructor. Topics will include the history and legislation pertaining to environmental impact assessment. Emphasis will be placed on ecological concerns and management of tidal and nontidal wetlands plus shore line and estuine habitats. Assignments will include evaluation of environmental impact conditions within this region.

Experimental Marine Ecology. Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisite: BIOL 331. A lecture/field course in which students are instructed in experimental design and the use of quantitative ecological techniques in addressing scientific questions in marine ecology. The course includes lectures on techniques, field exercises where techniques are employed, computer-based data analysis, and written reports of research project results. A week-long research trip to a marine laboratory is required.

445/545. Community Ecology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 291 or equivalent. The goal of this course is to introduce and evaluate both classical and emerging paradigms in community ecology. This will be achieved by examining those processes (biotic and abiotic) that structure ecological communities, and by developing skills in statistical analyses and modeling to objectively weigh the evidence presented in support of these paradigms.

446/546. Comparative Biomechanics. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N; recommended courses: PHYS 111N, 112N. The principles of fluid and solid mechanics will be applied to a variety of plant and animal systems to understand how organisms deal with the immediate physical world and its accompanying...
constraints. A diverse range of topics will be covered, including aerial flight in insects, wind resistance in trees, jet propulsion in squid, flow within blood vessels, forces on intertidal organisms, the structure and function of biological materials, and energy storage during terrestrial movement.

450/550. Principles of Plant Ecology. Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: BIOL 291 and senior standing. A weekend field trip is required. Course covers the general theoretical concepts in plant ecology with statistical methods. The structure, development, processes, and history of plant communities are studied. Laboratories involve extensive fieldwork.

454/554. Parasitology. Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: BIOL 293 and 303. A basic course which treats parasitism as one of several biological interactions. The principles discussed are structural and physiological adaptations to parasitism, host specificity, immunity, parasitic life cycles, and evolution of parasitism. Representative species are examined in the laboratory.

455/555. Molecular Systematics. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 292 and 303. An introduction to the processes and procedures used to construct the evolutionary history of living organisms using chromosomes, proteins, and nucleic acids. Topics include project planning and sampling, molecular techniques, and analytical and tree-building programs used to infer phylogeny. Assignments include readings from the literature followed by participation in group discussions and an oral presentation followed by a written paper on the analyses of a molecular data set.

456/556. Population Genetics. Lecture 3 hours; 3 credits. Prerequisite: BIOL 303. The course is an introduction to the principles of population genetics and addresses topics such as inheritance, genetic variation, fitness, natural selection, mutation, genetic drift, gene expression, and single- and multi-locus models of different types of selection. Human disease is addressed. Students will write a mock-grant proposal in this course.

457/557. General Virology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 117N, 118N and 303. A basic course covering the history of virology, viral taxonomy, genetics, the molecular biology and host responses to the major mammalian virus groups. Examples or recent impacts of viruses on human health such as influenza pandemics will also be covered.

458/558. Comparative Anatomy of the Chordates. Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisites: BIOL 115N, 116N, and 292. This course deals with the evolution of form in chordates, with an emphasis on the vertebrates. Changes in the function and adaptive significance of structures through time are considered. The detailed morphology of representative species is introduced and compared in the laboratory.

459/559. Genomics. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 293 and 303. This course will introduce genomics as a scientific approach that combines molecular biology, high-throughput methodologies, bioinformatics and computing to reveal the secrets hidden within a genome. Topics will include how whole genomes are studied, including large scale sequencing, RNA expression profiling, proteomics and bioinformatics.

460/560. Frontiers in Nanoscience and Nanotechnology. Lecture 1 hour; 1 credit. Prerequisite: junior, senior or graduate standing.

Review of the structure, synthesis and properties of key nano-materials and their impact on living systems.

461/561. Human Cadaver Dissection. Laboratory 2 hours; laboratory 4 hours; 4 credits. Prerequisite: BIOL 250-251 or equivalent. Students will dissect a human cadaver and learn all major structures. All exams will be practical tests using human tissue. The major emphasis will be on head, neck, trunk, and joints with some clinical application to injuries and surgery.

473/573. Herpetology. The Biology of Amphibians and Reptiles. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisite: BIOL 115N, 116N and junior standing or permission of the instructor. The biology of amphibians and reptiles, emphasizing their evolution, classification, and morphological and ecological adaptations. Field trips and laboratory exercises introduce techniques for observation, collection, preservation, and study.

477/577. Origins of Biological Principles. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N and 116N or BIOL 108N and 109N plus a minimum of 6 credits of biology courses at the 200 level or above, all taken before enrollment. Covers the development of major concepts across the biological sciences including evolution, cell biology, ecology, systematics, botany, biomedical sciences, and molecular biology. Includes discussions of the philosophers and scientists behind the discovery of these principles. Includes a significant writing component.

478/578. Microbial Ecology Laboratory. Lecture 3 hours; 1 credit. Corequisite or prerequisite: BIOL 478 or 478/578. A laboratory for measurement of microbial numbers and activity in natural environments.

485/585. Immunological Methods. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: BIOL 409/509. Laboratory exercises on techniques in biomedical research including immunofluorescence and enzyme immunooassay. Emphasis is placed on the design, implementation, interpretation, and limitations of various techniques.

487/488. Honors Research in Biology. 487 is prerequisite to 488. Independent study and scheduled meetings with faculty advisor; 4 credits each semester. Prerequisites: admission to the Honors Program and senior standing. Supervised independent study in an area of individual interest in biology. The work in this course results in the production of a thesis. (qualifies as a CAP experience)

490/590. Advanced Human Physiology. Lecture 4 hours; 4 credits. Prerequisite: BIOL 250 or equivalent. Course covers all major physiological systems with emphasis on normal physiology. Some clinical applications made but not stressed.

491/591. Human Reproduction. Lecture 5 hours; 5 credits. Prerequisite: junior standing or permission of the instructor. A study of the anatomy and physiology of the human reproductive system. Lectures cover all aspects of reproductive function including hypothalamic-pituitary control, embryological development, adult anatomy/physiology, fertilization, implantation, and birth.

493/593. Human Neuroanatomy. Lecture 3 hours; 3 credits. Prerequisite: BIOL 492 or an advanced course in human neurophysiology. This course is designed for students with different backgrounds and different academic goals. Emphasis will be placed on major principles that have emerged from studying the nervous system.

496/596. Topics. 1-3 credits. Prerequisite: junior standing. A specially designed course concerning specific topics in the biological, environmental, or allied health fields.

497/597. Topics in Biology. Offered upon request; time to be arranged; 1-3 credits each semester. Prerequisite: permission of the department chair, or of a biology faculty member. Supervised projects selected to suit the needs of the individual student.

587. Human Anatomy for Athletic Trainers. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: BIOL 250. An advanced course in human anatomy with particular stress on osteology, arthrology, and extremities. Dissection of human cadaver material will be required.

Business Administration - BUSN

135. Introduction to Office Productivity Software. Lecture 1 hour; 1 credit. Introduces and provides hands-on experience in office productivity software used for word processing, spreadsheet, and presentation.

Chemistry and Biochemistry — CHEM

(Note: + = A lecture course having an associated laboratory)

101N-102N. College Chemistry. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. Prerequisite: knowledge of basic algebra is required for 101N. 101N is prerequisite to 102N. A foundation in the principles of inorganic and organic chemistry is provided and then applied to introductory biochemistry.

103. Introductory Chemistry. Lecture 3 hours; 3 credits. Prerequisite: knowledge of basic algebra. An introductory course designed to acquaint the student with the basic principles of chemistry.

115N-116N. Foundations of Chemistry. Lecture 3 hours; laboratory 2 hours; recitation 1 hour; 4 credits each semester. Prerequisites: MATH 102M for CHEM 115N and CHEM 115N for CHEM 116N. High school chemistry, CHEM 101N, or CHEM 103 is strongly recommended. This two-course series, designed for science majors, rigorously prepares the student for subsequent studies in molecular science and constitutes the foundation for all upper-level chemistry courses. Topics include the descriptive chemistry of selected elements, modern atomic and molecular structure, stoichiometry, states of matter, solutions, electrochemistry, thermodynamics, equilibria and kinetics. A student receiving credit for CHEM 115N-116N cannot receive additional credit for CHEM 101N or CHEM 103.

117. Principles of Chemistry. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: CHEMISTRY AND BIOCHEMISTRY COURSES 179
CHEM 115N. Content identical to CHEM 116N but includes no laboratory. Normally taken only by engineering majors. Does not satisfy General Education Natural Science perspective requirements.

126N-127N. Honors: Foundations of Chemistry. Lecture 3 hours; laboratory 3 hours; 4 credits each semester. Prerequisite: one year high school chemistry; MATH 102M for CHEM 126N and CHEM 126N for CHEM 127N. Open only to students in the Honors College. Special honors sections of CHEM 115N-116N.

312 for CHEM 314. Experience is offered in modern spectral techniques, and new synthetic methods to meet the needs of chemistry and biochemistry majors.

311-313. Organic Chemistry. Lecture 3 hours; 3 credits each semester. Prerequisite: CHEM 116N or 127N for CHEM 311; CHEM 311 for CHEM 313. Chemistry of carbon compounds with in-depth treatments of reaction mechanisms, modern spectral techniques, and new synthetic methods to meet the needs of chemistry and biochemistry majors.

Organic Chemistry Laboratory. Laboratory 4 hours; 2 credits each semester. Pre- or corequisite: CHEM 311 for CHEM 312; CHEM 313 for CHEM 314. Prerequisite: CHEM 312 for CHEM 314. Experience is offered in synthetic, separation, and analytical methods of organic chemistry. Modern synthetic and spectroscopic techniques are introduced.

321. Analytical Chemistry Lecture. Lecture 3 hours; 3 credits. Pre- or corequisite: MATH 200 or 211. Prerequisite: CHEM 116N or 127N. A study of the fundamental principles of quantitative chemical analysis including the application of principles of equilibria to analytical processes. Emphasis is given to gravimetric and titrimetric methods as well as consideration of electrical, optical, and other methods of chemical analysis.

322. Analytical Chemistry Laboratory. Laboratory 4 hours; 2 credits each semester. Pre- or corequisite: CHEM 321 or permission of the instructor. Statistical principles or measurements and error analysis are integrated with laboratory techniques designed to evaluate and refine techniques of fundamental measurements to a level of analytical competency. These techniques are applied to the analysis of samples using gravimetric, titrimetric, electrical and optical methods.

331-333. Physical Chemistry Lecture. Lecture 3 hours; 3 credits each semester. Pre- or corequisite: MATH 312 for CHEM 331. Prerequisites: CHEM 321, PHYS 231N-232N, MATH 312 for CHEM 331; CHEM 331 for CHEM 333. Chemical thermodynamics of pure substances and solutions, chemical equilibria, electrochemistry, chemical kinetics, quantum chemistry, molecular structure, and statistical thermodynamics.

332W-334. Experimental Physical Chemistry. Laboratory 4 hours; 2 credits each semester. Pre- or corequisite: CHEM 331 for CHEM 332W; CHEM 333 for CHEM 333. Prerequisites: CHEM 322 for CHEM 332W; CHEM 332W for CHEM 334. Physical chemical techniques are applied to studies on thermodynamics, solution phenomena, gases, electrochemistry, chemical kinetics, and spectroscopy. Statistical analysis and computer treatment of data are stressed. Skills in report writing and library skills are developed.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Cooperative Education/Career Management in accordance with the policy for graduate/undergraduate co-op programs. Student participation for credit is based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience is to take place. Available for pass/fail grading only. (qualifies as a CAP experience)

369. Chemistry Practicum. 3 credits. Prerequisite: CHEM 331/332W (Chemistry major) or CHEM 441/442 (Biochemistry major) and the approval of the appropriate departmental coordinator. A student may choose a coop, internship, research, or student teaching experience to gain out-of-class experience related to the major. The department will accept ECI 487 in lieu of CHEM 369. (qualifies as a CAP experience)

410/510. Synthesis and Characterization of Organic Compounds. Laboratory 6 hours; 3 credits. Prerequisites: CHEM 312, 314. Independent synthesis of compounds from the literature with analysis by IR, NMR, and/or mass spectroscopy. Identification of unknowns primarily by spectral methods.

415/515. Intermediate Organic Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 311-313. An in depth treatment of the chemistry of carbon compounds, including reaction mechanisms, modern spectral techniques, new synthetic methods, and applications.

423/523. Nuclear Magnetic Resonance Methods. Lecture 3 hours; laboratory 6 hours; 5 weeks; 2 credits. Prerequisites: CHEM 333 and 420/520, or permission of instructor. This course will provide students with basic concepts of nuclear magnetic resonance from both an interpretational perspective for spectra and a theory/instrumentation perspective. Students will learn how experiments are designed, parameters chosen, and spectral results interpreted for both 1- and 2-dimensional spectra.

424/524. Electrochemical Methods of Analysis. Lecture 3 hours; laboratory 6 hours; 5 weeks; 2 credits. Prerequisites: CHEM 333 and 420/520, or permission of instructor. This course presents the fundamental principles and practical applications of modern electrochemical methods of analysis. Lectures and text readings cover the basic concepts and fundamental principles of this division of analytical techniques. Detailed descriptions and demonstrations of modern electrochemical research instrumentation will be provided. Students will obtain hands-on experience with this instrumentation by performing a required chemical determination using an electroanalytical method, and by undertaking a special analytical project. Research applications of other electroanalytical techniques and instrumentation, in addition to those actually performed in this class, will be discussed and/or demonstrated.

425/525. ICP-MS and Laser Ablation Techniques. Lecture 3 hours; laboratory 6 hours; 5 weeks; 2 credits. Prerequisites: CHEM 333 and 420/520, or permission of instructor. The primary objectives of this course are to provide students with (1) basic concepts and fundamental principles of inductively coupled plasma mass spectrometry (ICP-MS) and laser ablation (LA) techniques, and (2) practical applications of the techniques to elemental and isotope analysis.

441/541. Introductory Biochemistry. Lecture 3 hours; 3 credits. Pre- or corequisite: MATH 200 or 211. Prerequisite: CHEM 313. This course is a one-semester survey of the major metabolic pathways, coenzymes, fundamental principles of toxicology: dose-response relationship, toxicologic testing, chemical and biological factors influencing toxicity, organ toxicology, carcinogenesis, mutagenesis, teratogenesis.

442W-444/544. Biochemistry Laboratory. Laboratory 4 hours; 2 credits. Prerequisite: CHEM 441/541 is prerequisite or corequisite to CHEM 442W/542. CHEM 442W/542 is prerequisite to 444/544. CHEM 443/543 is prerequisite or corequisite to 444/544. This laboratory is intended to parallel material presented in Biochemistry Lecture sections. Principles and techniques of biochemical procedures involving amino acids, protein quantification and isolation, carbohydrates, lipids and cholesterol, enzymology, nucleic acids, and common molecular biology techniques for DNA and RNA manipulations will be presented. Skills in report writing and library skills are developed.

443/543. Intermediate Biochemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 441/541 or equivalent. This course is a detailed study of the principles of enzymology and metabolic control, including enzyme isolation, kinetics, mechanisms and regulation. The major metabolic pathways will be studied in detail regarding thermodynamics and mechanisms of regulation or control of individual enzymes and entire metabolic pathways. Concepts of metabolic disease will be introduced and effects on integrated metabolism will be presented.

449. Environmental Chemistry. Lecture 3 hours; 3 credits. Prerequisites: CHEM 116N, CHEM 313 and CHEM 321 or permission of the instructor. An overview of the natural chemical systems operating in Earth’s atmosphere, hydrosphere (natural waters), and terrestrial environment, and the effects that human activities may have on them. Specific topics to be discussed include: origin and evolution of Earth and life, chemistry of the atmosphere (including the ozone layer and greenhouse effect), organic and inorganic components of soil and water, the hydrologic cycle (chemical weathering, precipitation, evaporation, and complexation, and microporous processes in soil and water.

451/551. Advanced Inorganic Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 333. Theoretical aspects of modern inorganic chemistry: bonding theories, stereochemistry, acid-base theories, coordination compounds, organometallic and bioinorganic compounds.

452/552. Inorganic Chemistry Laboratory. Laboratory 4 hours; 2 credits. Co- or prerequisite: CHEM 451/551. Synthesis of metal and nonmetal inorganic compounds and organometallic compounds, their characterization by modern physical methods, and a study of their properties.

453/553. Essentials of Toxicology. Lecture 3 hours; 3 credits. Prerequisite: CHEM 333. Fundamental principles of toxicology: dose-response relationship, toxicologic testing, chemical and biological factors influencing toxicity, organ toxicology, carcinogenesis, mutagenesis, teratogenesis.

460/560. Frontiers in Nanoscience and Nanotechnology. Lecture 1 hour; 1 credit. Nanotechnology presents unparalleled opportunities for advances in technology and medicine. Simultaneously, nanotechnology presents new challenges to organisms and to our environment. These undefined risk factors threaten
to slow the development of new technologies and novel medical therapies. This course will review: structure, synthesis and properties of key nanomaterials; key applications of nanomaterials in technology and medicine; and impacts of nanomaterials on plant and animal physiology and the environment more generally. This course will be team-taught by faculty members in Biological Sciences, Chemistry and Biochemistry, and Engineering.

485. Chemistry and Biochemistry Seminar. 1 credit. Prerequisite: senior standing. The formal presentation of a chemical or biochemical topic before students and faculty.

495. Selected Topics. 1-3 credits. Prerequisite: permission of the instructor.

497, 498. Independent Study. Consultation and individual work. 497: 2 hours; 1 credit. 498: 4 hours; 2 credits. Prerequisites: course background appropriate to the proposed study project and approval of the department chair and the faculty/research advisor. An opportunity is afforded students to undertake independent study or an original investigation under the direction of a faculty member.

Civil and Environmental Engineering — CEE

100. Statics. Lecture 3 hours; 3 credits. Prerequisite: MATH 211. Corequisite: PHYS 231N. Introduction to engineering problems and their solutions through a study of the statics of particles and rigid bodies.

195. Topics in Civil and Environmental Engineering. Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Special topics in civil and/or environmental engineering at the introductory level.


240. Geographic Information Systems in Civil and Environmental Engineering. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: MATH 212, sophomore standing or higher. Geographic Information Systems as they apply to civil and environmental engineering. Spatial data acquisition, generation and analysis methods from terrestrial, aerial and satellite sources. Modeling of terrain, land, and hydrographic information using CADD. Use of GIS software in the creation and application of GIS spatial data bases to engineering problems.


295. Topics in Civil and Environmental Engineering. Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Topics in civil and/or environmental engineering at the basic engineering level.


305. Civil and Environmental Computations. Lecture 3 hours; 3 credits. Prerequisite: CEE 230W, junior standing, MATH 307, CS 150. Introduction to selected numerical methods and their specific application to solving problems in many of the areas of civil and environmental engineering. Further development of computer programming proficiency.


323. Soil Mechanics. Lecture 3 hours; 3 credits. Prerequisite: ME 220. Engineering properties of soils and their application to earth structures and foundations. Topics include seepage, compaction, strength, and deformation characteristics of soils.

330. Hydromechanics. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Fluid properties, fluid statics and fundamentals of fluid kinematics. Introduction to laws of mass, momentum and energy including real fluid energy losses. Turbulent, incompressible fluid flows in closed conduits and with a free surface. Introduction to thermodynamics.

335. CE Soils and Hydraulics Laboratory. Lecture 2 hours; 1 credit. Corequisites: CEE 323 and 340. Soil testing, including index testing, compaction, permeability, consolidation, shear tests for soils. Pipe flow, open channel flow, surface hydrology, groundwater, and hydraulic structures for hydraulics.


350. Environmental Pollution and Control. Lecture 3 hours; 3 credits. Prerequisites: CHEM 116N or CHEM 116 or CHEM 116G or CHEM 117. Introduction to the fundamental principles of environmental engineering. Topics in water quality, water and wastewater treatment, air quality, and solid waste and landfills are discussed.

355W. Environmental Engineering Analysis. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: PHYS 231N, CHEM 116N or CHEM 117. Introduction to laboratory analytical techniques used in environmental engineering analysis. Integrates field and laboratory testing with engineering analysis and design of treatment systems.

355W. Environmental Engineering Analysis. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: PHYS 231N, CHEM 116N or CHEM 117. Introduction to laboratory analytical techniques used in environmental engineering analysis. Integrates field and laboratory testing with engineering analysis and design of treatment systems.

356. Public Health Engineering. Lecture 3 hours; 3 credits. Prerequisite: CHEE 335W or 350. Principles of public health engineering. Includes the study of contaminant interactions with human populations, pathogen identification and transport in the environment and design of on-site wastewater treatment systems.

365. Transportation Engineering. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Planning, design, and construction of transportation facilities for people and goods.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management. In accordance with the policy for granting credit for cooperative education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship. 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

369. Practicum. 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

403W. Civil Engineering Design Project. Lecture 1 hour; laboratory 4 hours; 3 credits. For graduating seniors only. Group design project of civil engineering systems. Data gathering, preliminary investigation, master planning, conceptual designs, layouts, support studies, cost estimates and report writing. Emphasis will be on alternatives, constraints, economics, use of consultants, schedules, professional ethics and current practice, and written and oral presentations of reports. (qualifies as a CAP experience)

404. Environmental Engineering Design Project. Lecture 1 hour; laboratory 4 hours; 3 credits. For graduating seniors only. Synthesis of environmental engineering fundamentals into integrated systems design. Emphasis on pollution prevention and life cycle design concepts. Student projects, with instructor guidance, leading to design presentation and report. (qualifies as a CAP experience)

405. Environmental Engineering Seminar. 1 credit. Prerequisite: junior standing or permission of instructor. Examines national and international opportunities for the field of environmental engineering including developing regulations that influence the industry. Prepares students for entry-level environmental engineering employment.

410. Concrete Design I. Lecture 3 hours; 3 credits. Prerequisites: CEE 230 and 310. Fundamental concepts of reinforced concrete analysis and design by ultimate strength and working stress methods.

411/511. Concrete Design II. Lecture 3 hours; 3 credits. Prerequisite: CEE 410 or equivalent. Analysis and design of complex concrete structural members, flat and two-way slabs, special topics and introduction to prestressed concrete design.

412W. Structures Project. Lecture 3 hours; 3 credits. Prerequisite: CEE 310. Analysis of indeterminate structures using classical and modern, computerized techniques. Fundamental theorems of structural mechanics and their applications. Design examples and computer applications.

415. Steel Structures Design. Lecture 3 hours; 3 credits. Prerequisite: CEE 310. Load and resistance factor design methods for steel structures.

416/516. Wood Structures Design. Lecture 3 hours; 3 credits. Prerequisite: CEE 310. Design of wood structures based on national design specification and load and resistance factor design.
420/520. Foundation Engineering. Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Subsurface exploration, site preparation, design of shallow and deep foundations, and retaining structures.

421/521. Earth Structures Design with Geosynthetics. Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Seepage and stability analysis and design of manmade and natural slopes and retaining structures. Applications of geosynthetic material to seepage control, reinforcement of earth works, and containment of hazardous stock.

430/530. Introduction to Earthquake Engineering. Lecture 3 hours; 3 credits. Prerequisites: senior standing and permission of the instructor. An overview of earthquake processes and details of the characteristics of destructive ground motion; the effects of such motion on civil engineering structures; reviews of current design practice in mitigating earthquake hazards for various civil engineering structures such as buildings, bridges, dams, lifelines, ports and harbors, etc.

440/540. Hydraulic Engineering. Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Hydraulic transients; control structures; computer analysis of hydraulic systems; design of pipelines, open channels and culverts.

446/546. Urban Stormwater Hydrology. Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Storm rainfall analysis, design rainfall hyetographs, runoff calculation procedures, detention basins, analysis of mathematical models to analyze and design urban storm drainage systems.

447/547. Groundwater Hydraulics. Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Description of well hydraulics in single and multiple well systems. Determination of aquifer parameters from pumping tests. Use of computer models to determine drawdowns due to multiple well systems.


451. Water and Waste Water Treatment. Lecture 3 hours; 3 credits. Prerequisites: CEE 330, CEE 250 or 350. Description of water quality constituents and introduction to the design and operation of water and waste water treatment facilities.

452/552. Air Quality. Lecture 3 hours; 3 credits. Prerequisite: CEE 250 or 350. Study of air quality management standards and regulations and pollutant dynamics. Design and operation of emission control equipment for mobile and stationary sources of air pollution.

454/554. Hazardous Wastes. Lecture 3 hours; 3 credits. Prerequisite: CEE 250 or 350. Study of sources, generation rates and characteristics of hazardous wastes and their regulation, handling, and design of treatment and disposal facilities.

458/558. Sustainable Development. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Overview of social, economical, technical environmental aspects of regional, national and international efforts to achieve sustainable development. Discussion of the integration of industrial activity and ecological concerns utilizing principles of zero emissions, pollution prevention and design for the environment.

482/582. Introduction to Coastal Engineering. Lecture 3 hours; 3 credits. Prerequisites: CEE 330 and permission of the instructor. Classical small amplitude wave theory, wave transformations in shallow water, shoaling, refraction, diffraction, reflection, breaking. Wave induced near shore currents and sediment transport processes. Alternatives to mitigate coastal erosion processes. Introduction to coastal structures.

495/595. Topics in Civil and Environmental Engineering. Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Special topics of interest with emphasis placed on recent developments in civil and/or environmental engineering.

Civil Engineering Technology — See Engineering Technology

Communication — COMM

101R. Public Speaking. Lecture 3 hours; 3 credits. Preparation, delivery, and analysis of types of speeches with emphasis on extemporaneous speaking.

103R. Voice and Diction. Lecture 3 hours; 3 credits. An introduction to the analysis and practice of effective voice and articulation. Applications across various communication contexts, such as public communication, media, and social communication.

112R. Introduction to Interpersonal Communication. Lecture 3 hours; 3 credits. An introduction to concepts, processes, and effects of communication in personal and social relationships. Emphasis on fundamental communication skills necessary for the formation and maintenance of relationships.

126R. Honors: Public Speaking. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A study of the theory, strategies, and techniques of public speaking with emphasis on its application to effective conflict resolution.

175. Forensic Activities. 1 credit. Participation in University forensic activities as assigned by the instructor. May be repeated consecutively as COMM 176, 275, 276, 375, 376, 475, 476.

195, 196. Topics in Communication. 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These topics will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

200S. Introduction to Human Communication. Lecture and discussion 3 hours; 3 credits. An introduction to the discipline and methods of human communication. Survey of the major approaches to studying communication across the range of human communication contexts and functions.

226S. Honors: Introduction to Human Communication. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of COMM 200S. Prerequisite: junior standing or permission of instructor. A course designed to prepare ODU study-abroad students for successful international sojourns. Topics to be covered include culture, culture shock, reverse culture shock.

230. Communication Research Methods I. Lecture 3 hours; 3 credits. Prerequisites: STAT 130M, COMM 200S and six hours of 300-400 level communication courses or permission of instructor. An introduction to communication research from a social science perspective. A survey of content analysis and observational approaches are covered. Students learn statistical data collection and data analysis techniques.

233. Public Relations in Communication Industries. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or permission of the instructor. A study of the public relations field and its relationships among communication workplaces and the public. Attention is given to the media, promotions, community relations, and public information.

234. Advanced Public Speaking. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of instructor. A study of the research and professional aspects of public speaking. Attention is given to audience analysis, library research, development of arguments/evidence as content, creation and use of professional visual aids, expression of appropriate verbal and nonverbal speech cues, speaker credibility, and extemporaneous delivery skills.

235. Professional Communication. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. An examination of both the theory and practice of communication in the professional setting. Content includes communication theory, as well as the roles of interpersonal, small group, organizational, and mass media communication as related to the workplace. A student receiving credit for COMM 305 cannot receive credit for COMM 200S.

236. Diplomatic Communication. Lecture 3 hours; 3 credits. Prerequisite: COMM 300 or 400. This course is designed to familiarize students with the basic elements of diplomatic communication by providing them with an overview of the language, the protocol, contact practices, and administrative policies of the Diplomatic Corps. Students will be trained in the technical aspects of diplomatic discourse from resolution writing to mission briefings, and the ever-evolving use of computers and other electronic modes of communication in carrying out government business.

237. Understanding European Film. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course provides students with an historic overview of films from a variety of European countries. Students will gain the vocabulary necessary to analyze individual films and for the comparative analysis of films from different cultural and historical contexts. The course will focus on issues such as national and individual identity, film as aesthetic form, gender and sexuality, and popular culture. (cross-listed with THEA 270A)

* Designated for activity credit.
308. Public Relations Writing. Lecture 3 hours; 3 credits. Prerequisite: COMM 303 or permission of the instructor. This course is designed to introduce students to the basic elements of writing for public relations; through examination of scholarly texts, case studies and media coverage of public relations scenarios, students will develop an understanding of the crucial role that writing plays in effective public relations. Students will also be required to complete several writing assignments that relate to actual public relations scenarios.

311. Communication and the Classroom. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of communication education topics and issues relevant to communication in the classroom. Topics may include children's communication development, teacher-pupil relationships, administration, and communication activities for the elementary and secondary classroom.

314. Nonverbal Communication. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. An introduction to the theories, processes and effects of communication in nonverbal codes. Topics include communication differences as a function of gender, theories which seek to explain these differences, and prescriptions for change: “the hope of androgyne.”

323. Leadership and Events Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. The course covers the systematic process of organizational assessment from basic communication channels (verbal, printed, and electronic modes of communication), to interpersonal and group communication, to the management of events and staff. The course will examine the importance of leadership roles within organizations in planning any event as well as the communication dynamics between management and those being supervised.

326. Foundations of Group Communication. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. An introduction to the study of communication in task groups. Course reviews foundational literature and emphasizes communication competencies relevant to optimizing group outcomes including group observation, participation, assessment, and leadership.

331. Argumentation and Debate. Lecture 3 hours; 3 credits. Prerequisite: COMM 101R or permission of the instructor. Study of the principles of argumentation; frequent practice in debating current public problems.

333. Persuasion. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of the rhetorical and social scientific theories and research about persuasion and applications in speeches and campaigns.

335W. Rhetorical Criticism. Lecture 3 hours; 3 credits. Prerequisite: COMM 101R or permission of the instructor. With the goal of being able to critique a communication event, students will study a variety of rhetorical approaches that may include neo-Aristotelian, generic, feminist, metaphoric, fantasy theme, and paratopic approaches to rhetorical criticism.

337. The Video Documentary I. Lecture 3 hours; 3 credits. Prerequisite: COMM 101R. A study of the basic principles of negotiation and diplomacy through the vehicle of a simulation. The students will study political, economic and social issues that impact upon the Middle East, research and prepare issue positions and debate/discuss these positions in a model. The course is organized to allow students to complete several writing assignments that relate to actual public relations scenarios.

341. Lighting Design for Stage and Film. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 370. This is a production course introducing students to the world of light and shadow, mood and composition by surveying lighting design, its technologies for stage and camera, studio setting, and stage/studio/location design aesthetics. (cross-listed with THEA 341)

346. Introduction to Screenwriting. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing, ENGL 110C and 111C. A course that exposes the student to the fundamental narrative screenwriting principles taught through text reading, film viewing and analysis, class discussions, and writing assignments. (cross-listed with THEA 346)

348. Camera Acting. Laboratory 2 hours; 1 credit. Prerequisite: THEA 242. Course will examine the process of building characters for the camera, and the ways in which the conventions to the stage are adapted for the film or video audience. (cross-listed with THEA 348)

351. Interpersonal Communication in Organizations. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. Focuses on communication theories emphasized in the study of a variety of forms of communication in organizational relationships. Topics include superior-subordinate communication, interviewing, and presentations with an emphasis on a diversity of perspectives and types of organizations.

355. Organizational Communication. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of instructor. Focuses on critical analysis of theory and research organizations as functional communication systems at the individual, dyadic, small group, and organizational levels. Topics include information processing, problem solving, impression management, compliance gaining, and network analysis.

360. Understanding Mass Communication. Lecture 3 hours; 3 credits. An examination of mass communication books, newspapers, magazines, radio, TV, film, sound recordings, and the Internet as a global institution, industry, and social force. Media literacy skills are emphasized, as are matters of methodology, content, economics, history and impact.

364. Radio. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of the instructor. Focuses on programming, station practices, ownership, and operations of radio stations in the context of past, present, and future market and regulatory restrictions. Demonstration audio tapes and station visits required.

365. Electronic News. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of instructor. Focuses on preparing news for the electronic media, including evaluation of newscasts and news reports for radio, television, and cable. Electronic news on the local, national, and international levels is analyzed as an institution and as a social force.

367. Cooperative Education. 1-3 credits (may be repeated for credit with approval of department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

368. Internship. 3 credits. Prerequisite: approval of department chair prior to registration. Available for pass/fail grading only. A structured work experience with or without remuneration, in a communication-related field. A log and portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

369. Research Practicum. 3 credits. Prerequisites: completion of core courses and 6 hours of upper-level major courses, and approval of supervising faculty and department chair, prior to registration. A structured research experience, under the supervision of communication faculty member. A paper evaluating/analyzing the research, a log of research progress, and satisfactory evaluation by the supervising faculty are required. (qualifies as a CAP experience)

370. The Video Project. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A studio course that presents an opportunity for students to explore production through the eye of the camera. The course is organized to allow students to experience the entire process of developing a project from concept to camera scripting through pre-production, filming to editing and finishing detail. (cross-listed with THEA 370)

377, 378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: approval of the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

380. The Video Documentary II. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 370. This course is a studio course offering the student an opportunity to explore the world of documentary filmmaking. By using the camera as a research tool in developing evidence in support of a thesis the student is better able to understand the role that documentary filmmaking plays today. Students will develop projects leading towards the completion of a short documentary film or video. (cross-listed with THEA 380)

385. Cinematography. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 370. Introduces students to the fundamentals of the videographed digital image. The course explores live-action photography, compositing,
filters, digital formats, motion control, and grip equipment. The concepts of the course are applied to fiction and nonfiction cinema. (cross-listed with THEA 385)

400W/500. Intercultural Communication. Lecture 3 hours; 3 credits. Prerequisites: COMM 200S or permission of the instructor. With a goal of understanding the perspectives of other cultures and resolving possible conflicts, students will examine the role of perception, language, belief systems, social structures and culture practices. Applications will be made to specific cultures.

401W/501. Communication Theory. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of general and contextual theories of communication. Focus is on the nature of communication theory, the role of theory in communication inquiry, and relationships among theory, research, and practice.

402/502. Communication Research Methods II. Lecture 3 hours; 3 credits. Prerequisite: COMM 302. An advanced communication research methodology course emphasizing quantitative approaches to communication research. Students will acquire skills necessary to conduct original communication research. Research project.

403/503. Public Relations and Crisis Communications. Lecture 3 hours; 3 credits. Prerequisite: COMM 303 or permission of instructor. This course introduces students to the basic elements of public relations as it pertains to assisting organizations avoid, mitigate and recover from crisis situations. Students will have the opportunity to both observe and participate in crisis communications situations.

405. Communication and Culture in the Middle East. Lecture 3 hours; 3 credits. Prerequisite: six hours of first-year level social science. The course examines the tensions between modernity and tradition in the context of Middle East culture. Cultural variables for study include myth and religion, family structures and the use of science and technology. (cross-listed with MIDE 405).

407/507. Communication and Culture in Southeast Asia. Lecture 3 hours; 3 credits. Prerequisite: 6 hours of lower level social science. Course provides theoretical models for examining the values, communication patterns and cultural perspectives of the peoples of Southeast Asia. Films, folklore, newspapers and literature from Southeast Asia will be studied. (cross-listed with ASIAN 307).

412W/512. Interpersonal Communication Theory and Research. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S. A survey of classic and contemporary theories and research of communication in personal and social relationships across the lifespan. Emphasizes communication as a means to facilitate conditions for development of positive relational outcomes.

421W/521. Communication and Conflict Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S or permission of the instructor. Focus on theory and research of communication processes in conflict episodes across social and personal relational contexts. Applications of communication approaches to conflict management emphasized.

425/525. Family Communication Theory and Research. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S or permission of the instructor. A survey of classic and contemporary theories and research of communication in family units, family relationships, and family interfacing with society. The course emphasizes communication in the social construction of evolving “family” realities as well as communication as means to facilitate conditions for development of positive domestic outcomes.

426/526. Group Communication Theory and Research. Lecture 3 hours; 3 credits. Prerequisites: COMM 200S and 326. A survey of classic and contemporary theories and research of communication in task groups as well as the interconnections of task groups with societal institutions such as the family, government, and health care. Communication factors that facilitate conditions for creating and maintaining optimally functioning groups are emphasized.

427/527. Children’s Communication: Theory, Research, Applications. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of instructor. A survey of theories and research of communication during childhood. Emphasis is on children as developing communicators, their relationships, and their interactions with media. Factors affecting optimal development of children’s communication and development of applications to enhance children’s communication development are emphasized.

434/534. African-American Rhetoric—Voices of Liberation. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. With the goals of examining the rhetorical strategies and their historical context, students will study and critique original speeches and various forms of discourse by African-American speakers.

444/544. German Cinema. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 200S. This course will focus on the German cinema from perspectives such as fascism and its legacy, women and the cinema, and Weimar cinema. (cross-listed with GER 445/545 and FLET 445/545).

445/545. Communication Analysis and Criticism. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. A survey of the key methods used in critiquing various forms of human and mediated communication for the purpose of becoming more discerning consumers of public and mass mediated messages. Analysis will include films, television, and radio programs, advertisements, newspapers, public discourses, speeches, and conversations.

446. Directing for the Camera. Lecture 2 hours; 3 credits. Instructor: Bertram Prentice. An upper division course in television and film production, COMM 370 or THEA 370. This course seeks to provide students with fundamental principles and practical techniques of directing the narrative fiction film: script development and analysis, production planning, shot composition and framing, and working with actors and crew. (cross-listed with THEA 446)

447W/547. Electronic Media Law and Policy. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of the instructor. Course will focus on legal and policy issues related to modern media systems and technologies, with an emphasis on legal considerations of electronic media. Subjects will include First Amendment issues concerning news, programming, and advertising; station licensing; and challenges to traditional legal thought brought about by new technologies.

448/548. International Media Systems. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of the instructor. An examination of the rise of broadcast technology and world flow of information and entertainment. Theory and policy issues of systems of broadcast ownership, access, regulation, programming, transborder, broadcasting and cultural imperialism and dominance of Western programming will be addressed.

450W/550. Remote Control: Women and Global TV Culture. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. The course introduces students to women’s participation in television industries across the world, as audience members, producers of programs, and subjects of television shows. Students will be trained in both feminist and media theories to understand the formation of contemporary national and global TV culture. (cross-listed with WMST 450W/550)

455/555. Critical Analysis of Journalism. Lecture 3 hours; 3 credits. Prerequisite: COMM 300 or permission of instructor. A critical examination of the news industry as practiced in the printed press, network and cable television, magazines, the Internet, and alternative press. Class examines the political economy of journalism, the sociology of journalistic practice, international news flows, ideological/political control of news, and mythological narrative forms within news.

456/556. Organizations and Social Influence. Lecture 3 hours; 3 credits. Prerequisites: COMM 333 or 355 or permission of the instructor. Focuses on theories, research and applications of the social influence function of communication in a variety of organizational contexts. Examines traditional and nontraditional social influence theories and research as applied to organizational change.

465/565. Mass Media and the National Elections. Lecture 3 hours; 3 credits. Prerequisite: COMM 360, junior standing, or permission of the instructor. Focuses on how presidential campaigning and elections from 1952 to the present. Topics include image creation and management, and the relationship between media and voting behavior.

467/567. Media, Politics and Civic Engagement. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of instructor. Focuses on the ways in which citizens develop knowledge of, engage with, and practice politics through mass media and personal media forms. Students examine historical and contemporary practices of civic engagement and political organizing via media such as the alternative press, talk radio, rebel radio, letters-to-the-editor, the Internet, media representations, public access television, and others. Students seek to understand the power available to citizens for political engagement via mediated communication forms.

468/568. Communication and Political Symbolism. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of instructor. The persistent communication and display of symbols and rituals of political meaning are central to how political power is built and legitimately exercised. This course examines such symbols and rituals by focusing on public rituals such as elections, the State of the Union address, and wars; political symbols such as the American
and Confederate flag, Statue of Liberty, and television news; and institutions and practices related to public memory, such as war memorials, historical reenactments, museum and theme park displays.

469. Communication Education Practicum. 3 credits. Prerequisites: completion of core courses and 6 hours of upper-level major courses, and approval of supervising faculty and department chair, prior to registration. An examination of communication education theory and methodology via structured experiences and readings. Students taking this course serve as teaching assistants for COMM 200S, which serves as a lab for practicing skills and techniques.

471W/571. International Film History. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of world cinema as a technology, a business, an institution, and an art form from its inception to the present. Emphasis is on the narrative fiction film, its technological and aesthetic development, economic organization, and socio-cultural context. Representative classic and contemporary works will be screened and analyzed. (cross-listed with THEA 471W/571)

472T/572. New Media Technologies. Lecture 3 hours; 3 credits. Prerequisite: COMM 360 or permission of the instructor. Course will define and explain the new media which are changing the production and reception of information, entertainment, and interpersonal messages; explore the place of humankind in relation to technology; investigate the impact of new technology on the acquisition of new technology and access to the spectrum by developing nations.

473/573. Television and Society. Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 360. The role of television in the cultural, psychological, and economic life of America. The structure and design of television programs; and the history and function of television in reinforcing or altering public perceptions of ideas, events, and people. Major critical approaches are employed in examining television's social impact and global reach.

474/574. Telecommunications Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing, COMM 360, or permission of instructor. Course will introduce students to the principles of electronic media management, marketing, and promotion. Subjects will include the financing and economic structure of media organizations, personnel management, and the roles of media enterprises in the entertainment and information marketplaces.

477/577. Media Content Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing, COMM 360, or permission of the instructor. An examination of the theory and practice of media programming techniques. Strategies will be studied, including scheduling, program selection and development, and promotion. Television and radio will be emphasized, but new distribution platforms will also be considered.

478/578. Principles of Media Marketing and Promotion. Lecture 3 hours; 3 credits. Prerequisite: junior standing, COMM 360, or permission of the instructor. Course will introduce students to the ways in which different media forms are used for advertising and marketing purposes. Emphasis is on electronic media, though other approaches, such as direct marketing techniques and the increasing use of new media technologies for marketing, will also be examined.

479/579. American Film History. Lecture 2 hours, laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of American motion pictures as an art form, focusing on an art form from its inception to the present. Primary attention is accorded to the narrative fiction film, its aesthetic and technological development, economic organization and social impact. This course highlights the many connections between film history and American culture. (cross-listed with THEA 479/579)

480/580. The Video Documentary II. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: COMM 380. This is a production/studio course designed to complete the preparatory work developed in Theatre 380: The Video Documentary I, with the completion of a short documentary film. Students in this course, meeting on a regular, arranged basis, will help complete their productions and work on field research and production. Discussion/presentation topics range from production field work to post-production editing. The final third of the semester will be devoted to compiling the rough footage in post production. (cross-listed with THEA 480/580)

482. Screenwriting Theory. Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 346. Students explore visual storytelling through the theories guiding character development, narrative construction, thematic layers, scene analysis, and many more. Students participate in a variety of critical and writing exercises to enhance their knowledge of the craft of screenwriting. (cross-listed with THEA 482)

483. Advanced Video Project. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 370. This course introduces students to the processes and techniques of a narrative film production. Students experience pre-production, production, and post-production phases in creating a product to be entered in regional and national competitions. (cross-listed with THEA 483)

486/586. Advanced Filmmaking. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: COMM 380, and THEA 442. Offers the advanced film/video maker an opportunity to produce a project beyond the scope of previous classroom projects. Students come to the course in production teams (typically 5 members), with each member assigned a specific duty (cinematography, editing, directing, etc.). Students will be permitted into the course solely by instructor approval and only after demonstration of superior skills in subordinate courses and acceptance of a submitted screenplay. (cross-listed with THEA 486/586)

495/595, 496/596. Topics in Communication. 3 credits each semester. Prerequisite: approval of survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

497/597, 498/598. Tutorial Work in Special Topics in Communication. 3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Community Health Professions — CHP

300. Health: Lifestyles and Awareness. Lecture/seminar 3 hours; 3 credits. Prerequisite: completion of ENGL 110C and lower-division natural and social sciences (Biol recommended). Designed for nonhealth majors. Course will introduce students to specific institutions, procedures and current concepts within the health-care arena. Students will investigate and evaluate facts and fiction of wellness and health status as well as mechanisms available to measure and maintain health. Students’ decision-making skills will be explored and developed through in-class and out-of-class projects. Taught by selected faculty from the College of Health Sciences.

310. Clinical Services II. Lecture 3 hours; clinic 4 hours; 5 credits. Prerequisite: junior standing and permission of the instructor. This course will require the student to demonstrate competence in a clinical skill at the entry level.

318. Principles of Nutrition. Lecture 3 hours; 3 credits. Prerequisites: CHEM 101N-102N or 115N-116N, or the equivalent; BIOL 190 or 250 or 251 or permission of the instructor. Course designed especially for those entering the health education or health care field, covering the physiology of each of the major body systems as a basis for understanding those aspects of its function that reflect the importance of various nutrients.

320. Clinical Services II. Lecture 3 hours; clinic 4 hours; 5 credits. Prerequisite: junior standing and permission of the instructor. The course will require the student to demonstrate competence in a clinical skill at the intermediate level.

330. Clinical Services III. Lecture 3 hours; clinic 4 hours; 5 credits. Prerequisite: junior standing and permission of the instructor. This course will require the student to demonstrate competence in a clinical skill at the advanced level.

360. Health Care in NonWestern Countries. Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C, SOC 201S or ANTR 110S, or permission of the instructor. This course introduces students to health-care delivery systems of nonWestern countries, specifically developing countries. The various factors that influence health-care planning and delivery of health services are addressed.

369. Practicum in Health Sciences. 1-3 credits. Prerequisites: junior standing and approval of the Health Sciences Advisor and the Career Management Center. This is a 1-3 credit course intended for the student in the College of Health Sciences seeking a CAP experience. (qualifies as a CAP experience)

395. Topics in Health. 1-3 credits. 400/500. Philosophy of Health. Lecture 3 hours; 3 credits. Study of philosophical problems common to health sciences, including an analysis of the nature of health in its historical and contemporary contexts.

415W/S15. Critical Issues in Community Health. Lecture 3 hours; 3 credits. Identification
and analyses of critical issues currently facing community health and the American health care system.

420/520. Foundations of Gerontology. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Focuses on changes in the characteristics, status, and roles of the elderly; personality development, mental health, and adjustment of individuals with emphasis on biophysical and psychosocial processes as they influence capacity and performance in the elderly.

425/525. Health Aspects of Aging. Lecture 3 hours; 3 credits. Prerequisite: CH 420/520 or permission of the instructor. Identifies major issues and problems in meeting health care needs of the aged. Emphasis on role of social assets and supports in determining effects of life changes on the aging process.

426/526. Skills in Health Care Management I. Lecture 3 hours; 1 hour lab; 1-3 credits. Prerequisite: permission of instructor. Introduction of basic concepts which will allow for development of critical skills in a variety of managerial areas pertinent to the delivery of health care. Prerequisite: permission of instructor. Experts in various fields will provide students with useful information to be used in the management of health care services.

427/527. Skills in Health Care Management II. Lecture 2 hours; 1 hour lab; 1-3 credits. Prerequisite: permission of instructor. Continuation of basic concepts and development of critical management skills pertinent to the delivery of health care. Prerequisite: permission of instructor. Experts in various fields will provide students with useful strategies in the administration of health care services.

430W/530. Community Health Resources. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Designed to provide information about community health resources.

455/555. Interpersonal and Counseling Skills for Health Professionals. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Study and practice in human relations for health practitioners. The course is designed to incorporate the latest and best techniques from the health sciences with a “therapeutic use of self.”

456/556. Substance Abuse. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Focuses on facts about drugs and drug abuse, on value judgments concerning drugs, and on interaction of facts and value judgments. Emphasis is on drug abuse prevention.

460/560. Health and Family Life. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Course will focus on marriage and family in the closing decade of the 20th century. Video-taped documentary materials and assigned readings provide balance between research and theory, while classroom discussions enable students to achieve practical understanding of their own families and those of others. Abuse. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Focuses on facts about drugs and drug abuse, on value judgments concerning drugs, and on interaction of facts and value judgments. Emphasis is on drug abuse prevention.

470/570. Death, Dying and Surviviorship. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Utilizes readings from sociology, psychology, literature, art, law, religion, and the medical and nursing sciences to explore death in its personal, cultural and professional significance. Audiovisual presentations and guest speakers will provoke thought and discussion to allow students to come to terms with their attitudes toward death and assist others in dealing with this important life experience.

480/580. Legal/Ethical Issues in Health Care. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. This course provides the student with a basic knowledge of health law and ethics and examines legal and ethical issues confronting health care providers in various health care environments.

497(S). 596. Topics in Community Health. 1-3 credits. Prerequisite: permission of the instructor. This course provides the opportunity for the study of selected topics in community health, under the supervision of a faculty member.

497/597. Readings in Community Health. 1-3 credits. Prerequisite: permission of the instructor. This course provides an opportunity for advanced investigations of selected issues/concerns/trends in community health, under the supervision of a faculty member. It may be taken by students who wish to pursue topics not covered by regularly scheduled courses.

Computer Science — CS

101D. Computers: An Introduction. Lecture 3 hours; 3 credits. Laboratory work required. An introductory course about computers and how they work. Students need no prior experience with computers. Students will receive a useful survey of computer technology including system, word processing, electronic spreadsheet, graphic presentation, and other software available in the university computer labs.

102. Introduction to Networks and the Internet. Lecture 3 hours; recitation 1 hour; 3 credits. Laboratory work required. Introduction to networked computer systems that have access to the Internet with its vast information. Emphasis on a computer network’s architecture, the University’s network, electronic mail, Wide World Web, WWW browsers, and gaining access to information that resides on computer systems throughout the world. Knowledge of how to effectively use the Internet and the understanding of how and why it works are critical elements.

110. Introduction to Computer Science. Lecture 1 hour; 1 credit. Available for pass/fail grading only. Introduction to the Computer Science Department, College of Sciences, Old Dominion University, and to the profession of computer science. This course includes a broad introduction to the scientific research efforts of computer science and the applications using those research efforts. Required for incoming computer science majors.

126D. Honors: Computers - An Introduction. Lecture 3 hours; 3 credits. Laboratory work required. Open only to students in the Honors College. A special honors version of CS 101D.

147, 148. Introductory Computer Programming I, II. Lecture 2.5 hours; laboratory 1.5 hours; 3 credits. Corequisite: MATH 102M or equivalent. This two-semester sequence covers the same material as CS 150 with additional emphasis in problem solving and computer program development.

149D. Elements of Computer Science. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: MATH 102M or equivalent or higher math course, ability to use email and a web browser. Laboratory work required. Topics include: basic computer organization, data representation, programming environments, elementary programming, simple networking concepts, the Internet, and related digital technologies. Students develop simple programs related to science applications.

150. Problem Solving and Programming I. Lecture 3 hours; laboratory 2.5 hours; 4 credits. Prerequisite: MATH 102M or equivalent. Laboratory work required. Introduction to computer science based on problem solving and programming in C++. Topics include problem-solving methodologies, program design, algorithm development, and testing. C++ language concepts include variables, data types and expressions, assignment, control-flow statements, arrays, sorting, functions, pointers, and linked lists.

170. Introduction to Computer Architecture I. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. Fundamentals of the architecture and operation of modern computers. Basic computer logic: logic equations; gates; combinatorial logic. Basic computer arithmetic: binary numbers; floating point representation. System hierarchy, overview of a computer; integrated circuit technology, Performance; metrics; choosing benchmarks; Amdahl’s law. Instruction Sets and Operations: assembly language; machine languages; examples of other instruction sets.

250. Problem Solving and Programming II. Lecture 3 hours; laboratory 2.5 hours; 4 credits. Prerequisites: CS 147, 149D, or MATH 162M. Corequisite: CS 252. Laboratory work required. Software design issues arising in large problems and C++ constructs aiding in their solution. Topics include the software life cycle, methods of functional decomposition, design documentation, abstract data types and classes, common data structures, dynamic data structures, algorithmic patterns, and testing and debugging techniques. The standard library and templates are introduced. Large project required.

252. Introduction to Unix for Programmers. Lecture 1 hour; 1 credit. Prerequisites: CS 147, 149D, or 150. Laboratory work required. Available for pass/fail grading only. An introduction to Unix with emphasis on the skills necessary to be a productive programmer in Unix, Linux, and related environments. Topics include command line shells, files and directories, editing, compiling and common command line utilities.

270. Introduction to Computer Architecture II. Lecture 3 hours; 3 credits. Corequisites: CS 147, 149D, and MATH 162M. Corequisite: CS 252. Laboratory work required. Software design issues arising in large problems and C++ constructs aiding in their solution. Topics include the software life cycle, methods of functional decomposition, design documentation, abstract data types and classes, common data structures, dynamic data structures, algorithmic patterns, and testing and debugging techniques. The standard library and templates are introduced. Large project required.

295. Topics in Computer Science. 1-3 credits. Special topics in computer science which are not part of the current curriculum at the freshman/sophomore level.

300. Computers in Society. Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and COMM 101R, and computer skills required in the student’s major. Covers changes in the world’s society due to continuing implementation of computing technologies. Evaluation of technological expansions in areas of governments, business/industry, education, medicine, transportation, communication, and entertainment. Topics include: intellectual property, software privacy, computer crimes and ethics. Students must research a societal topic and present results in written and oral formats.
312. Internet Concepts. Lecture 3 hours; 3 credits. Prerequisite: CS 252. Laboratory work required. An in-depth introduction to the Internet and the World Wide Web for CS or similar majors as a basis for understanding programming, Internet tools, and Web documents publishing including HTML and Cascading Style Sheets. Internet design and communication protocols including: TCP/IP, FTP, HTTP, SMTP, telnet and the tools that use them. Internet search tools and their design will be studied. Internet issues such as netiquette, copyright, spam, computer viruses, cookies, security, and future of the Internet will be addressed.

330. Object-Oriented Programming and Design. Lecture 3 hours; 3 credits. Prerequisites: MATH 163, CS 252 and either CS 250 or CS 333. Laboratory work required. The techniques and idioms of object-oriented programming in C++ and Java. Methods of object-oriented analysis and design with the Unified Modeling Language. Multi-thread programs and synchronization.

333. Programming and Problem Solving in C++. Lecture 4 hours; 4 credits. Prerequisites: CS 150 (or an equivalent course in a high level language) and MATH 163. Laboratory work required. Corequisite: CS 252. Topics include C++ syntax and semantics, principles of design and basic software engineering skills. This course satisfies the requirements of both CS 150 and 250. It is intended for the student who has already been introduced to programming, possible in another language. This web-based course requires considerable responsibility on the part of the student.

334. Computer Architecture Fundamentals. Lecture 4 hours; 4 credits. Prerequisites: CS 150 (or an equivalent course in a high level language) and MATH 163. Topics include: number representation, base conversion, Boolean algebra, combinatorial circuits, arithmetic units, registers, memory, hardwired and microprogrammed control units, architecture of typical microcomputers, and the development of systems from basic components. The performance of competing architectures will be a major concern. This course satisfies the requirements of both CS 170 and 270. This web-based course requires considerable maturity and independent responsibility on the part of the student.

350. Introduction to Software Engineering. Lecture 3 hours; 3 credits. Prerequisite: CS 330 or 361. Laboratory work required. Topics include: use of a defined software process (such as PSP), software costing methods, software metrics, quality assurance, inspection teams, testing methodologies, formal specifications, schedules and budgets, and configuration management. The course requires each student to participate as a member of a team in a significant team project. Each student will be required to demonstrate proficiency in several software development tools and the organization of a software development project. Small programs in several languages required.

355. Principles of Programming Languages. Lecture 3 hours; 3 credits. Prerequisites: CS 250 and 381. Laboratory work required. Survey of significant features of programming languages. Language types including imperative, functional, logical, and object-oriented are covered. Concepts include type systems, environments, flow control, and parallelism. A case study of a language. Small programs in several languages required.

361. Advanced Data Structures and Algorithms. Lecture 3 hours; 3 credits. Prerequisites: MATH 163, CS 252 and either CS 250 or 333. Laboratory work required. Common abstract data types, including vectors, lists, stacks, queues, sets, maps, heaps, and graphs. Standard C++ interfaces for these ADTs. Generic programming via iterators and templates. Choosing data structures and algorithms to implement ADTs via analysis of their time and space requirements.

367. Cooperative Education. 1-3 credits. Prerequisite: approval by the CS Department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the department and Career Management prior to the semester in which the work experience is to take place. Written report required. (qualifies as a CAP experience)

368. Computer Science Internship. 3 credits. Prerequisites: approval by CS Department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. An academic project may be required by the department to enhance the value of the educational experience. Written report required. (qualifies as a CAP experience)

381. Introduction to Discrete Structures. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisites: CS 150 and MATH 163. Topics include propositional and predicate logic, rules of inference, methods of proof, set operations, functions, complexity of algorithms, growth of functions, induction, counting, relations, equivalence relations and graphs.

390. Introduction to Theoretical Computer Science. Lecture 3 hours; 3 credits. Prerequisites: CS 250 and 381. Elementary study of theoretical aspects of computer science. Topics in formal languages and automata theory are covered including regular languages, regular expressions, finite automata, context-free languages, pushdown automata, grammars, Turing machines, and unsolvable problems.

394. Introduction to ORACLE and PL/SQL Programming. Lecture 1.5 hours; 1.5 credits. Laboratory work required. An overview of the ORACLE Database architecture, and an introduction to programming in SQL and PL/SQL. Basics of the ORACLE database architecture. Querying data in ORACLE. Creating the ORACLE database and other database objects. PL/SQL basic programming constructs.

395. Topics in Programming Languages. 1-3 credits. This course provides instruction in a selected programming language. Prior knowledge of programming is assumed (e.g. CS 150 or equivalent). Introduction to language principles, constructs, syntax, and applications. Includes an informal laboratory with programming assignments. May be repeated for credit in different languages.

410/510. Professional Workforce Development I. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisites: CS 300 and 350. Laboratory work required. Provides students with challenges of business environments in developing a technology based project. Students identify a societal problem, identify solutions, define project objectives, conduct feasibility analysis, establish organizational group structure to meet project objectives and develop formal specifications. Students make formal technical project presentations and develop web documentation. Students prepare a draft grant proposal.

411W/511. Professional Workforce Development II. Lecture 3 hours; 3 credits. Prerequisite: CS 410. Laboratory work required. Students write professional and non-technical documents and continue the development of the project defined in CS 410. Written work is reviewed and returned for corrective rewriting. Students will design and develop a project prototype, and demonstrate the prototype to a formal panel along with the written and the formal product specifications and a draft formal grant proposal. (qualifies as a CAP experience)

417/517. Computational Methods and Software. Lecture 3 hours; 3 credits. Prerequisites: CS 250 or MATH 316. Laboratory work required. Algorithms and software for fundamental problems in scientific computing. Topics: properties of floating point arithmetic, linear systems of equations, matrix factorizations, stability of algorithms, conditioning of problems, least-squares problems, eigenvalue computations, numerical integration and differentiation, nonlinear equations, iterative solution of linear systems.

418/518. Web Programming. Lecture 3 hours; 3 credits. Prerequisites: CS 312 and 330. Laboratory work required. Overview of Internet and World Wide Web; Web server and security, HTTP protocol; Web page design using JavaScript, dynamic HTML, etc; server side scripts and database integration, Java and PHP programming for the web.

419/519. Internet Databases. Lecture 3 hours; 3 credits. Prerequisites: CS 312 and 450. Laboratory work required. Database applications of the Internet. Explore database management systems suitable for implementing database applications over the Web. Database issues: design, human computer interface (HCI) techniques, WWW user survey results, and Website evaluation criteria for designing web database applications. Dynamic web page creation, and Semantic Web. Using database tools on the Internet such as Oracle Developer Forms.


451/551. Software Engineering Survey. Lecture 3 hours; 3 credits. Prerequisite: CS 330 or 361. Laboratory work required. Evaluation of software development methodologies. Topics include: software life cycle models, software specification and design methodologies, informal specification techniques, formal methodologies, design tools, software analysis, quality assurance, life cycle management, software costing models and complexity.

452/552. Database Software Development Methodology. Lecture 3 hours; 3 credits. Prerequisite: CS 450/550. Laboratory work required. Investigate advanced methodologies for the design and development of software in database environments. Focus on component-based architectures and/or object-oriented paradigms. Applying elements of these methodologies to modern database application environments, such as data marts, data warehousing, and data mining. Projects include
constructing multi-tier application software applying these methodologies using a state-of-the-art database platform.

454/554. Network Management. Lecture 3 hours; 3 credits. Prerequisites: CS 370, STAT 330. Laboratory work required. The administration of computer networks and their interaction with wide area networks: network topologies for local and wide area networks, common protocols and services, management of distributed file services, routing and configuration, security, monitoring and troubleshooting.

455. Introduction to Networks and Communications. Lecture 3 hours; 3 credits. Prerequisites: CS 270 and STAT 330. Laboratory work required. OSI and TCP/IP reference models and protocols. Hardware survey, datalink, network, and transport layers. Broadcast and point-to-point networking techniques, routing, switching, and LAN media access. Internetworking, ATM, Gigabit Ethernet, wireless networks, and network security.

456/556. Database Administration I. Lecture 3 hours; 3 credits. Prerequisite: CS 381 and either CS 330 or 361. Laboratory work required. Programming in SQL and PL/SQL and hands-on development of database administration skills including the ORACLE database environment. Creating database objects, querying and manipulating, and PL/SQL programming constructs. Setup and administer databases. Create, organize, and manage database files, users, privileges and other resources.

457/557. Database Administration II. Lecture 3 hours; 3 credits. Prerequisite: CS 456/556. Laboratory work required. Advanced DBA administration skills in the Oracle database environment. Overview and advanced topics in planning and implementing backup and recovery of the database. Performance optimization and tuning of database and applications including memory and disk structures. Configuration and maintenance of clients and servers in a network environment.

458/558. Unix System Administration. Lecture 3 hours; 3 credits. Prerequisite: experience with UNIX. Laboratory work required. Aspects of administration of basic UNIX: built-in, standard, and user-defined utilities in a networked environment are covered. Topics covered include installation, file system management, backup procedures, process control, user administration, device management, Network File Systems (NFS), Network Information Systems (NIS), UNIX security, Domain Name Services (DNS), and integration with other operating systems.

460/560. Computer Graphics. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Laboratory work required. An introduction to graphical systems and methods. Topics include basic primitives, windowing, transformations, hardware, interaction, 2D/3D graphics, curved surfaces, solids, and realism in scenes such as visible surface, lighting, shadows, and surface detail.

461/561. Computer Vision. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Laboratory work required. Image formation, extraction of structures and information from images, mathematical methods in computer vision, 2D and 3D reconstruction and visualization, model building from images, edge detection, shape from shading, stereo vision, structure from motion, range finders and range images, feature tracking, object representation and object recognition.

464/564. Advanced Network Design. Lecture 3 hours; 3 credits. Prerequisite: CS 454/554.

Laboratory work required. Wide area network design with emphasis on routing protocols. Topics include TCP and its stack, IP including addressing schemes, RIP, OSPF, BGP, EIGRP, ATM, QoS, MPLS, IS-IS, BGP, IP Relay, routers, switches and WAN security design.

471. Operating Systems. Lecture 3 hours; 3 credits. Prerequisites: CS 270 and 361. Laboratory work required. Operating system structures. Multithreading and multiprocessing. Process management. Memory management. Storage management, I/O systems, distributed systems. Protection and security. The concepts will be illustrated through example systems such as Unix and Windows.

472. Network and Systems Security. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Laboratory work required. Basic protocols, techniques and programming issues to secure network and computer systems. Topics include: cryptographic algorithms and concepts (Secret Key Cryptography, Hashes and Message Digests, Public Key and Authentication); Security Standards (Kerberos, Public Key Infrastructure, IPSec, SSL/TLS); Security applications (PEM, S/MIME, PGP, HTTP, Firewalls); Hands-on programming using the OpenSSL library.

475/575. Introduction to Computer Simulation. Lecture 3 hours; 3 credits. Prerequisites: STAT 330 and either CS 330 or 361. Laboratory work required. Efficient implementation methods. Time management. Planning and design of simulation experiments. Statistical issues in simulation. Generation of random numbers and stochastic variates. Programming with graphically- and text-based simulation languages. Verification and validation of simulation models. Distributed simulation. Special topics such as HLA will be discussed.

476/576. Systems Programming. Lecture 3 hours; 3 credits. Prerequisites: CS 330 and 361. Laboratory work required. This course is to help students fully understand and utilize the internal workings and capabilities provided by modern computing, networking and programming environments. Topics include: Shell Script Programming, X Windows (Xlib and Motif), UNIX Internals (I/O, Processes, Threads, IPC and Signals), Network Programming (UDP/TCP Sockets and Multicasting) and Java Systems Programming (SWING, Multithreading and Networking).

477/577. System Programming in Windows Operating Systems. Lecture 3 hours; 3 credits. Prerequisites: CS 330 and 471. Laboratory work required. Gain a basic understanding of systems programming for the Microsoft Windows® system programming platforms. This course covers the software architecture of current Windows® programming environments. Topics include desktop and network application programming.

490/590. Introduction to Artificial Intelligence. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Laboratory work required. Introduction to concepts, principles, challenges, and research in major areas of technical AI research. Areas of discussion include: natural language and vision processing, machine learning, machine logic and reasoning, expert systems, and robotics.

483. Analysis of Algorithms. Lecture 3 hours; 3 credits. Prerequisites: CS 361, MATH 316 or equivalent courses. Time and space complexity of algorithms, algorithms on graphs, string matching, fast Fourier transforms, evaluating polynomial functions, matrix multiplication, parallel algorithms, NP-complete problems and approximation algorithms.


487. Applied Parallel Computing. Lecture 3 hours; 3 credits. Prerequisites: CS 270 and either CS 361 or CS 330. (CS 417 or linear algebra is recommended.) Laboratory work required. Fundamental concepts of parallel computing. Machine models, architectures, parallel topologies and languages, parallel algorithm design and parallel programming, architecture independent message passing interface (MPI) communication library, and scaled-speedup.

498/598. Principles of Compiler Implementation. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Laboratory work required. Course will include theoretical and practical aspects of compiler design and implementation. Topics will include lexical analysis, parsing, translation, code generation, optimization, and error handling.

497/597. Independent Study in Computer Science. 1-3 credits. Prerequisite: permission of the instructor.

215S. Introduction to Criminology. Lecture 3 hours; 3 credits. Introduction to criminology as a science, including the study of crime, criminals, and society’s response to them.

222. The Criminal Justice System. Lecture 3 hours; 3 credits. An introduction to the interdependence of crime statistics, law enforcement, criminal courts, and correctional procedures for purposes of analyzing the entire system.

226S. Honors: Introduction to Criminology. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of CRJS 215S.

262. Law and the Criminal Justice System. Lecture 3 hours; 3 credits. The course covers both substantive and procedural law related to the definitions, investigations, processing and punishment of crimes. It is meant to provide the students with an overall understanding of the articulation between law and the criminal justice system.

295. Topics in Criminal Justice. Lecture 3 hours; 3 credits. A study of selected topics designed as electives for criminal justice majors. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

316. Juvenile Delinquency. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of instructor. A study of juvenile misbehavior in the contemporary community, its
Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship. 1-6 credits. Prerequisite: approval of the department. This course allows students to volunteer in an agency related to their major for pass/fail credit. Students must volunteer for 50 hours per course credit. Internships for less than three credits require prior approval by the Internship Faculty Director. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Prerequisite: permission of the department. (qualifies as a CAP experience)

395, 396. Topics in Criminal Justice. 3 credits each semester. Prerequisite: CRJS 215S or permission of the instructor. A study of selected topics designed for nonmajors or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

401W/501. Understanding Violence. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of the instructor. Examines a variety of forms of violence from suicide, child abuse, rape and family violence to murder, terrorism and the death penalty, and hate violence. Explores the circumstances, rationalizations, patterns, explanations and effects on survivors.

403W. Violence in the World of Children. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in the social science perspective or SOC 215S or permission of the instructor. This "child-centered" course examines the interaction of adults in violent conflict with the world of children, children's experience of violence and its meaning in the lives of children. Topics include: valuing children, violence toward children in culture, families, and schools; child physical and sexual abuse and neglect; gangs, violent communities and children and war. The effects of childhood experiences of violence, children's coping with violence, and alternatives to violence are also developed. (cross-listed with SOC 403W)

410/S10. Corrective Treatment. Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S or SOC 215S or permission of the instructor. This course introduces students to legal issues which affect women and girls, critical exploration of media portrayals of crime and criminal justice. News and entertainment culture, politics, society and individual behavior, and the mass media receive special attention.

421/S21. Deviant Behavior. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S or permission of the instructor. A critical exploration of media portrayals of crime and criminal justice. News and entertainment genres are examined. Connections between crime, community studies as well as larger-scale cultural comparisons are given special emphasis.

423/S23. Public Policy in Criminal Justice. Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S or 222 or permission of the instructor. A study of the nature, development, and utilization of public policy within agencies of the criminal justice system. Topics include policy formulation, constraints on policy makers, influence of constituencies, and the role of research information. Case studies of issues such as crime control, prison overcrowding, police use of deadly force, the death penalty and parole guidelines will be undertaken.

426W/S26. Criminological Theory. Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S and senior standing, or permission of the instructor. An in-depth study of the major theoretical issues in crime causation. Examines violence in the context of social and political inequality and feminist critique. Issues explored include pornography, prostitution, sexual harassment, incest, battering and rape. (cross-listed with SOC 427/527)

436. Capstone Research Project. Lecture 3 hours; 3 credits. Prerequisites: STAT 130M, SOC 337 and senior standing. Students will work in groups to plan, design, and carry out a research project. Final papers which report the results for the study will be presented in a formal research seminar. The projects will reflect knowledge gained from undergraduate work and training received in STAT 130M and SOC 337.

441/S41. History and Social Control. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S. The study of sociological and social psychological explanations of drug-using behaviors and of legal and medical control of drugs. Topics include changes in the legal status of drugs, cross-cultural and historical variations in the control of drugs, and social epidemiology of drug use in the contemporary society. (cross-listed with SOC 441/S41)

448/S48. Women, Sex Discrimination and the Law. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. This course introduces students to legal issues which specifically affect women and girls. Critical exploration of media portrayals of crime and criminal justice. News and entertainment genres are examined. Connections between crime, politics, society and individual behavior, and the mass media receive special attention.

450/S50. Blacks, Crime and Justice. Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S and 222 or permission of the instructor. Examines historical and contemporary theories and research on African-Americans, criminal behavior and the administration of justice. Selected topics will

CRIMINAL JUSTICE COURSES 189
Cytotechnology — CYTO

403. Gynecological Screening Laboratory. Laboratory; 3 credits. Prerequisites: advanced standing and/or permission of the cytotechnologist program director. Laboratory experience in the screening of gynecological smears.

404. General Pathology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 250 or 251 or equivalent. This course is an overview of general disease processes and causes in the human. All body systems will be covered including respiratory, gastrointestinal, circulatory, nervous, reproductive, and urinary. Aging, dietary, and stress factors will be discussed in the disease process. Bacteria, fungi, and viruses will be discussed in general and for each body system. Neoplasms will be covered for each body site. This course will be of benefit to anyone interested in diseases of the human body or entering the medical field. (cross listed with MEDT 401)

405. Normal Gynecological Cytopathology. Lecture/laboratory; 3 credits. Prerequisite: permission of program director. Introduction to histological and cytological features of the normal female genital tract with emphasis on normal and non-neoplastic abnormalities. Principles of cytological diagnostic techniques will be discussed.

415. Abnormal Gynecological Cytopathology. Lecture/laboratory; 4 credits. Prerequisites: CYTO 405 and permission of the program director. Introduction to diagnostic cytological techniques and pathology of the female reproductive tract with emphasis on premalignant and malignant changes.

424. Respiratory Cytopathology. Lecture/laboratory; 3 credits. Prerequisites: CYTO 405 and 415. Principles of diagnostic cytopathology and pathology of the respiratory tract, including benign conditions, inflammatory and infectious diseases, premalignant conditions and primary and metastatic malignancies.

428. Cytopreparatory Techniques and Procedures. Lecture/laboratory; 2 credits. Prerequisite: permission of program director. Introduction to collection, processing, and preparation of cytologic samples from all body sites.

472. Gastro-Intestinal Cytopathology. Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pathology and cytopathology of the gastrointestinal tract, including the oral cavity, esophagus, stomach, colon, and rectum. Emphasis on normal conditions, benign inflammatory, infections, parasitic conditions, gastric ulcers, premalignant and malignant lesions.

442. Genitourinary Cytopathology. Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pathology and cytopathology of the genitourinary tract, with emphasis in normal conditions, benign inflammatory and infectious conditions, crystals, premalignant and malignant lesions.

444. Breast Cytopathology. Lecture/laboratory; 3 credits. Prerequisites: CYTO 405 and 415. Study of pathology and cytology of the breast, with emphasis on benign, inflammatory conditions, premalignant and malignant disease in both breast smears and fine needle aspirations.

446. Body Fluids Cytopathology. Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pleural, peritoneal and pericardial cavity fluids, synovial and cerebral spinal fluids, with emphasis on benign, inflammatory conditions, and primary and metastatic malignancies.

448. Non-epithelial Cytopathology. Lecture/laboratory; 2 credits. Prerequisites: CYTO 405, 415, 424, 444, 445, 446. Study of the pathology and cytology of non-epithelial lesions with emphasis on benign, inflammatory, and malignant conditions.

455. Fine Needle Aspiration. Lecture/laboratory; 5 credits. Prerequisites: CYTO 415, 424, 444, 445 and 446. STUDY of specialized collection techniques, processing and diagnosis of fine needle aspirations from various body sites, including, but not limited to, thyroid, liver, lymph nodes, pancreas, lung, kidney, etc. Emphasis will be on benign, inflammatory, primary, and metastatic malignancies of all sites. Clinical practical application of these principles will be continued at the clinical sites.

458. Cytology Internship I. 4 credits. Prerequisites: CYTO 405 and 415. Directly supervised experience in a clinical setting: includes evaluation of gynecologic smears and study set assignments. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience).

468. Cytology Internship II. 4 credits. Prerequisites: CYTO 405, 415, 424, 444, 445 and 446. Directly supervised experience in a clinical setting. Includes evaluation of gynecologic and non-gynecologic specimen slides and study set assignments. Students will review gynecologic and non-gynecologic smears and study sets. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience)

478. Cytology Internship III. 8 credits. Prerequisites: CYTO 405, 415, 424, 444, 445, 446, and 455. Directly supervised experience in a clinical setting. Includes evaluation of gynecologic and non-gynecologic smears and study set assignments. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience)
305. Dental Hygiene Theory II. Lecture 3 hours; 3 credits. Prerequisites: DNTH 300 and 301. Continuation of study of the theoretical foundation of preventive and therapeutic oral health services used in the dental hygiene process. Emphasis is on preparation for client care. (offered spring)

306. Dental Hygiene Services II. Clinic 8 hours; 3 credits. Prerequisites: DNTH 300, 301 and 304. Corequisite: DNTH 305. Clinical experience in the on-campus supervised clinic. Continued development of clinical proficiency and decision making in rendering comprehensive preventive oral health services using the dental hygiene process. Emphasis is on clinical application and development of skills in maintenance, management and evaluation of the periodontal patient; treatment planning, disease control strategies; and scaling and root planing on periodontally involved patients (offered spring). (qualifies as a CAP experience)

307. Pharmacology and Medical Emergencies. Lecture 3 hours; 3 credits. Prerequisites: DNTH 302 and BIOL 250-251. A study of the pharmacologic and therapeutic agents used in dentistry, their preparation, effects, and interactions. Use of emergency medication and treatment of medical emergencies. Emphasis is on agents commonly used by patients which require the altering of treatment procedures, pharmaceutical and therapeutic agents used as adjuncts to dental hygiene and dental care and medical emergency procedures. (offered spring)

310. Dental Hygiene Therapies and Practice. Lecture 3 hours; 3 credits. Prerequisites: DNTH 300 and 301. Emphasis is on principles of periodontics, evaluation of periodontal disease, and theoretical and clinical preparation for delivery of dental hygiene interventions.

316. Dental Hygiene Theory and Services III. Seminar 1 hour; clinic 12 hours; 8 weeks; 3 credits. Prerequisites: DNTH 305, 306, and 309. Continued development of clinical competency in rendering comprehensive preventive oral health services using the dental hygiene process. (offered summer) (qualifies as a CAP experience)

397. Topics in Dental Hygiene Practice. 1-6 credits. Prerequisite: permission of the instructor. Selected topics in dental hygiene: topics vary by semester. (offered fall, spring, summer)

410. Dental Hygiene Theory IV. Lecture 3 hours; 3 credits. Prerequisites: DNTH 305, 306, 316. Corequisite: DNTH 411. Study of the psychosocial, physical and oral characteristics of patients with special needs. Emphasis is on the care and clinical management of the following patients: mentally and physically challenged, aged, pregnant, epileptic, diabetic, cancer, AIDS, chemically dependent and the blind and deaf. A terminal project is required for entry into the labor force and employment as dental hygienists. Emphasis is on practice management, selecting a practice setting, values, clarification, employment contracts, resume writing, interview techniques, and ethical dilemmas found in various health care settings. While two credit hours of this course are dedicated to understanding the theoretical practice of dental hygiene through didactic format, one credit is designated for clinical rotations. (qualifies as a CAP experience)

418. Dental Hygiene Services V. Clinic 16 hours; 6 credits. Prerequisites: DNTH 410, 411. Corequisite: DNTH 417W. Clinical experience in the on-campus supervised clinic or off-campus clinic practice site as determined by clinic faculty. Continued development of clinical proficiency and decision making in providing comprehensive preventive oral health services. Emphasis is on clinical application, decision making and development of the skills necessary for the treatment of periodontally involved and special needs patients and employment in a variety of settings. (offered fall) (qualifies as a CAP experience)

419. Community Oral Health Practice. Seminar/field experience 6 hours; 3 credits. Prerequisite: DNTH 413. Field experiences designed to prepare the dental hygienist to function as an oral health practitioner, educator, and resource person in a variety of community health settings. Emphasis is on providing educational and therapeutic services for special populations including geriatric, institutionalized, hospitalized, and mentally and physically challenged individuals. Participation in planning, implementing and evaluating a community dental health project is required. (offered spring)

495. Topics in Dental Hygiene. 1-3 credits. Prerequisite: permission of the instructor. Seminars on selected topics in dental hygiene. Topics vary by semester. (offered fall, spring, summer)

497/497. Independent Study in Dental Hygiene. 1-6 credits. Prerequisite: permission of instructor. Independent reading and study on a topic selected under direction of a faculty member.

Early Childhood, Speech Language Pathology and Special Education — ESSE

351. Anatomy of Speech, Language, and Hearing. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the psycholinguistic, acoustic, anatomical, and physiological aspects of speech.

352. Phonetics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the production and classification of sounds in American English; practice in phonetic transcription.

369. Classroom Management and Practicum. 3 credits. Prerequisites: passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and acceptance into teacher education. This course prepares prospective PK-3 Special Education teachers to observe and participate in the PK-3 classroom setting and to be responsive to the intellectual, physical, emotional and social needs of PK-3 learners. Attendance at
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all seminars is mandatory. (qualifies as a CAP experience)

400/500. Foundations of Special Education: Legal Aspects and Characteristics. Lecture 3 hours; 3 credits. Prerequisite: Junior standing. The course provides an introduction and overview of the field of special education from the perspective that it is a subsection of general education and that the field is in transition by virtue of philosophical, legislative and programmatic changes. Legal aspects, regulatory requirements, and critical analyses of research are addressed. This course includes a broad overview of the expectations associated with the identification, characteristics, and education of students with disabilities.

402/502. Instructional Design I: Learner Characteristics and Assessment. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and passing scores on PRAXIS I or equivalent. The intent of this course is to provide pre-service teachers with: (a) knowledge of the characteristics of students with mild disabilities who are accessing the general curriculum, K-12, including, but not limited to, LD, BD, and EMR, and (b) the ability to develop knowledge and skill in the selection, administration and interpretation of standardized/norm-referenced assessments and informal assessment tools and the development of an IEP. Emphasis is the use of assessment data to improve instruction and student performance is discussed.

403/503. Field Experience in Special Education. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and 402/502. This course provides variable hours of direct participation in a community educational setting with individuals with special needs. The course includes specific skills of program planning, implementation, evaluation and classroom management.

404/504. Medical Aspects of Disabling Conditions. Lecture 3 hours; 3 credits. Prerequisites: ESSE 400/500 and junior standing. This course reviews medical conditions present among individuals with disabilities and implications for instruction, independence, and community living.

406/506. Students with Diverse Learning Needs in the General Education Classroom. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course introduces general education teachers to the legal and educational needs of at-risk students and those with disabilities. Emphasis is on characteristics of special needs children and procedures for effective academic, behavioral, and social integration of these children in the general education classroom.

411/511. Classroom and Behavioral Management Techniques for Students with Diverse Needs. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Co- or prerequisite: ESSE 400/500 and passing scores on PRAXIS I or equivalent. This course will address classroom management techniques and individual interventions based upon behavioral, cognitive, affective, social, and ecological theory and practice. The course will focus on the field of applied behavior analysis, including best practices in the areas of data collection, program selection, program implementation, and data analysis. Positive behavior management and supports and functional behavioral assessment will be emphasized.

413/513. Fundamentals of Human Growth and Development. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course explores all aspects of development from infancy through adolescence and beyond. Within each stage of development, students examine the areas of language, cognition, and intelligence; emotional growth, and physical health. Emphasis is on the dynamic forces influencing growth and change so that students will have a better understanding of the areas of human development as well as issues related to children with individual differences.

414/514. Psychoeducational Assessment for Students with Diverse Learning Needs. Lecture 3 hours; 3 credits. Prerequisite: ESSE 400/500. This course focuses on selection, administration, scoring and interpretation of standardized, informal, and curriculum-based instruments. Emphasis is on sound decision-making for curricular placement and instruction. Use of various computer-assisted programs, along with error analysis strategies applied to major core and content areas as well as transition assessment, is included.

415/515. Instructional Design II: Curricular Procedures and Individualized Education Planning. Lecture 3 hours; 3 credits. Practicum of 45 hours is required. Prerequisites: ESSE 400/500 and passing scores on PRAXIS I or equivalent. The intent of this course is to provide preservice teachers with: (a) knowledge of research-based instruction for K-12 students with disabilities and those who are gifted; (b) knowledge and skill in using data collection to make decisions about student progress, instruction, program, accommodations and teaching methodology for exceptional learners, and (c) knowledge and skill in planning, developing and implementing individual educational plans and group instruction for diverse exceptional learners who are accessing the general education curriculum and the standards of learning.

417/517. Collaboration and Transitions. Lecture 3 hours; 3 credits. Co- or prerequisite: ESSE 400/500. This course addresses the complex issues surrounding families and children with disabilities and transitions across the lifespan, as well as effective collaboration with families and professionals to support inclusion and/or effective early childhood special education programs, and transition services for students at-risk and students with disabilities. Emphasis is on successful professional collaboration and effective relationships in educational, transition, and family settings.

430/530. The Family and Child with Special Needs: Lifespan Transitions. Lecture 3 hours; 3 credits. Prerequisite: ESSE 400/500. This course examines the initial and subsequent family response to the challenge of a child with a disability. Emphasis is on understanding the complex issues surrounding families and children with disabilities and transitions across the lifespan, including issues of peer networks, agency assistance, choices, and social and emotional support.

431/531. Introduction to Tests and Measurement. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course introduces students to the interpretation and use of measurement data, principles and procedures involved in the selection and use of standardized and teacher-made tests.

447/547. Introduction to Language Disorders in Children. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course presents an introduction to the various language disorders manifested by children and adolescents with a focus on characteristics, etiologies and general intervention approaches.

448/548. Speech-Language and Hearing Programs in the Public Schools. Lecture 3 hours; 3 credits. Prerequisites: ESSE 450 and 455 and 460/560. The emphasis of this course is on the organization and administration of public school speech-language and hearing programs, as well as clinical, professional and legal issues related to service delivery.

449W/549. Orientation to Clinical Procedures in Speech-Language Pathology. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course provides an introduction to basic clinical procedures and competencies in speech-language pathology with an emphasis upon language sampling and identification of syntactic elements. The course also includes structured and supervised observation activities.

450/550. Survey of Communication Disorders. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course is designed to acquaint the student with recognition, identification, and understanding of speech and language disorders.

452/552. Articulation and Phonological Disorders. Lecture 3 hours; 3 credits. Prerequisites: ESSE 351 and 450. This course emphasizes causes, identification and treatment of articulation and phonological disorders.

453/553. Language Development. Lecture 3 hours; 3 credits. Prerequisite: ESSE 450. This course emphasizes language development from the perspective of the speech-language pathologist.

454/554. Clinical Practice in Speech Pathology/Audiology I, II, III. Lecture 3 hours; practicum 6 hours; 4 credits each, 3 separate semesters. Prerequisites: ESSE 351 or 650, 352, 449W/549, 450/550, 451/551, 453/553, 459/559, 460/560, and permission of program faculty. These practices are designed to provide students with clinical experiences in the organization and treatment of communication disorders. (qualifies as a CAP experience)

457/557. Language Diagnosis and Remediation. Lecture 3 hours; 3 credits. Prerequisites: ESSE 450 and 453. This course acquaints the student with diagnostic methods and remediation techniques for the language-disordered and nonverbal child.

458/558. Speech and Hearing Science. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The content of this course focuses upon basic acoustics, speech acoustics, psychoacoustics, speech perception, hearing and clinical instrumentation. The course is designed to provide fundamental information regarding normal and abnormal aspects of speech and hearing processes.

459/559. Seminar in Speech Pathology Methods and Materials. Seminar 3 hours; 3 credits. Prerequisites: ESSE 450 and 451. This course focuses upon current therapy methods, equipment, and materials which are utilized in the remediation of communicative disorders.

460/560. Hearing Disorders and Basic Audiometry. Lecture 3 hours; 3 credits. Prerequisite: ESSE 351. A study of the physics of sound, anatomy, and physiology of the human ear, basic audiometry and hearing disorders.
461/561. Aural Rehabilitation I. Lecture 3 hours; 3 credits. Prerequisites: ESSE 351 and 460. A study of audiological findings and the implications for hearing therapy; speech and language development.

465/565. Signing I-Beginning Nonverbal Communication. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor.

468/568. Language Acquisition and Reading for Students with Diverse Learning Needs. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course provides an overview of normal language development and language disorders which impact the acquisition of language based curriculum skills such as listening, speaking, reading, and written expression. Emphasis is on instructional techniques to assist individuals with disabilities achieve reading and comprehension skills. Effective reading strategies and curricula for individuals with disabilities will also be reviewed.

469/569. Communication/Language Development and Intervention Strategies. Lecture 3 hours; 3 credits. Prerequisite: ESSE 400/500. This course examines symbolic and non-symbolic communication/language development and acquisition. Focus is on rote-based communication training, communication/language facilitation strategies, augmentative communication systems, and informal/functional communication/language assessment procedures for early childhood special education students and students with severe/profound disabilities.

474/574. Foundations and Contemporary Issues in Early Childhood Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course introduces students to objectives, curricula, and organization of early childhood education as it is practiced throughout the United States and other countries. Foundations of education programs and current research and practices related to the education of young children will be addressed with an emphasis on sociological, cultural, historical, and philosophical factors.

475. Developmental Processes. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to present a well balanced, up-to-date and comprehensive view of human development from birth through death. In trying to capture the strengths of the age-stage approach to development, the course has been divided into seven sections from prenatal through late adulthood.

476. Practical Applications in the World of Children. 3 credits. Prerequisite: junior standing. Supervised involvement of the student in Old Dominion University’s Child Study Center classrooms where the student observes and gains experience working with master-level teachers while planning and executing developmentally appropriate activities for young children from age six weeks to six years.

478/578. Integrating Instruction Across the Curriculum PreK-6. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Following a theory into practice philosophy and building on the instructional strategies for specific disciplines, students explore, develop, and use advanced instructional materials, technologies, and activities to promote interdisciplinary and multidisciplinary instruction across the curriculum in grades PreK-6 in support of national standards and the Virginia Standards of Learning.

484/584. Internship with Mentor. 3-9 credits. Prerequisite: department approval and passing scores on the appropriate PRAXIS II content examination. This preservice alternative will be offered to students who have completed all their coursework and who have been offered a teaching contract. The requirement will be the same as those of student teaching.

485. Student Teaching. Five days per week; full semester; 12 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, permission of the director of teacher education services, and passing scores on the appropriate PRAXIS II content examination. Available for pass/fail grading only. (qualifies as a CAP experience)

486/586. Teacher Candidate Internship for Special Endorsement. Five days per week; half-full semester; 3-6 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores, passing scores on the appropriate PRAXIS II content examination, and permission of the director of teacher education services. Available for pass/fail grading only. (qualifies as a CAP experience)

487/587. Seminar in Student Teaching. Lecture 2 hours; 2 credits. This course must be taken concurrently with student teaching. Presentation of topics related to the student teaching experience. Available for pass/fail grading only.

492/592. Integrating Mathematics and Science Across the Curriculum, PK-3. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course has a theory-into-practice goal. The focus for this class will be to develop and use teaching strategies and techniques in the content area of mathematics and science, which are based on Piaget’s theory of constructivism and are compatible with the NCMI & NSE Standards and the Virginia SOLs. Practical ways of encouraging thinking about math and science by young children, PK-3, and the natural integration of these subjects across the early childhood curriculum will be emphasized.

493/593. Integrating Children’s Literature, Language Arts and Social Studies Across the Early Childhood Curriculum. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course offers a review of literary materials suitable for nursery, kindergarten and early elementary school children. Social issues affecting children and early childhood literature related to these issues, the use of teaching strategies and techniques in the content areas of history, geography, economics and civics which are based on Piaget’s theory of constructivism, the National Council of Teachers of English and the National Council for the Social Studies standards, and the Virginia SOLs are emphasized.

495/595. Topics in Education. 1-6 credits. Prerequisite: junior standing or permission of the instructor. Selected topics in education.

497/597. Independent Study in Special Topics in Education. 1-3 credits. Prerequisite: junior standing or permission of the instructor. Independent study of selected topics.

ECONOMICS — ECON

200S. Basic Economics. Lecture and discussion 3 hours; 3 credits. Prerequisite: Qualification to enroll in MATH 102M or higher. An examination of how individuals and businesses interact in a market economy. Emphasis is placed on consumer behavior, price and output decisions of firms, the economic efficiency of the resulting allocation of society’s resources, and the gains from international trade and impact of trade balance.

201S. Principles of Microeconomics. Lecture and discussion 3 hours; 3 credits. Prerequisite: Qualification to enroll in MATH 102M or higher. An examination of how individuals and businesses interact in a market economy. Emphasis is placed on consumer behavior, price and output decisions of firms, the economic efficiency of the resulting allocation of society’s resources, and the gains from international trade and impact of trade balance.

202S. Principles of Microeconomics. Lecture and discussion 3 hours; 3 credits. Prerequisite: Qualification to enroll in MATH 102M or higher. An examination of how individuals and businesses interact in a market economy. Emphasis is placed on consumer behavior, price and output decisions of firms, the economic efficiency of the resulting allocation of society’s resources, and the gains from international trade and impact of trade balance.

226S. Honors: Principles of Macroeconomics. Lecture and discussion 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ECON 201S.

227S. Honors: Principles of Microeconomics. Lecture and discussion 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ECON 202S.

301. Managerial Economics. Lecture and discussion 3 hours; 3 credits. Corequisite: MATH 200 or equivalent. Prerequisites: ECON 201S, 202S, and DSCI 206. Examines the application of economic theory and methodology to managerial decision making and strategy. Key topics are demand analysis, economic forecasting, production, cost analysis, the economics of organization, market structure and strategic behavior, pricing techniques, and government regulation and its implications for firm behavior. Emphasis is placed on the global context of managerial economics.

304. Intermediate Microeconomic Theory. Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 200 or equivalent, ECON 202S with a grade of C or better, and junior standing or permission of the chief departmental advisor. Develops methods of microeconomic analysis beyond the principles level. Major emphasis is placed on consumer behavior and demand, production and cost, market organization, distribution theory, and welfare theory.

305. Intermediate Macroeconomic Theory. Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 162M or equivalent, ECON 201S and 202S with a grade of C or better in each, and junior standing or permission of the chief departmental advisor. Provides an overall “big picture” of the economy, focusing on the central problems of unemployment, inflation, the business cycle, and economic growth. Important issues include national income accounting, fiscal policy, monetary policy, the money supply, the money market, interest rates, saving rates, labor markets, productivity, budget surpluses/deficits, trade deficits, and exchange rates.

331. Money and Banking. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of the chief departmental advisor.

ECONOMICS COURSES 193
Examines the nature and functions of money and credit, the commercial banking system, the Federal Reserve System, the quantity theory of money, the theory of income determination, the balance of payments and payments systems, and the history of monetary policy in the United States.

368. Internship. 1-3 credits. Prerequisites: ECON 304 and 305 and permission of departmental advisor; credit for internship and practicum in economics may not both be applied to meeting requirements for the major. Supervised internship in economics. Approval for enrollment and allowable credits is determined by the department CAP advisor and the Career Management Center in the semester prior to enrollment. (qualifies as a CAP experience)

369. Practicum in Economics. 3 credits. Prerequisites: ECON 304 and 305; DSCI 206 and 306. Application of economic theory and principles to a practical problem of interest to a sponsoring community organization. (qualifies as a CAP experience)

387. Honors: Managerial Economics. Lecture and discussion 3 hours; 3 credits. Corequisite: MATH 200 or equivalent. Prerequisites: ECON 201S, 202S, DSCI 206 and 306. An instructor (or Honors Program Director). Open only to students in the Honors Program in Business Administration. A special honors section of ECON 301.

395, 396. Topics in Economics. Lecture and discussion 1-3 hours; 1-3 credits. Prerequisites: ECON 200S, 201S, or 202S, junior standing or permission of instructor. A study of selected topics, the title of which will appear in the course schedule.

400. Research Methods in Economics. Lecture 3 hours; 3 credits. Prerequisites: ECON 201S, 202S, DSCI 206 and 306. Provides students with a set of practical skills useful in economic research and in the presentation of research results. Includes training in the use of various software packages, the Internet, and regression analysis for conducting economic research.

402/502. Transportation Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and junior standing or permission of the chief departmental advisor. A survey of the transportation system in the United States including its development, pricing, and regulation. Special attention is given to railroads, highways, pipeline, water and air transportation; and the roles that these modes of transportation play in economic development.

407/507. Labor Market Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and junior standing or permission of the chief departmental advisor. Economic analysis of various facets of labor markets. Emphasis is placed on the analysis of labor supply, labor demand, wage determination, earnings differentials and inequality, occupational choice, human capital investment, labor market discrimination, mobility and immigration, impact of unions, and unemployment.

421/521. Public Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and junior standing or permission of the chief departmental advisor). This course examines the interaction between government and the economy, with particular emphasis on the role of the federal government. Topics that address the motivation for government involvement in the economy include market failure, income inequality, and redistribution of income. Specific programs studied include Medicare/Medicaid, welfare programs, and the social security system.

427/527. Industrial Organization and Public Policy. Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 200 or equivalent, ECON 202S (or 200S and permission of the instructor) and junior standing or permission of the chief departmental advisor. A study of market structures and the conduct and performance of business firms in different market structures. The emphasis is on the theory and measurement of industrial concentration and public policy responses to industrial concentration.

435/535. Health Economics: A Global Perspective. Lecture 3 hours; 3 credits. Prerequisite: ECON 301 or permission of instructor. Introduces the student to the economics of health care and the application of health economics to health care problems, the issues surrounding those problems, and the potential solutions to those problems. The course will emphasize institutional features of the health care industry, the market for health care, the political economy of health care, and government involvement in the delivery of health care. Further, the course will survey the delivery of health care in other countries and provide a global perspective on selected health care issues such as AIDS, water and air quality, and the aging of the population.

436. Sports Economics. Lecture 3 hours; 3 credits. Prerequisite: ECON 202S or equivalent. A course designed to introduce the student to the economics of sports in America. The course will emphasize institutional features of the sport industry. Specific topics included are: sports franchises as profit maximizing firms; monopoly and antitrust rules applying to the industry; subsidy and public finance of sports; costs and benefits of a sports franchise to a city: the labor economics of professional sports; discrimination in sports; and the economics of college sports. This course may not be applied toward the major in economics as an economics elective or toward the minor in economics or the M.A. in economics. (It could, however, be used as a non-economics elective for the major.)

444/544. Development of the American Economy. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of the chief departmental advisor. A study of the economic development of the United States from colonial times to the present. An analytical course concerned with the application of economic theory in the study of the growth and development of the American economy.

445/545. Urban Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and junior standing or permission of the chief departmental advisor. An analysis of the economic factors which give rise to the formation of urban centers and which contribute to the following problems: urban poverty, housing conditions, traffic congestion, and the fiscal crisis faced by modern cities.

447/547. Natural Resource and Environmental Economics. Lecture 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of the chief departmental advisor. Topics discussed include conservation and scarcity, market failure, fishery management, benefit-cost analysis, water resource development, environmental quality, recreation, energy, and marine resources.

450. International Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of the chief departmental advisor. An analysis of the principles of trade theory and policy with an overall exposition of the principles of international finance. The main objective of the course is to provide knowledge of analytical tools used by economists in analyzing contemporary international economic problems.

451/551. History of Economic Thought. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S (or 200S) and 202S and junior standing or permission of the chief departmental advisor. An overview of economic theory with attention to the economic ideas and philosophy of Adam Smith, David Ricardo, Karl Marx, J.M. Keynes and other major figures in the development of economics.

454W/554. Economic Development. Lecture 3 hours; 3 credits. Prerequisites: ECON 201S and 202S. This course is intended to provide an introduction to the problems of economic development in the Third World, including the problems of economic growth, income distribution, poverty, urbanization, uneven development, agricultural policy, economic planning, industrial policy, trade policy, balance of payments, finance, and currency crises. To illustrate these issues we will examine the problems of certain individual countries, such as Brazil, Korea, Philippines, India, Mexico, Kenya, Indonesia, and Thailand. In the course we try to strike a balance between economic theory and institutional economics. Additional reading will be assigned from time to time.

456W/556. Environmental Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of the chief departmental advisor. An analysis of the basic elements of capitalism as compared with collectivist types of economic systems.

456W. Economics of Information, the Internet and E-Commerce. Lecture and laboratory 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and junior standing or permission of instructor. Outlines the economic principles of information that underpin the Internet and e-commerce. Considers auctions, economies of scale and scope, intellectual property as they are utilized on the Internet and in e-commerce. Taught in a microcomputer laboratory.

494. Federal Reserve Policy. Lecture 3 hours; 3 credits. Prerequisites: ECON 305, 331, and permission of the instructor. The course covers in detail the process of monetary policymaking under varying economic conditions. Students research and analyze current and near-term economic conditions with a focus on forming a prediction regarding the future path of monetary policy. The course culminates with selected students’
participation in the annual Federal Reserve Challenge competition.

495/595. Selected Topics in Economics. 1-3 credits. Prerequisites for 495: ECON 201S and 202S, and permission of the instructor. Prerequisite for 595: permission of the instructor. Taught on an occasional basis. A study of selected topics, the title of which will appear in the course schedule.

499. Readings in Economics. 3 credits. Prerequisites: ECON 201S, 202S and 304, 305, senior standing and permission of the chief departmental advisor. Designed to provide the advanced student in economics an opportunity to do independent study under the guidance of a member of the faculty. Prior approval of the advisor is required.

Educational Curriculum and Instruction — ECI

301. Social and Cultural Foundations of Education. Lecture 3 hours; 3 credits. Prerequisite: sophomore standing. Introduces students to the objectives, curricula, and organization of American schools in terms of sociological, cultural, historical, and philosophical factors and encourages the development of teachers for urban settings. Students are expected independently to register for and take the Praxis I examination while enrolled in this course. Students in PreK-6 programs will complete a 15 hour observation/participation experience in a primary setting (preK-3) and a 15 hour observation/participation experience in an upper elementary (4-6) setting; students in 6-12 or 6-8 programs will complete a 30 hour observation/participation experience in an appropriate 6-12 setting. (Qualifies as a CAP experience)

303. Orientation to Teacher Education. Lecture 1 hour; 1 credit. Prerequisite: junior standing or permission of instructor. Introduces students interested in teacher education to the University, College of Education, and the profession of teaching.

304. Educational Applications of Computers. Lecture 3 hours; 3 credits. Prerequisite: functional competency (see http://www.odu.edu/educ/id/304) in using productivity software such as word processing, spreadsheet, database, presentation and the Internet. A project-based course in which students study the relationship between contemporary learning theories and SOL-related classroom computer use. Addresses Technology Standards for Instructional Personnel (TSIP) competencies.

360. Classroom Management and Discipline. Lecture 2 hours; 2 credits. Prerequisite: ECI 301. Examines theories, research, and practices involved in classroom management, motivation, and discipline. Explores techniques for organizing and arranging classroom environments that are most conducive to learning.

395. Topics in Education. Lecture 1-3 hours; 1-3 credits. Prerequisite: junior standing. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

406/506. Teaching in the Multicultural Classroom. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Explores the teaching strategies, materials and understandings needed in developing responsive classroom environments for children from diverse cultural, ethnic, economic and linguistic backgrounds.

408. Reading and Writing in Content Areas. Lecture 3 hours; 3 credits. Prerequisites: ECI 301, 304, 305, and 408. Develops understanding and use of comprehension/composing skills in all content areas, including a repertoire of questioning strategies, summarizing and retelling strategies, and strategies in literal, interpretive, critical and evaluative comprehension/composing across the curriculum, grades 6-12.

430, 530. Instructional Technology and the Classroom. Lecture 3 hours; 3 credits. Prerequisite: functional competency (see http://www.odu.edu/educ/id/304_530) using productivity software such as word processing, spreadsheet, database, presentation and the Internet. Classroom technology, learning theories and cognitive psychology are explored through research and synthesized through projects. Course uses contemporary productivity suites, authoring tools, and Internet resources to develop and evaluate classroom management techniques and K-12 SOL-related curriculum materials. Addresses Technology Standards for Instructional Personnel (TSIP) competencies.

432/532. Developing Instructional Strategies PreK-6: Language Arts. Lecture 3 hours; 3 credits. Prerequisites: ECI 301, 304 and ESSE 468/568. Following a theory into practice philosophy, students explore, develop and use instructional strategies, materials, technologies, and activities to promote children’s development of attitudes, behaviors, and concepts in language arts in grades PreK-6 in support of SOL national instructional standards and the Virginia Standards of Learning.

433/533. Developing Instructional Strategies PreK-6: Mathematics. Lecture 3 hours; 3 credits. Prerequisites: ECI 301 and 304. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children’s development of attitudes, behaviors, and concepts in mathematics in grades PreK-6 in support of NCTM national instructional standards and the Virginia Standards of Learning.

434/534. Developing Instructional Strategies PreK-6: Science. Lecture 3 hours; 3 credits. Prerequisites: ECI 301 and 304. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children’s development of attitudes, behaviors, and concepts in science in grades PreK-6 in support of AAAS national instructional standards and the Virginia Standards of Learning.

435/535. Developing Instructional Strategies PreK-6: Social Studies. Lecture 3 hours; 3 credits. Prerequisites: ECI 301 and 304. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children’s development of attitudes, behaviors, and concepts in social studies in grades PreK-6 in support of NCSS national instructional standards and the Virginia Standards of Learning.

436/536. Classroom Management and Practica PreK-6. Lecture 2 hours; 2 credits. Prerequisites: Passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75 and at least two of the following courses: ECI 432/532, ECI 433/533, ECI 434/534, ECI 435/535. Course prepares prospective PreK-6 teachers to provide instruction and management consistent with PreK-6 philosophy and view of intellectual, physical, emotional and social needs of PreK-6 learners. The field based public school component includes participation in PreK-6 classrooms and attendance at seminars and debriefing sessions.

440/540. Developing Instructional Strategies for Elementary Education PK-6. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Students will demonstrate the unit planning process and instructional methodology appropriate to PK-6 learners. Decision-making processes of elementary instruction are examined. Evaluation/management/interdisciplinary planning for elementary pupils is explored.

440/549. Teaching Literature in the Secondary School. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Examines the role of literature in the curriculum, ways to evaluate literary selections for instruction, and the use of professional resources to combat censorship. Methodologies for teaching young adult literature as a vehicle to the classics are modeled, practiced and analyzed.

451/551. Developing Instructional Strategies for Teaching in the Middle/High School: English. 3 or 4 credits. Prerequisites: ECI 301, 304, ESSE 413/513, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in English, grades 6-12, informed by national instructional standards and the Virginia Standards of Learning; 30 hours of teaching practicum required.

453/553. Developing Instructional Strategies for Teaching in the Middle/High School: Mathematics. 3 or 4 credits. Prerequisites: ECI 301, 304, ESSE 413/513, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in mathematics, grades 6-12, in support of national instructional standards and the Virginia Standards of Learning; 30 hours of teaching practicum required.

454/554. Developing Instructional Strategies for Teaching in the Middle/High School: Science. 3 or 4 credits. Prerequisites: ECI 301 and 304, ESSE 413/513, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in science, grades 6-12, informed by the development of attitudes, behaviors, and concepts in science, grades 6-12, informed by...
national instructional standards and the Virginia Standards of Learning; 30 hours of teaching practicum required.

485/555. Developing Instructional Strategies for Teaching in the Middle/High School; Social Studies, English, or Mathematics. Lecture 3 and lab 3 hours; 4 credits. Corequisites: ECI 304, ESSE 413/513, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Available for pass/fail grading only. Internship in school. (qualifies as a CAP experience)

495/595. Topics in Education. Lecture 1-4 hours; 1-4 credits. Prerequisite: junior or graduate standing. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

496/596. Topics in Education. Lecture 1-3 hours; 1-3 credits. Prerequisite: junior or graduate standing. Cannot be applied to a Master of Science degree in Education degree in the Department of Educational Curriculum and Instruction. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

Educational Leadership and Services—ELS

101. University Orientation. Lecture 1-3 hours; 1-3 credits. Explores relationship between student’s personal development goals, university life and academic programs. Provides orientation to learning skills necessary to succeed in college. Presents benefits of using various university services.

121. Career Planning. Lecture 1 hour; 1 credit. A systematic exploration of individual interests and skills and career resources. Emphasis is placed on defining goals and developing strategies to achieve goals. Career testing and individual conferences are included.

322. Career Implementation. Lecture 1 hour; 1 credit. Advanced of topic. Focuses on resume and cover letter writing, job search strategies, including electronic job search and networking, interview skills, and evaluating employment offers. Designed to prepare students for internships or cooperative education experiences and for post graduation employment.

377/378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: approval by the department chair and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluation of activities as formally determined by the department and the student.

497/597, 498/598. Topics in Education. 1-3 credits each semester. Prerequisite: permission of the instructor. The College of Education offers selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

Electrical and Computer Engineering — ECE

201. Circuit Analysis. Lecture 3 hours; 3 credits. Corequisites or prerequisites: MATH 307 and MATH 308. This course develops the foundation of principles and theory of linear electrical circuits. Topics include: component definitions and connection rules; development of network reduction techniques; formulation of mesh-current and node-voltage equations; circuit models for one-port and two-port networks; signal models using impulse functions; Fourier transforms, Laplace transforms, and evaluation in time and frequency domains. Time domain analysis of first-order and second-order electrical circuits. (offered fall, spring, summer)

202. Circuits, Signals and Linear Systems. Lecture 3 hours; 3 credits. Prerequisite: ECE 201. Corequisite: ECE 287. Frequency-domain analysis of linear electrical circuits. Laplace transforms and Laplace transform analysis of circuits. Linear systems. Classification of systems; Time and frequency domain representation of linear systems. Methods of linear system analysis including convolution and Laplace transforms. Frequency domain representation of signals including the concepts of Fourier transforms. Application of analysis techniques to electrical filters, signal sampling, and signal multiplexing. (offered fall, spring, summer)

241. Fundamentals of Computer Engineering. Lecture 3 hours; recitation 1 hour; laboratory 2 hours; 4 credits. Prerequisite: CS 150. This course develops the foundation of computer engineering for computer engineers as well as an introductory breadth appropriate for electrical engineers. Class topics include computer information, digital design (combinational and sequential circuits), computer organization, and assembly language. The laboratory includes building digital circuits (focusing on programmable logic), assembly language programming, and system interfacing. The use of a hardware description language is employed in class and the laboratory to specify, simulate and synthesize digital circuits.

287. Fundamental Electric Circuit Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Corequisite: ECE 202. Prerequisites: CS 150 and ECE 201. Objective of course is to provide students in electrical and computer engineering with a “hands-on” introduction to selected topics in electrical engineering. Students will use basic circuit analysis skills and C programming skills to design and build electrical networks interfacing to a micro-controller. Labs will also provide an introduction to basic measurement techniques and electrical laboratory equipment (power supplies, oscilloscopes, voltmeters, etc).

303. Introduction to Electrical Power. Lecture 3 hours; 3 credits. Prerequisite: ECE 201. Basic concepts of AC systems, sinusoidal steady state response, phasor analysis, AC steady state power, single-phase and three-phase networks, electric power generation, transformers, transmission lines, electric machinery and the use of power, basics of power electronics.

304. Probability, Statistics, and Reliability. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Introduction to probability, random variables, statistics, reliability and stochastic processes. Applications include modeling of physical systems, data analysis, communications, queuing.
component and system reliability. (offered fall, spring, summer)

313. Electronic Circuits. Lecture 3 hours; 3 credits. Prerequisite: ECE 202. Prerequisite or corequisite: MATH 182. Introduction to junction diodes, bipolar junction transistors (BJTs), and MOS field-effect transistors (MOSFETs). Design concepts for discrete analog and digital-logic circuits utilizing silicon diodes, bipolar junction transistors, and op amps. Integrated circuits are introduced in the form of operational amplifiers (analog) and CMOS (digital) gates.

323. Electromagnetics. Lecture 3 hours; 3 credits. Prerequisite: ECE 202. An introduction to electromagnetic waves, wave propagation in various media; propagation across interfaces; propagation in waveguides and transmission lines. Antennas and radiation from antennas.

324. The Scientific and Engineering Bases of Modern Technology. Lecture 3 hours; 3 credits. Prerequisites: high school math equivalent to Algebra II or higher plus a physics or chemistry course are required. This course is intended to provide a general knowledge of the fundamental principles that make modern technology possible. The intent is to help students understand the foundations of disciplines other than sciences and engineering aware of the fundamentals of the physical laws and engineering approaches to advance the technology base. Examples of topics to be treated include electronic materials, the transistor, digital and analog electronics, computer hardware, transmission of signal, carrier modulation, the electromagnetic spectra, the ionosphere, fiber optics, lasers, and superconductivity.

332. Microelectronic Materials and Processes. Lecture 3 hours; 3 credits. Prerequisite: ECE 202. An introduction to fundamental properties of semiconductors and device fabrication processes. The topics include crystal structure, bonding, energy bands, doping, carrier densities, mobility, resistivity, recombination, drift, and diffusion. Basic structure and operations of p-n junctions, BJTs and MOSFETs and their fabrication processes, including solid state diffusion, thermal oxidation of silicon, ion implantation, chemical vapor deposition, thin film deposition, photolithography and etching. (offered fall)

340. Digital Circuits. Lecture 3 hours; recitation 1 hour; laboratory 2 hours; 4 credits. Prerequisite: CS 150. Not open to electrical and computer engineering majors. This course develops the foundations of computer engineering for students outside of electrical and computer engineering. Class topics include computer information, digital design (combinational and sequential circuits), computer organization, and assembly language. The laboratory includes building digital circuits (focusing on programmable logic), assembly language programming, and system interfacing. The use of a hardware description language is employed in class and the laboratory to specify, simulate and synthesize digital circuits. The course culminates in a final design project.

341. Digital System Design. Lecture 3 hours; 3 credits. Prerequisite: ECE 241. Tools and methodologies for top-down design of complex digital systems. Important topics include minimization, mixed logic, data and control path design, algorithmic state machines, data movement and routing via buses, and microprogrammed controllers. A hardware description language is used extensively in design exercises and projects. (offered fall, spring)

355. Introduction to Networks and Data Communications. Lecture 3 hours; 3 credits. Prerequisite: junior standing in an engineering discipline or related work experience. This course introduces the basic concepts of computer networks and data communications. Topics include protocol layers, the application layer, the transport layer, the network layer, the data link layer, and the physical layer. Students will use network packet analyzer tools in this course. Emphasis is on gaining an understanding of network engineering as it relates to hardware configuration, system operation and maintenance.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Prerequisite: approval by department and Career Management. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students an opportunity to gain short duration career-related experience. (qualifies as a CAP experience)

371. Circuits and Systems. Lecture 3 hours; 3 credits. Prerequisite: ECE 201. Corequisite: ECE 287. Frequency-domain analysis of linear electrical circuits. Laplace transforms and Laplace transform analysis of circuits. Linear systems. Classification of systems; time and frequency domain representation of linear systems. Methods of linear system analysis including convolution and Laplace transforms. Frequency domain representation of signals including Fourier series, Fourier transforms. Application of analysis techniques to electrical filters, signal sampling, and signal multiplexing. (offered fall, spring, summer)

382. Electronics Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Corequisite: ECE 313. Design concepts and laboratory techniques for implementation and testing of analog and digital circuits. Analog circuits consist of operational amplifiers and single transistor BJT and FET amplifier circuits. Digital circuits and CMOS logic gates. CAD tools (PSPICE) will be utilized. (offered fall, spring)

387. Microelectronics Fabrication Laboratory. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: ECE 332. The laboratory course will enable students to fabricate MOSFETs, MOS capacitors, diffused resistors and p-n diodes. Students will be trained to operate the equipment required for wet and dry oxidation, thin film deposition, solid state diffusion, photolithography, and etching. Students will fabricate and analyze the devices by current-voltage characteristic, capacitance-voltage characteristic, film thickness and conductivity measurements. (offered spring)

395, 396. Topics in Electrical and Computer Engineering. Lecture 1-3 hours; 1-3 credits. Prerequisite: departmental approval.

405/505. Introduction to Discrete Event Simulation. Lecture 3 hours; 3 credits. Prerequisites: undergraduate course in probability and statistics; computer literacy. An introduction to the fundamentals of discrete event simulation (DES). Topics include discrete event simulation methodology, development of simulation models, simulation verification and validation, and the design and simulation of experiments. Important statistical concepts, including selection of input probability distribution and output data analysis are developed and applied. A DES tool will be used to create, simulate and analyze self-defined projects. (cross listed with MISM 405/505)

406/506. Modeling and Simulation Design Projects. Lecture 3 hours; 3 credits. Prerequisite: ECE 405/505. Team projects consisting of the design and implementation of a complete simulation study. Each project will require the development of all of the main components of a simulation study including problem formulation, model development, data gathering, simulation construction, verification and validation, experimental design and data analysis. (offered spring, summer) (qualifies as a CAP experience)

443/543. Computer Architecture. Lecture 3 hours; 3 credits. Corequisites: ECE 304 and 488. Prerequisites: ECE 341, 446/546. An introduction to computer architectures. Analysis and design of computer subsystems including central processing units, memories and input/output subsystems. Important concepts include datapaths, computer arithmetic, instruction cycles, pipelining, virtual and cache memories, direct memory access and controller design. (offered fall)

446/546. Microcontrollers. Lecture 3 hours; 3 credits. Prerequisite: ECE 241. A hands-on approach to microprocessor and peripheral system programming, I/O interfacing and interrupt management. A sequence of projects requiring the programming and integration of a microcontroller-based system is conducted. Project assignments require a microcontroller evaluation board and accessories supplied by the student. (offered spring)

451/551. Communication Systems. Lecture 3 hours; 3 credits. Prerequisites: ECE 202 and 304. Basic concepts of information transmission using electrical signals and systems are covered. This includes the methods of amplitude, phase, analog pulse and digital modulation. The design of modulation systems and analysis of their performance in the presence of noise are also considered.

454/554. Introduction to Bioelectronics. Lecture and design 3 hours; 3 credits. Prerequisites: PHYS 111N or higher; MATH 200 or higher. A one-semester course covering the electrical properties of cells and tissues as well as the use of electricity and magnetism in the diagnosis and treatment of disease. Typical topics to be covered include electrocardiography, cardiac pacing, defibrillation, electrotherapy, electroprotection, electrotherapy in wound healing. In addition, ultrashort electrical pulses for intracellular manipulation and the application of plasmas to biological systems will be covered. (Cross-listed with ENGN 454/554)

455/555. Network Engineering and Design. Lecture and design 3 hours; 3 credits. Prerequisite: ECE 355 or permission of the instructor. This course is an extension of ECE 355 into a semester long project. Emphasis is on gaining an

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understanding of networking design principles that entails all aspects of the network development life cycle. Topics include campus LAN models and design, VLANs, internetworking principles and design, WAN design of point-to-point and multipoint LAN networks, differentiated vs. integrated services, traffic flow measurement and management.

457. Professional Review. Lecture 1 hour; 1 credit. Prerequisite: junior standing or higher in electrical or computer engineering. Integration of topics fundamental to the electrical and computer engineering profession: chemistry, physics, economics, circuits, analog and digital electronics, systems and controls, DSP.

458/558. Instrumentation. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MATH 212 and PHYS 102N, 112N, or 232N. Computer interfacing using a graphical programming language with applications involving digital-to-analog conversion (DAC), analog-to-digital conversion (ADC), digital input output (DIO), serial ports, and the general-purpose instrument bus (GPIB). Analysis of sampled data involving the use of the probability density function, mean and standard derivations, correlations, and the power spectrum.


472/572. Plasma Processing at the Nanoscale. Lecture 3 hours; 3 credits. Prerequisite: ECE 323. The science and design of partially ionized plasma and plasma processing devices. Kinetic theory of gases, gas phase collisions, diffusion, transport parameters, DC and RF glow discharges, sputtering, etching, and plasma deposition.

473/573. Solid State Electronics. Lecture 3 hours; 3 credits. Prerequisites: ECE 313, 323 and 332. The theory and design of p-n junction devices, bipolar transistors, photonic devices, and unipolar devices. Introduction to integrated circuits and microelectronic fabrication.

474/574. Optical Communications. Lecture 3 hours; 3 credits. Prerequisites: ECE 323 and MATH 312. Electromagnetic waves; components used in optical communication systems; optical emitters, modulators, optical fibers and receivers; optical communication systems, introduction to rf communication, the physics and design of rf-antennas.

478/578. Laser and Laser Applications in Engineering. Lecture 3 hours; 3 credits. Prerequisites: ECE 313, 382 and MATH 312. Application of lasers in various areas of engineering will be addressed. Relevant aspects of laser engineering and design will be covered. Topics include interaction of light with matter; non-intrusive optical diagnostic techniques; applications of lasers in engineering, technology, science and medicine.

481/581. Digital Signal Processing I. Lecture 3 hours; 3 credits. Prerequisite: ECE 202 or permission of the instructor. An introduction to the analysis and design of digital discrete systems. Topics include: time domain analysis, solutions of difference equations, z-transform analysis, discrete Fourier transforms, sampling of continuous-time signals, digital filter design, and state variable representations of discrete time systems. Extensive use of software simulations in a high-level language, such as Matlab. (offered fall)

482/582. VLSI System Design. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: ECE 443 and ECE 444. This course is designed to provide undergraduate and graduate students in electrical and computer engineering the ability to design and synthesize VLSI chips using CMOS technology focusing towards the development of an Application Specific Integrated Circuit. Topics include introduction to design tools, layout and design rules implementing logic circuits in CMOS, dynamic CMOS logic, CMOS performance optimization, clocking strategies, memory design, control circuit design, design of high performance circuits, low power design, high performance processor design, and design of asynchronous circuits.

485W. Electrical Engineering Design I. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisites: ECE 313 and 382. Prerequisite or corequisite: ECE 304. Part one of the senior capstone design experience for electrical engineering majors. Lectures focus on providing professional orientation and exploration of the design process. Small group design projects focus on the design of electronic subsystems. Oral and written communication skills are stressed. (offered fall, spring)

486. Electrical Engineering Design II. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: ECE 485W. Part two of the senior capstone design experience for electrical engineering majors. Group design project focuses on the development of a complete electrical system. Oral and written communication skills are stressed. Industry-sponsored multi-disciplinary design projects are an option. (qualifies as a CAP experience)

487. Electrical Engineering Design III. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: ECE 486. Part three of the senior capstone design experience for electrical engineering majors. Individual and group design projects focus on the development of complete electrical systems. Oral and written communication skills are stressed. Industry-sponsored multi-disciplinary design projects are an option.

488. Computer Engineering Design I. Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisites: ECE 313, 341, 382, and 446. Emphasis is on the design of digital circuit and microcontroller interfacing. Design methods incorporate CAD design tools and implementation with advanced integrated circuit technology. Several moderate scale digital modules are designed, simulated, implemented and tested during the semester. (offered fall)

489W. Computer Engineering Design II. Lecture 1 hour; laboratory 4 hours; 3 credits. Corequisite or prerequisite: CS 471. Prerequisites: ECE 443 and ECE 444. Emphasis is on the design of complex architecture as an extension of the design methodology experienced in ECE 488. A semester-long project involves the design, simulation and testing of a complex architecture and software GUI. Design methods incorporate CAD design tools, advanced integrated circuit technology and contemporary software tools. Oral and written communication skills are stressed. (offered spring)

491. Microelectronics Design Experience. Lecture 3 hours; 3 credits. Prerequisite: junior standing in electrical or computer engineering. The student will complete a 10-week summer project on a microelectronics research or design activity at an engineering school or industry member of the Virginia Microelectronics Consortium (VMEC). For eligibility, the student must be selected as a VMEC Student Scholar in a competition held early in the spring semester of each academic year. Each student will be required to give at least two formal oral reports and one formal written report. The project must be completed at an institution other than Old Dominion University. Students will be supervised by faculty or industry mentors at the summer location, but must also have an Old Dominion University co-advisor and instructor of record for the course.

495/595, 496/596. Topics in Electrical and Computer Engineering. Lecture 1 to 3 hours; 1 to 3 credits each semester. Prerequisite: departmental approval.

Electrical Engineering Technology — See Engineering Technology

Engineering — ENGN

108. Introduction to Engineering. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: MATH 102M. A one-semester course covering topics in civil, environmental, mechanical, electrical and computer engineering. For non-engineering majors.

110. Explore Engineering and Technology I. Laboratory 3 hours; recitation 1 hour; 2 credits. Corequisite: MATH 162M. First series of projects to introduce a variety of engineering and technology disciplines; hand-on experiences with selected engineering problems and issues; team approach to managing engineering projects; discovering the unknown, formulating solutions, designing, manufacturing, and testing; emphasis on learning modules, communication and presentation skills, creativity and innovation.

111. Explore Engineering and Technology II. Laboratory 3 hours; recitation 1 hour; 2 credits. Corequisite: MATH 162M. Second series of projects to introduce a variety of engineering and technology disciplines; hands-on experiences with selected engineering problems and issues; team approach to managing engineering projects; discovering the unknown, formulating solutions, designing, manufacturing, and testing; emphasis on learning modules, communication and presentation skills, creativity and innovation.

301. e-Engineering. Lecture 1 hour; laboratory 3 hours; 2 credits. A study of the theory and best practices involved in conducting physically-dispersed engineering team collaboration. Student teams will apply e-Engineering concepts using a distributed product engineering scenario. Students complete online team projects on computer networks and application design, project management, virtual teaming, distributed collaborative tools, and scenario-specific engineering skills.

401. Fundamentals of Engineering Review. Lecture 1 hour; 1 credit. Prerequisite: junior standing. This course prepares the engineering and technology students for the Fundamentals of Engineering Examination.

454/554. Introduction to Bioelectronics. Lecture and design 3 hours; 3 credits. Prerequisites: PHYS 111N or higher; MATH 200 or higher. A one-semester course covering the electrical properties of cells and tissues as well as the use of electricity and magnetism in the diagnosis and treatment of disease. Typical topics to be covered include electrocardiography, cardiac pacing, defibrillation, electrotherapy,
electroporation, electrophoresis in wound healing. In addition, ultrashort electrical pulses for intracellular manipulation and the application of plasmas to biological systems will be covered. (Cross-listed as EET 201)

495. Multidisciplinary Topics in Engineering and Technology. 1-3 credits. Special interdisciplinary or multidisciplinary topics of interest with emphasis on emerging areas in engineering.

Engineering Management — ENMA

301. Engineering Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to principles of management and organizational behavior as they apply to the engineering profession. Special emphasis on project management, systems engineering and analysis, team building, quality leadership, planning, and quantitative decision making. Topic exercises, case studies, and writing assignments. Enrollment restricted to students who have declared, with the Registrar, Engineering Management as their minor, or by permission of the department.

302. Engineering Economics. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Economic analysis of engineering alternatives. Valuation techniques; time value of money; cash flow analysis; cost estimation; taxes and depreciation; operations planning and control; project evaluation; accounting and budgeting tools. 401. Project Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Foundations, principles, methods, and tools for effective design and management of projects in technology-based organizations. Project organization, life cycle, planning, scheduling, implementation, control, and evaluation. Special emphasis on project leadership, problem solving in team-based projects, project failure analysis, and advanced methods. Use of case studies and applications to reinforce course concepts. Students design and plan a project from concept through completion including proposal and post-project analysis.

415/515. Introduction to Systems Engineering. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Introduces the principles, concepts and process of systems engineering. Examination of problem formulation, analysis, and interpretation as they apply to the study of complex systems. Emphasizes the design nature of systems engineering problem solving, and includes case studies stressing realistic problems. Development of system requirements, system objectives, and the evaluation of system alternatives.

420/520. Statistical Concepts in Engineering Management. Lecture 3 hours; 3 credits. Prerequisite: two semesters of college calculus. Introduction to concepts and tools in probability and statistics with applications to engineering design, systems analysis, manufacturing, and quality management problems.

421. Decision Techniques in Engineering. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A systematic approach to the formulation of problems, the generation and evaluation of alternatives, and the selection and implementation of courses of action applied to engineering design, manufacturing, and management decisions. Topics include: goals and objectives; variables and relations; constraints and feasibility; uncertainty and risk; models and optimization; data and information; analysis and simulation. Case studies requiring oral presentations and written reports are used to emphasize concepts and systems analysis.

422/522. Global Engineering and Project Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Foundation, principles, methods and tools for effective design and management of projects in global transnational technology-based organizations. Project organization, life cycle, planning, scheduling, implementation, control and evaluation. Use of case studies and oral and written reports to reinforce course concepts.

Engineering Technology

Civil Engineering Technology — CET

For schedule of offerings see http://www.et.odu.edu/cetschedule.pdf

200. Statics. Lecture 3 hours; 3 credits. Prerequisite: CET 220. Scalar methods and free body diagrams are employed in the analysis of discrete and distributed force systems and their application to bodies in external equilibrium. Friction, moment of inertia, and center of gravity are also covered.

220. Strength of Materials. Lecture 3 hours; 3 credits. Prerequisites: CET 220 and CET 200. Mechanical behavior of materials subjected to various external loads. Stress-strain relationships are utilized to design members subjected to shear, axial, bending, and torsional loads. Deformations are predicted and Mohr's circle is introduced.

301. Structural Analysis. Lecture 3 hours; 3 credits. Prerequisite: CET 220. Determination of forces, moments, and deflections in statically determinate and indeterminate beams, frames, and trusses due to various load cases and load combinations. Methods of analysis will include matrix stiffness analysis, moment distribution and other approximate and computer methods.

305. Principles of Surveying. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: CET 163 and MET 100. Basic plane surveying measurements and computations, survey control systems, elementary digital mapping and simple curves, and building construction survey and stakeout. Emphasis is placed on standard surveying instrumentation, traverse and leveling techniques, topographic mapping and curve layout.

310. Fundamentals of Building Construction. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Introduction to various materials and methods available for design and construction of buildings. Covers application and combination of traditional materials and methods, and recent innovations in construction systems.

313. Advanced Surveying. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: CET 305 and MET 230. Advanced traverse and leveling techniques, astronomical determination of meridian state plane coordinate systems, automated field-to-finish mapping systems, horizontal and vertical curves, highway construction surveying and pipeline and tunnel surveying.

314. Boundary and Mock Trial Law. Lecture 3 hours; 3 credits. Prerequisite: CET 305. Laws, evidence and procedures in boundary surveying. Topics include written, unwritten and riparian rights, easements, interpretation of written and field boundary evidence, subdivisions, and preparation of boundary descriptions and plans. Boundary project management and professional practice are emphasized throughout the course.

318. Control/GPS Surveying. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: CET 313. Development of control and combinations for higher order control surveys using terrestrial and satellite (GPS) based systems. Use of least squares adjustment techniques.

319. Surveying for Engineers. Laboratory 3 hours; 1 credit. Prerequisite: MATH 163. Special topics in surveying for civil engineering students and professional engineers. Not open to civil engineering technology majors.

320. Adjustment Computations. Lecture 3 hours; 3 credits. Prerequisites: CET 305 and EET 305. This course covers the numerical and statistical analysis of system of spatial measurements, formation and solution of simultaneous observation equations, propagation of errors, adjustment by least squares, weights and precision of adjusted quantities, error ellipses and applications to typical surveying, geodesy and photogrammetry problems.

340. Soils and Foundations. Lecture 3 hours; 3 credits. Prerequisite: CET 220. A study of the engineering properties of soil including stress, shear strength, and bearing capacity. Movement of water through soils, consolidation and settlement of structures and the design of shallow and deep foundations are also covered.

341. Soils Testing Laboratory. Laboratory 3 hours; 1 credit. Prerequisite: CET 220. Pre- or corequisite: CET 340. Course includes standard methods of inspecting and testing structural materials used in construction are followed. A written report is required for each experiment.

345. Materials Testing Laboratory. Laboratory 3 hours; 1 credit. Pre- or corequisite: CET 220. Standard methods of inspecting and testing structural materials used in construction are followed. A written report is required for each experiment.

360. Plans and Specifications. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: CET 310 and MET 230. A detailed study of the form and content of typical plans and specifications documents used in the construction industry. The use of computer-aided drafting in assembling a set of plans and specifications.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (offered fall, spring, summer) (qualifies as a CAP experience)

368. Internship. 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)
400. Computer Applications in Structural Design. Laboratory 2 hours; 1 credit. Prerequisite: CET 301. The use of computer programs to assist in structural analysis and design projects.

410. Reinforced Concrete Design. Lecture 3 hours; 3 credits. Prerequisite: CET 220. Structural analysis and design of reinforced concrete members. Topics include flexural analysis and design of structures, including slabs, beams and columns using strength design procedures.

411. Photogrammetry. Lecture 3 hours; 3 credits. Prerequisites: CET 305 and MATH 102M or equivalent. This course covers the study of aerial and close range photogrammetry and the corresponding reduction and interpretation of data.

413. Elements of GIS. Lecture 3 hours: 3 credits. Prerequisite: CET 305. The study of geographic and land information systems as they relate to the practice of land surveying. Surveying reference systems for control, attributes of computerized land data bases, and their impact on the recording of land titles and boundaries are treated, as well as the use of CAD enhancements and satellite technology.

416. Geodetic and Astronomical Surveying. Lecture 3 hours; 3 credits. Prerequisites: CET 305 and MATH 102M or equivalent. This course covers the fundamentals of geodetic reference surfaces, geometry of the ellipsoid, deviation of the vertical, geodetic reductions, gravity surface, geodetic position computations, geodetic control and distance measurements. It also covers geodetic instrumentation, triangulation, and astronomical methods of azimuth determination.

420. Hydrology and Drainage. Lecture 3 hours; 3 credits. Prerequisite: senior standing. Hydrologic and hydraulic principles are utilized in the planning, design, operation and construction of water management projects. Topics include elements of stormwater drainage pertaining to hydrology, hydraulics of open channel and pipe flow, stormwater management, and issues pertinent to state stormwater regulations and the Chesapeake Bay Preservation Act. The course also covers water distribution and sewage collection systems.

421. Advanced Analytical and Digital Photogrammetry. Lecture 3 hours; 3 credits. Prerequisites: CET 305, 320 and MATH 102M or equivalent. This course covers digital and analytical stereoscopic plotting instruments. Image and ground coordinate systems, coordinate transformations and refinement, rotation matrices, collinearity and coplanarity equations, analytical space resection, space intersection, trip and block formation and adjustment. It also covers digital image enhancement, image correlation, feature extraction and orthophotography.

422. Remote Sensing. Lecture 3 hours; 3 credits. Prerequisites: CET 305 and MATH 102M or equivalent. A course in differential calculus, such as MATH 110 is recommended, not required. This course covers electromagnetic energy, passive and active sensing systems, earth resource satellite systems, digital image formats, image enhancement, image interpretation and applications of computer-assisted interpretation in mapping, geology, soils, water quality and urban and regional planning. It also covers image rectification, registration and image data merger with GIS.

425. Land Design and Development. Lecture 3 hours; 3 credits. Prerequisites: CET 340 and 420. Applications of fundamental site engineering principles, land design principles and permitting issues. A brief historical review of exemplary subdivision, NewTown, and urban designs and their impact on current practice. Site surveying and engineering issues including hydrology, storm water management, site geometry, grading, design of roadways, drainage design, and site engineering are examined. The principles of siting and theories of design for esthetic and efficient alignment of roads, layout of structures and subdivision parcels are introduced.

440. Contract Documents. Lecture 3 hours; 3 credits. Prerequisite: CET 310. The basic concepts of contracts and the standard contract documents used in construction. Also included is a study of the dispute resolution process in arbitration.

445. Construction Planning and Scheduling. Lecture 3 hours; 3 credits. Prerequisite: CET 310. The basic elements of planning and scheduling building construction projects. All elements of building construction, including the precedence methods of scheduling. Use of computers and planning and scheduling software are emphasized.

450. Structural Steel Design. Lecture 3 hours; 3 credits. Prerequisite: CET 220. Structural analysis and design of steel structures, including beams, girders, columns, composite sections, trusses, bridge design, and the LRFD method. Analysis of statically-determinate cantilever (hungspan) systems also are covered.

452. Wood Design. Lecture 3 hours; 3 credits. Prerequisite: CET 220. Analysis and design of wooden structural elements of buildings to satisfy design codes. Included are shearwall design and connections as well as beams, columns and other elements.

460. Construction Cost Estimating. Lecture 3 hours; 3 credits. Prerequisite: CET 310. Evaluation and analysis of the basic elements of estimating construction costs for buildings. Elements of takeoff and pricing for Division 1 through Division 6 are covered. Use of computers and estimating software are emphasized.

465. Construction Project Management. Lecture 3 hours; 3 credits. Prerequisite: CET 310. An introduction to the procedures and methods that are used by a contractor during the construction phase of a project. Special emphasis on planning, managing, and estimating project activities. Topics include jobsite layout and control, subcontracting and purchasing and changes and claims/progress payments.

475W. Senior Design Project. Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisites: final semester or permission of the instructor. Students in the structural design emphasis area must also have CET 360. Independent or group design projects in the various CET emphasis areas with instructor and/or mentor guidance. Projects should include development and design, leading to appropriate engineering documents, with written and oral reports. (qualifies as a CAP experience)

495/496. Topics in Civil Engineering Technology. 1-3 credits each semester.

Electrical Engineering Technology — EET

For schedule of offerings see http://www.et.odu.edu/eetschedule.pdf

110. Electrical Circuits I. Lecture 3 hours; 3 credits. Prerequisite: MATH 162M. Fundamentals of electrical circuits including basic electrical parameters and variables, circuit laws and theorems, mesh analysis, node analysis, Thévenin's and Norton's Theorems, capacitance, inductance, magnetism, and elementary RC and RL transients.

120. Logic Circuits and Microprocessors. Lecture 3 hours; 3 credits. Introductory treatment of logic circuits and microprocessors. Boolean algebra, digital devices, and microprocessor fundamentals.

125. Logic And Microprocessor Laboratory. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: EET 110 and MATH 163. A continuation of EET 110 with emphasis on steady-state ac circuit analysis and applications. Topics include alternating current and voltage, phasors and complex numbers and their applications in circuit analysis, series and parallel resonance, complex power, and polyphase circuits. (offered fall)

200. Electrical Circuits II. Lecture 3 hours; 3 credits. Prerequisites: EET 110 and MATH 163. A continuation of EET 110 with emphasis on steady-state ac circuit analysis and applications. Topics include alternating current and voltage, phasors and complex numbers and their applications in circuit analysis, series and parallel resonance, complex power, and polyphase circuits. (offered fall)

205. Circuits Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: EET 200. Electrical laboratory instruction including test equipment, measurements, data analysis, verification of circuit laws, formal report preparation, and circuit construction.

210. Electronic Devices and Circuits I. Lecture 3 hours; 3 credits. Prerequisite: EET 110. Semiconductor devices with emphasis on dc circuit models and switching applications. Topics include transistor action, diodes, bipolar transistor models, basic operational amplifiers, and special devices. Analysis and design of stable biasing circuits. Frequency response analysis.

220. Electronic Devices and Circuits II. Lecture 3 hours; 3 credits. Prerequisites: EET 200 and 210. A continuation of EET 210 with emphasis on ac circuit models and applications using the hybrid circuit model and components, dc measurement equipment, analog/digital interface, operational amplifiers, oscillators and power supplies.

225. Electronics Laboratory. Lecture 1 hour; laboratory 4 hours; 2 credits. Prerequisite: EET 205. Pre- or corequisite: EET 220. Practical design, construction, testing and troubleshooting of electronic circuits including single state and multistage amplifiers, power amplifiers, linear integrated circuits, and control devices.

230. Microcomputer Methods. Lecture 2 hours; laboratory 4 hours; 3 credits. Prerequisites: CET 220, EET 110 and MATH 162M. An introductory course studying computing issues and problem solving for EET (and ComET) majors. Emphasis is placed on modern problem solving and algorithm development applied to engineering computer applications and hardware using the C++ programming language. Topics include: top-down refinement, procedure definition, looping, pointers, hardware I/O, masking and bit manipulation, and extensive program documentation.

300. Advanced Circuit Analysis. Lecture 3 hours; 3 credits. Prerequisites: EET 200 and MATH 211: General analysis of linear networks using classical methods, Laplace transforms and computer-aided methods. Topics include single element transients, first- and second-order circuits, transfer function analysis, and phasor analysis. Bode plots and waveform analysis. Circuit analysis software is used to support the analytical methods.

350. Advanced Technical Analysis. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: at least one course covering both differential and integral calculus. Analytical and computational methods to support upper-division engineering technology courses. Topics include matrix formulation, ordinary differential equations of engineering systems, elements of vector analysis,
Fourier series, and introductory statistical concepts. MATLAB will be used throughout the course to support all the topics. A portion of the course will be offered asynchronously.

315W. Digital Electronics. Lecture 3 hours; 3 credits. Prerequisites: EET 120, 125, 205, and 210. First course in an upper division sequence in digital electronics circuits and systems. Topics include a comprehensive treatment of Boolean algebra, computer arithmetic, and applications of digital integrated circuits.

315W. Digital Electronics Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: EET 310. Application oriented experiments and design problems in digital electronics. Prototype construction using wire-wrap methods will also be covered. Formal written reports will be required.

320. Microprocessors and Microcontrollers. Lecture 3 hours; 3 credits. Prerequisite: EET 310. Second lecture course in the upper-division digital electronics sequence is devoted to software and hardware design of microprocessors and microcontrollers. Topics include organization of microprocessors and microcontrollers, software programs, software program simulation, and the application of microprocessor-based systems.

325. Microprocessor Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: EET 320. Practical implementation of microprocessor and microcontroller systems and peripheral circuits. Emphasis is placed on the hardware and software design and hardware construction of “stand-alone” micro systems.

330. Linear Electronics. Lecture 3 hours; 3 credits. Prerequisites: EET 220 and 300. General treatment of linear electronic circuits with emphasis on the operational amplifier and integrated circuits derived from it. Topics include various amplifiers circuits and converters, integrators and differentiators, comparators, waveform generators, active filters, A/D and D/A converters, and regulators. Design of circuits to meet specifications. Circuit analysis software is used to validate some of the designs.

335. Linear Electronics Laboratory. Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: EET 330. Design of linear electronic circuits and subsystems with primary emphasis on circuit components and modules. Measurement techniques, instrumentation and error analysis. Modeling of complex electronic circuits on the computer with frequency response, sensitivity, and worst-case-analysis.

340. Transmission Networks. Lecture 3 hours; 3 credits. Prerequisite: EET 300. Transmission line theory including both transients and steady-state conditions. Smith chart and its application to RF design. Introduction to electric and magnetic fields and plane wave propagation. Circuit analysis software is used to support the analytical methods.

350. Fundamentals of Electrical Technology. Lecture 3 hours; 3 credits. Prerequisite: MATH 211. A comprehensive course in electrical engineering technology for nonmajors. Major topics are basic electricity (AC and DC), circuit analysis, linear electronics and digital electronics. Not open to electrical engineering technology and majors except as a substitute for EET 110 in special cases.

355. Electrical Laboratory. Laboratory 2 hours; 1 credit. Prerequisite: EET 350. Selected electrical laboratory topics for nonmajors including basic measurements, instrumentation, operational amplifiers, digital circuits, and rotating machines. Not open to electrical engineering technology majors.

360. Electrical Power and Machinery. Lecture 3 hours; 3 credits. Prerequisite: EET 200 or EET 350. A study of DC and AC motors and generators, transformers, power distribution systems, and instrumentation.

365W. Electrical Power and Machinery Laboratory. Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: EET 205 or 355. Pre- or corequisite: EET 360. A laboratory course dealing with electrical power and machinery as covered in EET 360. Formal written reports will be required.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience).

369. Practicum. 1-3 credits. Available for pass/fail grading only. (qualifies as a CAP experience)

400. CAD Electronics. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: EET 310, 320, 325. An upper-division study of the fundamentals of electronic schematic capture, circuit simulation, and printed circuit board design using microcomputers. Schematic symbols, simulation models, and pcb modules are developed by the students.

405. Introduction to Local Area Networks. Lecture 3 hours; 3 credits. Prerequisite: EET 320 and 330. An introduction to the design and management of PC based local area networks. Topics include network topology (Ethernet, token ring, FDDI, etc.), network interface card installation and configuration, client/server hardware, LAN/WAN concepts, bridges and routers, and software controls.

410. Communication Principles. Lecture 3 hours, 3 credits. Prerequisite: EET 300 or 350. Fourier series and transforms, spectral analysis, signal transmission, analog modulation and detection methods, sampling theorem, pulse and digital modulation methods, and time-division and frequency-division multiplexing.

415. Programmable Machine Controls. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: EET 310, or prerequisite: EET 350. Application oriented experiments and design problems in programmable controller setup and programming techniques with emphasis on practical applications. Computer assignments include ladder programs simulation.

420. Advanced Logic Design. Lecture 3 hours; 3 credits. Prerequisite: EET 310. Advanced digital logic design and circuit reduction. Topics include lattice structure, symmetry recognition and simplification, threshold logic, design-for-testing techniques, shortest path test path planning, adaptive testing, and fuzzy logic. Computer assignments include design simulation and testing.

430. Automatic Control Systems. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: EET 330, 335, and 340. Advanced treatment of computer-aided analysis software such as Multisim and MATLAB and the applications to electronic circuit analysis and design. Topics include non-linear models, distortion analysis, spectral analysis, and Monte Carlo techniques.
495, 496. Topics in Electrical Engineering Technology. 1-3 credits each semester. Prerequisite: junior standing.

Mechanical Engineering Technology — MET

For schedule of offerings see http://www.et.odu.edu/metschedule.pdf

100. Engineering Graphics. Lecture 2 hours; laboratory 2 hours; 3 credits. A modern treatment of the basic principles of engineering drawing, including graphing, orthographic projection, sectional views, multiview drawings, pictorial views and an introduction to tolerancing, utilizing both manual and computer-based drafting methods.

200. Manufacturing Processes and Methods. Lecture 3 hours; 3 credits. Application and characteristics, both physical and chemical, of the materials most commonly used in industry as well as procedures and processes used in converting raw materials into a finished product.

230. Computer Aided Drafting. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: MET 100. A study of the principles of computer aided drafting including the theory of CAD Systems components, their relationship to each other and methods of editing, manipulation, visualization and presentation, with a major emphasis on "Hands On" practice using AutoCAD software in the microcomputer laboratory.

240. Computer Solid Modeling. Lecture 3 hours; 3 credits. Prerequisite: MET 230. A treatment of modern 3-D parametric solid modeling techniques including introduction of the software utilized sketching, parts and assembly creation techniques, orthographic views extraction and manufacturing drawing generation. Presentations include exploded views and animation.

300. Thermodynamics. Lecture 3 hours; 3 credits. Prerequisites: MATH 211 and PHYS 111N. The basic laws of thermodynamics, properties of fluids, heat, and work and their applications in processes and cycles and an introduction to conduction heat transfer.

305. Fundamentals of Mechanics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 111N and MATH 211. Selected topics in statics and strength of materials are applied to mechanical engineering technology. Coverage includes force systems, equilibrium, friction, and stress-strain relationships and their application to the mechanical behavior of materials.

310. Dynamics. Lecture 3 hours; 3 credits. Prerequisites: CET 200 and MATH 211. A fundamental treatment of coplanar and three-dimensional kinematics and kinetics of particles and rigid bodies, including relative motion, mass moments of inertia, Newton's laws, work and energy, impulse and momentum, and simple vibrations.

320. Design of Machine Elements. Lecture 3 hours; 3 credits. Prerequisite: CET 220. A rapid review of the fundamental principles of strength of materials and working stresses followed by practical analyses of fundamental machine elements such as shafts, springs, and screws.

330. Fluid Mechanics. Lecture 3 hours; 3 credits. Prerequisites: MATH 211 and CET 200. The study of fluid statics and dynamics, including momentum, energy, Bernoulli's equation, laminar and turbulent fluid flow and friction in pipes, fluid machinery, and open-channel flow.

335. Fluid Mechanics Laboratory. Laboratory 2 hours; 1 credit. Prerequisite: MET 330. A laboratory course dealing with the verification of fluid equations and principles and the characteristics of fluid machinery with emphasis on laboratory report writing, including presentation and interpretation of experimental data.

350. Thermal Applications. Lecture 3 hours; 3 credits. Prerequisite: MET 300. A study of basic applications of thermodynamics. Topics include the basic steam and gas turbine power plant, introduction to refrigeration systems, psychometrics, basic conduction and convection heat transfer including heat exchangers and surveys of other energy conversion systems.

360. Geometric Dimensioning and Tolerancing. Lecture 3 hours; 3 credits. Prerequisite: MET 100. Methods and rules of dimensioning and tolerancing, calculation of fits, and geometrical tolerances using ANSI Y14.5M, tolerances of form, orientation, and profile, including flatness, straightness, circularity, cylindricity, angularity, etc. Student work consists of designing and detailing various product drawings.

367. Cooperative Education. 1.3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting of credit. Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Career Management program prior to the semester in which the work experience is to take place. (offered fall, spring, summer) (qualifies as a CAP experience)

368. Internship. 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Available for pass/fail grading only. (qualifies as a CAP experience)

370. Automation and Controls. Lecture 3 hours; 3 credits. Prerequisite: MATH 211. A study of the design and analysis of feedback control system. Includes the fundamentals of programmable controllers as well as practical applications of interfacing mechanical, electrical, pneumatic and hydraulic feedback control circuits. Computer simulation software is used to model system responses.

371. Power and Energy Laboratory. Laboratory 2 hours; 1 credit. Pre- or corequisite: MET 370. Laboratory and computer simulation of control systems including programmable controllers as well as practical applications of interfacing mechanical, electrical and pneumatic control systems.

387. Power and Energy Laboratory. Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: MET 335 and 350. Experiments dealing with applied thermodynamics, mechanical power and energy systems with emphasis on laboratory report writing, including presentation and interpretation of experimental data.

400. Computer Numerical Control in Production. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MET 230 or fundamental CAD knowledge and MET 360. Principles of computer numerical control consistent with most recently developed standards, industry practices, and CAD/CAM systems including such topics as types of CNC machines, CNC milling, CNC turning and CNC electro-discharge machining. A significant portion of the course includes programming in multiple axes.

405. Kinematics. Lecture 3 hours; 3 credits. Prerequisite: MET 310. A study of the fundamentals of the motion of machines including the displacement, velocity and acceleration analysis of linkages and cams. Analysis of gears and gear trains is also investigated. Simulation software is used to model the mechanical systems discussed.

410. Advanced Manufacturing Processes. Lecture 3 hours; 3 credits. Prerequisite: MET 200. A course in nontraditional manufacturing processes including ultrasonic machining, abrasive jet machining, waterjet cutting, electromechanical machining, electrical discharge machining, plasma arc machining and chemical milling. Semester project is required. (qualifies as a CAP experience)

415. Introduction to Robotics. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MET 310, and EET 350. An introductory course in robotics dealing with the history and development of robots, mechanical, electrical, and control system, actuators, robot programming and utilization. Included are laboratory experiments in robot motion and programming.

420. Design for Manufacturing. Lecture 3 hours; 3 credits. Prerequisites: MET 200 and 320. Principles of design for manufacturing, materials and process selection for design, role of geometric dimensioning and tolerancing, design for assembly, design for production and case studies. Also includes impact of product design, design for maintenance, recyclability, disassembly, quality and robustness. Semester project requires redesign of an existing product for manufacturing.

430. Mechanical Subsystem Design. Lecture 3 hours; 3 credits. Prerequisite: MET 320. Fundamental principles required for the correct design of the separate elements which compose the machine with attention given to problems of synthesis and the interrelationships of the design of elements within the sub-assembly. Topics include stress and strain of structural elements, loads, forces, chains and thin and thick cylinders, and lubrication and bearings.

435W. Senior Design Project. Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisites: senior standing. A capstone course exercising upper level course work involving independent or group design projects. Students are required to collect data and synthesize a mechanical design. Submission of written reports and a final oral presentation are required. (qualifies as a CAP experience)

440. Heat Transfer. Lecture 3 hours; 3 credits. Prerequisite: MET 300. A study of conduction, convection, and radiation heat transfer and heat exchangers. Emphasis is on applications and problem solving using current techniques, and modern correlations.

445. Computer Integrated Manufacturing. Lecture 3 hours; 3 credits. Prerequisite: senior standing. Principles of computer integrated manufacturing, system integration, architecture and data base development. Topics include part design specifications, process engineering, fixed automation and process planning.

450. Energy Systems. Lecture 3 hours; 3 credits. Prerequisite: MET 350. A study of the application of thermodynamics to power plants, engines, compressors, turbines, and associated
systems. A detailed study is made of fossil fuel power plants with an introductory study of nuclear power and other energy conversion systems.

460. Refrigeration and Air Conditioning. Lecture 3 hours; laboratory 3 hours; 3 credits. Prerequisite: EET 305 and MET 330 and 350. The design and application of refrigeration and air conditioning systems. Studies are made of compressors, condensers, evaporators, psychometric processes, load calculations and air distribution systems. High performance vapor compression systems, absorption systems and other cycles are analytically studied.

470. Control Applications. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MET 370 and 386. The application of ladder logic and programmable logic controllers to industrial control situations including the design/application of proportional control systems such as HVAC, advanced process and packaging and material handling systems simulations through software and mathematical models are introduced.

471. Nuclear Systems I. Lecture 3 hours; 3 credits. Prerequisite: MATH 211 and PHYS 111N. Reactor physics principles as applied to the design and operation of various types of commercial nuclear power reactors. Topics include sources of radiation science with matter, neutron interactions, diffusion theory, and reactor kinetics.

472. Nuclear Systems II. Lecture 3 hours; 3 credits. Prerequisites: MET 471 and CHEM 115N or equivalent. Complete study of the nuclear fuel cycle, from mining through fabrication, fuel management in an operating commercial power reactor, spent fuel management, and fuel reprocessing, with emphasis on chemical engineering considerations.

475. Marine Engineering I. Lecture 3 hours; 3 credits. Prerequisites: MET 330 and 350. This course includes: fundamental principles of naval architecture including nomenclature, geometry, stability, hydrostatics, structures, and motions; ship design processes; and a basic introduction to shipboard systems such as HVAC, refrigeration, power generation, propulsion, hydraulics, electronics, cargo handling systems, seawater systems, freshwater systems, and fuel, lube and other oil systems.

476. Marine Engineering II. Lecture 3 hours; 3 credits. Prerequisite: MET 475. This course builds upon MET 475 and provides a more in-depth look at shipboard systems and introduces topics such as basic shipboard operations and ship specifications.

480. High Performance Piston Engines. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: MET 300 or ME 311. Corequisites: MET 350 or ME 312. A study of the fundamental principles and performance characteristics of spark ignition and diesel internal combustion engines. Overview of engine types and their operation, engine design and operating parameters; ideal and semi-empirical models of engine cycles; combustion, fluid flow and thermal considerations in engine design and performance. Laboratory evaluation of engine performance using flow and dynamometer systems. (cross-listed with AE 477/577)

485. Maintenance Engineering. Lecture 3 hours; 3 credits. Prerequisites: EET 305 and MET 200. This course looks at maintenance systems, predictive, preventative and corrective; large scale maintenance systems, principles of reliability engineering, maritime logistics; planning for maintenance and repair, using and ordering spare parts, technical manuals, system specifications, and shipyard operations.

490. Lean Enterprise. Lecture 3 hours; 3 credits. Prerequisite: MET 200. The history of lean philosophy, founding principles, and the extension of these principles to above-shop-floor activity to create a lean enterprise. Topics include five s, value stream mapping, cellular manufacturing, pull system, performance metrics, point of use storage, built-in-quality, mistake proofing and lean implementation models. Research report on one of the lean principles is a course requirement.

495, 496. Topics in Mechanical Engineering Technology. 1-3 credits each semester.

English — ENGL

SUMMARY OF COURSE DISTRIBUTION

I. Composition and Professional Writing.

II. Creative Writing.

III. Language Studies and Linguistics.

IV. Journalism.
   Undergraduate: 335, 380, 381, 472, 480, 481, 483, 484, 485, 486.

V. Literature and Film.

VI. Teaching.
   Undergraduate: 455.

VII. Non-Lecture Courses.
   Undergraduate: 367, 368, 369, 468, 497, 498.

VIII. Topics Courses.
   Undergraduate: 395, 396, 495, 496.

COURSE DESCRIPTIONS

110C. English Composition. Lecture and discussion 3 hours; 3 credits. Prerequisite: Students must have passed the University Writing Sample Placement Test before registering for 110C; the test is administered by the University Testing Center. This course is designed to improve students’ writing skills. Emphasis is placed on developing skills of perception and observation, as well as thinking, ordering and imagining, and on practicing the principles of expository writing. Individual conferences are required.

111C. English Composition. Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course continues developing the methods of exposition begun in ENGL 110C. Primary emphasis on principles of argumentative, analytical, and critical writing. Included are report, precis, and thesis writing, plus the use and adaptation of sources in research writing, in a fully developed research paper. Some writing will be in class. Individual conferences are scheduled as needed.

112L. Introduction to Literature. Lecture 3 hours; 3 credits. This course shows the general student how to understand the distinctive forms and meanings of poems, plays and fiction, and key notions such as character, plot, and imagery. Readings, including works by women and minority writers, will illustrate individual and social experiences in different times and places. This perspective course develops and reinforces written communication skills and includes relevant insights into technology.

126C, 127C. Honors: English Composition. Lecture 3 hours; 3 credits. Prerequisite: Students must have passed the Writing Sample Placement Test before registering for ENGL 126C; the test is administered by the Writing Center. ENGL 126C is a prerequisite to ENGL 127C. Open only to students in the Honors College. Special honors sections of ENGL 110C and 111C.

127L. Honors: Introduction to Literature. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ENGL 112L.

131C. Introduction to Technical and Scientific Writing. Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course emphasizes critical reading, thinking, and writing in technical and scientific contexts. Students are introduced to principles of research, analysis, and argumentation as they are practiced in disciplines such as computer technology, the natural and social sciences, mathematics, business, health sciences, and engineering.

144L. American Writers, American Experiences. Lecture 3 hours; 3 credits. This course introduces the student to the diversity of American culture as depicted in American literature. It covers major works written by women and provide visions of city, frontier, and regional life; ethnic, racial, and immigrant experience; religion, democracy, and capitalism. This perspective course develops and reinforces written communication skills and includes relevant insights into technology.

200. Introduction to English Studies. Lecture 1 hour; 1 credit. A preview of the subject areas of an English major (literature, linguistics, creative writing, journalism, professional writing, rhetoric, teaching) with attention to the student’s curricular and career planning. Required of English majors. Open to anyone interested in English.

250. Digital Literacy. Lecture 3 hours; 3 credits. Prerequisites: 6-hour General Education composition requirement and literature perspective requirement or permission of the instructor. Hardware and software platforms (operating systems, word processing, desktop publishing, graphics) and Internet functions (E-mail, news groups, MML, WWW, e-commerce). Explores the implications of information age and how information technology transforms the practice of writing. Fulfills for English majors the General Education computer skills requirement.

300. Introduction to Creative Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 110C and 111C. A creative writing workshop course combining individual conferences with the instructor and class discussion of student writing. Students will work in fiction, non-fiction, poetry, and drama.

301. Introduction to British Literature I. Lecture 3 hours; 3 credits. Prerequisite: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. A survey of British literature from the beginning of textual records until 1780, focusing on the development of different literary forms in their social and cultural contexts.

302. Introduction to British Literature II. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. A survey of British
literature after 1780, focusing on the development of different literary forms in their social and cultural contexts.

303. Shakespeare’s Histories and Comedies. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An exploration of Shakespearean comedy and historical dramas, through plays such as: A Midsummer Night’s Dream, The Merchant of Venice, As You Like It, Measure for Measure, and The Tempest for the former; Richard II, Henry IV, and Richard III for the latter.

304. Shakespeare’s Tragedies and Poetry. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. A study of Shakespearean poetry and tragedy through the longer poems and the sonnets for the former, and through plays such as Romeo and Juliet, Hamlet, Othello, Macbeth, and Antony and Cleopatra for the latter.

312. Film. Lecture 3 hours; laboratory 2 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in English. A multimedia course using slides, video cassettes, and 16mm films to increase appreciation of film as an art form, particularly as a narrative medium. Attention is given to all the elements of filmmaking: directing, acting, writing, editing, visual composition, and music), especially as they contribute to the way films tell stories. After students become familiar with film techniques, they study eight to ten films for their narrative methods.

325. Introduction to Rhetorical Studies. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. Explores the nature and function of rhetoric and its contribution to the knowledge-making enterprises of English studies and other disciplines. Students will use rhetorical concepts to evaluate the effectiveness of their own language practices.

327W. Advanced Composition. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. This course emphasizes development of a mature, professional style in expository writing by study of the stylistic and analytical principles underlying effective prose writing.

333. The Interpretation of Literary Works. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, junior standing and three hours of literature, or permission of the instructor. This course introduces students to theories about the nature and value of literature and gives them experience in applying such theories to specific literary texts.

334W. Technical Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. This course provides the student with a working knowledge of various types of technical communication, including the writing of proposals, instructions, and reports for both the specialist and the nonspecialist.

335. Editing and Document Design. Lecture/lab 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six hours in English to include ENGL 334W or 380. This course provides practical experience in copy editing and includes an analysis of technical formats used in journalism, business, industry, and government. It features hands-on lab work in document presentation, page layout, and design.

336. The Short Story. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. A genre course on the art of the short story. Students will explore how the writers’ careful selection of detail creates meanings that emerge through the characters, plot, setting, diction, point of view, and other elements of fiction.

337. Twentieth-Century British Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. A study of American drama, short stories, a few novels, and poetry by outstanding twentieth-century writers from the British Isles, with a particular emphasis on the contemporary period.

340. American Drama. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of instructor. A survey of drama, short stories, a few novels, and poetry by outstanding twentieth-century writers from the British Isles, with a particular emphasis on the contemporary period.

342. Southern Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. A study of American drama from its beginnings to the present day. The course includes plays from the eighteenth and nineteenth centuries, with a generous selection from the twentieth century.

345. American Literature to 1860. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of instructor. The course presents a survey of American literature from the beginning to the Civil War. Among the authors studied are Franklin, Bryant, Poe, Hawthorne, Emerson, Thoreau, and Melville.

346. American Literature Since 1860. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of instructor. The course presents a survey of American literature from the beginning to the Civil War. Among the authors studied are Whitman, Twain, James, and Frost.

349. The Contemporary American Novel. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of instructor. A study of the contemporary American novel. The course presents a survey of the literature of the American novel since 1945 with emphasis on recent developments.

350. Aspects of the English Language. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing or permission of the instructor. An introduction to English phonetics, grammar, semantics, and usage, using insights from both traditional grammar and modern linguistics. Primary focus is placed on intensive English sentence analysis, which involves a comprehensive study of parts of speech, of phrase and clause structure, and of various sentence types in English.

351. Fiction Workshop. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 300 and junior standing or permission of the instructor, based on writing samples submitted. Students write, criticize, discuss, and revise works of fiction.

352. Poetry Workshop. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An introduction to selected major works in translation from the beginnings of world literature through the early seventeenth century. Works will be chosen that illustrate the relationship of literature to cultural tradition in different global regions.

360. World Masterpieces I. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement or permission of the instructor. American poetry since 1820 with emphasis on development of the poetic form. Themes studied are Whitman, Twain, James, and Frost.

361. Contemporary American Poetry. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement and 6-hour General Education composition requirement or permission of the instructor. American poetry since 1945 with emphasis on recent developments. Works to be read and studied are Whitman, Twain, James, and Frost.

362. World Masterpieces II. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An introduction to selected major works in literature in translation from the seventeenth century to the present day. Works from a variety of world cultures will be used to explore the interaction between literature and society in centuries of expanding global awareness.

367. Cooperative Education. 1-3 credits (may be taken for credit or on a pass/fail basis). Prerequisite: passing score on the Writing Sample Placement Test, approval by the department and Career Management. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Cooperative Education. Program prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Writing Internship. 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, 15 hours in English, to include ENGL 327W or ENGL 334W, recommended.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>405/505</td>
<td>Medieval Literature</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. An introduction to representative works of English literature (some in translation) from Beowulf through Chaucer’s Canterbury Tales, The Book of Margery Kempe, The Second Shepherd’s Play, and Malory’s Morte d’Arthur. Students will discover how medieval literature has contributed to and continues to complicate modern conceptions of reading, writing, and aesthetics.</td>
</tr>
<tr>
<td>406W</td>
<td>Children and Literature</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. This course focuses on understanding childhood experiences (through writing exercises) and the understanding of children and childhood reflected in literature for and about children.</td>
</tr>
<tr>
<td>407/507</td>
<td>Chaucer’s Canterbury Tales</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of The Canterbury Tales with an introduction to Middle English language and culture.</td>
</tr>
<tr>
<td>416/516</td>
<td>English Renaissance Drama</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. An extensive survey of the secular national dramas of Renaissance England that were written and performed by Shakespeare’s contemporaries in London between 1576 and 1642. Students study the literary features, social contexts and ideological underpinning of representative works by Kyd, Marlowe, Jonson, Webster, Ford, and others.</td>
</tr>
<tr>
<td>421/521</td>
<td>British Literature 1660-1800</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. British literature from the Restoration of the monarchy after the Civil War and Puritan Commonwealth, through the 18th Century. An instructor-led class with emphasis on how cultural changes (legalized female actors, commercialized printing, colonialism, and growing market capitalism) interacted with the flowering of market capitalism) interacted with the flowering of periodical journalism, “picturesque” poetry, and the novel.</td>
</tr>
<tr>
<td>423/523</td>
<td>The Romantic Movement in Britain</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of the literature written in Britain between 1770-1830, focusing on how the literary experiments and innovations of the 18th Century, with writers such as Percy Shelley, Keats, Burns, and Baudelaire, and of novelists like Mary Shelley, Radcliffe, and Scott interacted with cultural changes such as the Industrial Revolution, the French Revolution, and the emergence of feminism and working-class radicalism.</td>
</tr>
<tr>
<td>424/524</td>
<td>Short Works in Narrative Media</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and ENGL 312 or permission of instructor. This course examines short narrative forms in film, video, literature, and multi-media. Individual works will be considered, both for the specific ways in which they make use of the medium in which they appear and for the qualities they share. Particular emphasis will be placed on the relationship between writing and visualization. Students will engage in both creative and critical exercises that look at short works from both sides: creative production and critical analysis.</td>
</tr>
<tr>
<td>425/525</td>
<td>World Film Directors in Context</td>
<td>2</td>
<td>laboratory 2 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 312 or permission of instructor. This course will explore the works of several directors from several regions. Films will be considered as part of the body of work by each director, as well as in the context of the regions’ other arts, traditions, popular culture, and historical events. Students will become familiar, therefore, with aesthetic, literary, sociological, anthropological and historical approaches to the analysis of film.</td>
</tr>
<tr>
<td>427W/527</td>
<td>Managing the Disciplines</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test, 9 hours of English including completion of the 6-hour General Education composition requirement and 3 additional hours of English. This writing intensive course emphasizes contexts and strategies of writing production on and across academic disciplines and professional settings.</td>
</tr>
<tr>
<td>432/532</td>
<td>Origins and Early Development of the British Novel to 1800</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of early novels and how the novel developed from other traditions such as the epic, romance, criminal biography, and travel narrative.</td>
</tr>
<tr>
<td>433/533</td>
<td>Victorian Literature</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of early novels and how the novel developed from other traditions such as the epic, romance, criminal biography, and travel narrative.</td>
</tr>
<tr>
<td>435W/535</td>
<td>Management Writing</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of early novels and how the novel developed from other traditions such as the epic, romance, criminal biography, and travel narrative.</td>
</tr>
<tr>
<td>437/537</td>
<td>The Nineteenth-Century British Novel</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of 19th-century British novels in context of the economic, social, and political issues of the period, emphasizing their formal and aesthetic concerns.</td>
</tr>
<tr>
<td>438/538</td>
<td>The Twentieth-Century British Novel</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. Offered in specific sections of 1900-1945, 1945-present, 1900-present. Major British novels are studied.</td>
</tr>
<tr>
<td>439W/539</td>
<td>Writing in Electronic Environments</td>
<td>3</td>
<td>passing score on the Writing Sample Placement Test, ENGL 325 and computer literacy or permission of instructor. This course offers writing practice in critical contemporary electronic writing environments, especially emphasizing Web-based compositions. Readings and discussions provide a history of electronic writing,</td>
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</tbody>
</table>
learned in ENGL 352, focuses on the writing and criticism of poetry.

453/553. Advanced Dramatic Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 353. Combining workshop, discussion, exercises, and screenings, this course expands upon the fundamentals of writing for stage and screen begun in ENGL 353. Students write, criticize, discuss, and revise plays, screenplays, or television scripts. Students will complete and revise a full-length play or screenplay.

454/554. Creative Nonfiction. Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 327W or 351 and junior standing or permission of the instructor, based on writing samples submitted. A course in the techniques of writing nonfiction imaginatively and critically, and the means to write nonfiction imaginatively and imaginatively within a factual context. Emphasis is placed on regard for reader psychology, selection of significant detail, and the development of a style at once lively and lucid. Assignments are made individually with regard to the student’s field of interest—history, biography, science, politics, informal essay, etc. Advice is given on the mechanics of presentation; how to organize the work effectively; and how to utilize various effective teachers allow theories and experiences to inform their pedagogical strategies.

456. The Craft of Fiction. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and twelve semester hours in English to include ENGL 327W. A study of the theory and practice of teaching writing. Special attention will be given to the ways effective teachers allow theories and experiences to inform their pedagogical strategies.

457. The Craft of Poetry. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, six semester hours in literature or three semester hours in literature and ENGL 300, and junior standing or permission of the instructor. A detailed study of fictional technique in the novel and short story, with emphasis on character development, conflict, point of view, plot, setting, mood, tone, and diction. Especially designed for, but not limited to, creative writing students; supplements the creative writing workshops.

458/558. Craft of Dramatic Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 300 or ENGL 327W. A detailed study of the fundamentals of the art of writing for stage and screen, including character, plot thought, sound, spectacle, and action while developing strategies of scriptmaking in theory and practice.

459/559. New Literatures in English. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing. A study of the diverse “new” literatures in English of the Caribbean and Central America, Africa, India, as well as of Canada and Australia, in their current historical and political contexts.

460/560. The Literature of Fact. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A detailed study of the literary tradition of creative nonfiction.

461/561. Poetry of the Early Twentieth Century. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. Works of major British and American poets from 1900 to 1945 are studied.

462/562. Sacred Texts as Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of how sacred texts reshape a variety of literary forms (narratives, drama, poetry, biography, history). The course may focus on a particular text or a collection of texts drawn from a variety of faith traditions and/or spiritual experiences.

463/563. Women Writers. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. This course applies concepts developed through women’s studies scholarship and feminist literary theory to the work by women writers of different races and cultures.

465/565. African-American Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of the diverse “new” literatures in English of the Caribbean and Central America, and the contributions of African American writers to the literature of the United States. Topics include the history and sociology of the African American racial experience in the United States, the contributions of Asian American writers to the literature of the United States, the nature of Asian American identities in their multiple forms. The course will examine sociopolitical histories that undercut the literature, and the contributions of Asian American writers to the literature of the United States. The course will examine sociopolitical histories that undercut the literature, and the contributions of Asian American writers to the literature of the United States.

466W/566. Asian American Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 15 hours in English, to include ENGL 327W or ENGL 334W recommended. Permission of department internship coordinator required. A structured work experience involving writing and editing in a professional setting.

472/572. America in Vietnam: The Government and the Media in Conflict. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 110C and junior standing, or permission of the instructor. An examination of America’s role in Vietnam and how the interaction of the media with political and military leaders shaped the subsequent foreign policy decisions and military conduct.

477/577. Language, Gender and Power. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 110C and junior standing and three upper division hours in English, or permission of the instructor. This interdisciplinary course explores how language reflects and interacts with society, with particular emphasis on gender and race. Topics include definition, framing, stereotypes, language taboos, and powerful and powerless language.
480/580. Investigative Reporting Techniques. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 380. This course will acquaint students with essential skills necessary to the practice of print and broadcast journalism. With a focus on both high tech and traditional research skills, the course will provide instruction in the uses of computer-assisted reporting, spreadsheet and database analysis programs, locating databases compiled by government agencies, filing requests through the Freedom of Information Act, and following paper trails to records of courthouse, property, and corporate public filings.

481/581. Advanced Public Relations. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 381 or permission of the instructor. Designed to strengthen the skills of the public relations practitioner with emphasis on the creative aspects of problem solving. Attention is given to crisis public relations, interviewing, speech writing, and graphics.

482/582. Sports Journalism. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 110C and 111C. This sportswriting course in which students are introduced to various types and styles of sports stories that are representative of sports journalism as practiced in newspapers and magazines. The course also explores the role of sports in American society.

483W/583. Advanced News Reporting. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 380 or permission of instructor. Designed to familiarize students with the rudiments of beat reporting, including such areas as coverage of the criminal justice system, city government, business and labor, health and the environment, the arts and culture, and science and technology. Students will also receive instruction in the use of public records. Guest lectures by reporters who work on these beats.

484/584. Feature Story Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and nine semester hours in the major course. Course includes discussion and practice of writing a variety of newspaper and magazine feature stories. Students will write and critique stories on people, places, businesses, trends, and issues. Assistance is given in the marketing of manuscripts.

485W/585. Editorial and Persuasive Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and nine semester hours in English, to include ENGL 380 or 484. A study of the practice and function of writing editorials and other commentary for newspapers. Assignments include the writing of editorials, columns, and reviews. Lectures will include the treatment of a persuasive argument, an analysis of the content of newspaper editorials, and guest lectures by newspaper editorial writers and columnists.

486/586. Media Law and Ethics. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing or permission of the instructor. Designed to introduce students to components of communication law that may affect the professional writer or broadcaster. Topics include defamation, constitutional constraints, freedom of information, privacy, copyright, and telecommunications law. Ethical issues relating to the mass media will also be examined.

492/592. Modern World Drama. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of the instructor. A study of selected major dramatic works of the world, including the non-Western world. Works written in languages other than English will be read in translation. The course begins with Ibsen in the late nineteenth century and continues to the present.

493/593. Contemporary World Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of the instructor. Fiction, poetry, and plays written during the last fifty years in nations throughout the world. Most texts will have been written originally in languages other than English. Emphasis is on the universality of the human experience as depicted in a variety of cultures.

495/595, 496/596. Topics in English. 1-3 credits each semester. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in literature. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest. A study of a specialized area may not be offered regularly. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

497, 498. Tutorial Work in Special Topics in English. 3 credits each semester. Prerequisites: passing score on the Writing Sample Placement Test, senior standing and approval of the chair of the Department of English. Independent study in literature, writing, or linguistics according to a program of reading and/or writing designed under the direction of an instructor.

Environmental Health — ENVH

301W. Environmental Health. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the chemical, physical and biological factors affecting human health and well-being. The emphasis is on application of controls to prevent disease and maximize environmental quality.

401/501. Occupational Health. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the industrial environment relative to health problems and the etiologically related agents.

402W/502. Environmental Health Administration and Law. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the concepts and practice of administering environmental health control programs within agencies at the federal, state and local levels. The principles of administration and leadership of programs in the private sector are also discussed. The constitutional, statutory and administrative law bases for organizing and conducting such programs and developing environmental policy as well as the legal implications of enforcement will be addressed. A review of all major environmental statutes and their agencies that enforce them will be addressed.

403/503. Environmental Health Internship I, II. 3 credits each; both required. Prerequisites: ENVH 301W and permission of program director. Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. (qualifies as a CAP experience)

405. Environmental Health Internship III. 6 credits. Prerequisites: ENVH 301W and permission of program director. Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. (qualifies as a CAP experience)

406/506. Principles of Occupational Safety and Health. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A broad overview of the field of safety. A study of the factors influencing the occurrence of accidents and incidents is set in the context of safety legislation, current issues in the practice of safety and the ethical and professional responsibilities of the safety practitioner. The course also includes discussions of product safety, fire prevention and protection systems safety and human elements in loss prevention.

407/507. Occupational Safety Standards, Laws and Regulations I. Lecture 3 hours; 3 credits. Prerequisite: ENVH 405/505. Continuation of ENVH 407/507. This course will include additional standards for general industry as well as specific standards for the construction industry.

410/520. Communicable Diseases and Their Control. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth study of the communicable disease processes as they pertain to environmental sources. A detailed discussion of specific communicable diseases that are manifested by various environmental etiologic agents. Various environmental control measures to prevent the incidence of communicable diseases are presented.

421/521. Food Safety. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A comprehensive study of food and milk production, processing and preservation and controls exercised for the prevention of foodborne illnesses and spoilage.

422/522. Water and Wastewater Technology. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Introduction to water quality management and wastewater treatment technology. Topics include the effect of organic, inorganic and thermal pollutants in water quality streams, waterborne diseases, monitoring concepts, methods of water quality management, regulatory considerations, theory and application of wastewater treatment concepts, wastewater characterization, and treatment methods and disposal methods.

425/525. Vector Control. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A study of the vectors of human disease and the methods utilized in their control. (offered spring)

424/524. Residential and Institutional Environments. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A study of the physical aspects of housing and institutions as they relate to human health and well-being. Coverage is also given to infection control in health-care facilities.

425/525. Occupational Safety and Health Program Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. The establishment, implementation and maintenance of
occupational safety and health programs. Paradigms of safety, techniques for safety training and creation of value for safety among business managers and employees are emphasized.

462/526. Physical Hazards and Their Control. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth examination of the varied types of physical hazards in the work environment and the methods of prevention, recognition and control.

440/540. Principles of Ergonomics. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the terminology, concepts and applications of physiology, anthropometry, biomechanics and engineering to workplace and work methods design. Emphasis will be given to workplace design and work methods for job safety and health.

441/541. Industrial Hygiene. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth study of the chemical and physical agents responsible for occupational illness and the methods used for their measurement, evaluation and control.

442/542. Sampling and Analysis Laboratory. Laboratory 4 hours; 2 credits. Prerequisite: ENVH 441/541 or permission of the instructor. Application of sampling and analytical equipment for measurement of chemical agents in the environment. Includes collecting media selection, sampling strategy, sample preparation and analysis.

443/543. Principles of Toxicology. Lecture 3 hours; 3 credits. Prerequisite: junior standing and BIOL 190. An introduction to the fundamentals of toxicology with emphasis on the interaction of environmental and industrial chemicals with humans are studied. Exposure, dose response, kinetics and distribution of toxicants, metabolism of toxic agents, factors that affect toxicity and introductory chemical carcinogenesis are discussed.

445/545. Air Pollution and Its Control. Lecture 3 hours; 3 credits. Prerequisite: junior standing. The study of air pollution in relation to air quality criteria, pollutant production, atmospheric evolution, measurement and control techniques.

446/546. Physical Hazards Laboratory. Laboratory 4 hours; 2 credits. Prerequisite: ENVH 441/541 or permission of the instructor. Use and application of sampling methods and equipment for measurement of physical hazards in the work environment. Includes aspects such as ergonomics, noise, vibration and radiation.

448/548. Epidemiology and Biostatistics. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introductory course in the principles and practices of epidemiology and the application of statistical and mathematical design and analysis of health research studies for the understanding and control of population health and disease with emphasis on environmental applications.

461/561. Hazardous Waste Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Description of the hazardous waste problem, the fundamentals of the chemistry involved with hazardous waste transport, methods of identification, assessment, control, and disposal of toxic and hazardous waste are discussed. In addition to the relevant legal statutes, risk assessment, emergency response and case studies are presented. Introduction to the toxicological effects of exposure to hazardous waste is discussed.

462/562. Hazardous Waste Management for Uncontrolled Sites. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Remedial investigation/feasibility study techniques are described for Superfund sites. Potential remedial technologies for uncontrolled waste sites are also discussed.

466/564. Environmental Dynamics of Hazardous Materials/Waste. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Fate and transport of hazardous chemicals in environmental media are discussed. The roles of partitioning coefficients and interphase transport are examined for soil, water, and air. The prediction of ecological effects and the effects on individual organisms are discussed.


466/566. Environmental Risk Assessment and Decision Analysis. Lecture 3 hours; 3 credits. Prerequisite: junior standing. The principles of quantitative health risk assessment of toxics are presented. Quantitative risk assessment is used to evaluate the probability of injury, disease, or death in the general population from exposure to environmental contaminants are discussed. Hazardous identification, exposure assessment, dose-response evaluation and risk characterization are emphasized. Risk management group projects assessing some real environmental risks is an important segment of the class.

470/570. Industrial Environmental Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Course addresses day-to-day technical and management aspects of environmental compliance, as well as regulatory issues faced in industrial applications. Includes audits and inspections, air and water pollution and hazardous waste.

495/595. Topics in Environmental Health. 1-3 credits. Prerequisite: junior standing.

498/598. Independent Study in Environmental Health. Prerequisites: Permission of the Program Director. An opportunity is afforded students to undertake independent study under the direction of a faculty member.

499. Environmental Health Senior Seminar. 1 credit. Prerequisites: second semester senior standing and permission of the program director.

Exercise Science, Sport, Physical Education and Recreation

All 100-level courses are designated for activity credit.

Lifetime Sports Program

1. Aquatic Activities — PE

101. Swim Conditioning. Three classes per week; 7 1/2 weeks; 1 credit. Students will discuss and learn the training process including advantages and benefits of swimming, principles of training, training procedures, evaluation and motivation, and minor annoyances. Stroke mechanics and improvement and information for triathletes.

102. Beginning Swimming. Three classes per week; 7 1/2 weeks; 1 credit. Development of the basic water safety skills and knowledge to make one reasonably safe in the water.

103. Intermediate Swimming. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: must be comfortable in deep water. Instruction in all strokes will be covered.

104. Lifeguard Training. Three classes per week; 16 weeks; 2 credits. Development of the skills and knowledge designed to save the life of another in the event of an emergency in the water. Red Cross certification.

105. Water Safety Instructor. 3 credits. Prerequisite: must be at least 17, in sound physical condition, and have the ability to perform skills in the level VI ARC swim course. This course is designed to provide the student with knowledge and skills in water safety and teaching techniques for certification to teach swimming, lifesaving, rescue and water safety courses. Red Cross Water Safety Instructor Certificate upon successful completion.

107. Beginning SCUBA. Three classes per week; 7 1/2 weeks; 1 credit. Development of the basic skills and knowledges of skin and SCUBA diving. NAUI certification issued upon completion of PE 107+ and 108+. Students must furnish their own equipment and pay for air used.

108. Intermediate SCUBA. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: completion of any beginning SCUBA course. Development of intermediate SCUBA skills. NAUI certification issued upon completion of PE 108+. Several open-water dives are required. Students must furnish their own equipment and pay for air used.

112. Yoga Program. 2 credits. This course provides a foundation for the understanding and practice of Hatha yoga in its complete form. Course covers yoga postures, breathing exercises, philosophy, and meditation.

115. Introduction to Rock Climbing. Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to prepare students for basic rock climbing. Course skills will include knots,
climbing techniques, equipment required, and safety knowledge. Course includes one climbing field trip.

117. Disabled and Fit. 1 credit; 3 hours per week for 7 1/2 weeks; 1 credit. Designed to allow students an individualized weight training program. The program will include use of free weights, universal, and other appropriate tools for the variety of weight training differences.

118. Weight Training. Three classes per week; 7 1/2 weeks; 1 credit. Designed to allow students an individualized weight training program. The program will include use of free weights, universal, and other appropriate tools for the variety of weight training differences. Individualized programs presented.

124. Intermediate Badminton. Three classes per week; 7 1/2 weeks; 1 credit. Development of all the strokes to enable an individual to play a good game of badminton. Emphasis is placed on the strategy of the game of singles and doubles.

125. Beginning Tennis. Three classes per week; 7 1/2 weeks; 1 credit. Development of sufficient strokes, strokes knowledge and knowledge to give the individual an enjoyment of the game. The student is responsible for furnishing one can of new and approved USTA balls.

126. Intermediate Tennis. Three classes per week; 7 1/2 weeks; 1 credit. Development of strokes to enable an individual to play a good game of tennis. Emphasis is placed on the strategy of the game of singles and doubles. The student is responsible for furnishing one can of new and approved USTA balls.

134. Beginning Golf. Three classes per week; 7 1/2 weeks; 1 credit. Fundamentals of golf, stance, grip, swing, rules, and etiquette are presented. Driving range and golf course may be used. Students pay all fees.

139. Volleyball. Three classes per week; 7 1/2 weeks; 1 credit. Development of fundamental skills of soccer. Rules and strategies are stressed.

167. Beginning Judo. Three classes per week; 7 1/2 weeks; 1 credit. An introduction to Judo including the techniques of throws, hold-downs, lockings, and pinning. Philosophy and cultural aspects of Sport Judo are also covered.

168. Intermediate Judo. Three classes per week; 7 1/2 weeks; 1 credit. An intermediate course in Sport Judo covering intermediate skills and strategies.

171. Physical Conditioning. Three hours per week; 7 1/2 weeks; 1 credit. This course addresses the basic principles of progressive weight training. Objectives of the course include knowledge of various weight-training systems, proper use of weight-training equipment, and effective record-keeping to monitor individual progress.

174. Aerobics I. Three classes per week; 2 credits. This course is designed to introduce the student to a complete physical fitness program that strengthens the heart and lungs, and tones up the muscles.

180. Beginning Aikido. Three classes per week; 7 1/2 weeks; 1 credit. Course is designed to introduce the fundamental dynamics of Aikido principle. It contains the fundamental skills in body dynamics, body movements, safety landing, defensive pattern drills, and overall understanding of Aikido as a classical art form. Course provides comprehensive information on the philosophic and aesthetic aspects of Aikido.

181. Kobudo. Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to introduce the fundamentals of classical weapon arts in Bo (long oak stick), Kama (sickle), Jo (short oak stick), Sai (spiked iron sword), and Bokuto (wooden sword).

182. Kendo. Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to introduce the fundamental Japanese classical swordmanship in skill components as well as its philosophical foundation. Bokuto (wooden sword), Shinai (bamboo sword) and a full armor are used for the skill training.

184. Intermediate Aikido. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 180+. Course is designed to introduce the intermediate level of Aikido dynamics. It contains the basics of fundamental skills in body dynamics, body movements, safety landing, intermediate level defensive pattern drills, and overall understanding of Aikido as a classical art form.

185. Advanced Aikido. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 184+. Course is designed to introduce the advanced level of Aikido dynamics. It contains training in advanced skills in body dynamics, body movements, safety landing, intermediate level defensive pattern drills, and overall understanding of Aikido as a classical art form.

186. Beginning Karate. Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to give the traditional Karate training ("Art of Empty Hand") to the beginning student. It emphasizes the traditional mode of training with mental and physical discipline. Formal Kata, defensive skills, punches, kicks, and blocking techniques are introduced.

187. Intermediate Karate. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 186+. This course is designed to give the student further instruction and practice in traditional Karate.

188. Beginning Self-Defense. Three classes per week; 7 1/2 weeks; 1 credit. The student is introduced to the various practical skills and methods of self-defense. Judo, Aikido, Jujutsu, and Karate are combined to explore the most effective means of defending oneself.

189. Intermediate Self-Defense. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 188+. This course is designed to give the student further instruction and practice in the various practical skills and methods of self-defense.

190. Advanced Karate. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 187+. This course is designed to introduce further instruction and practice in traditional martial art aspects of Karate-doh. Philosophical understanding and high level of skill proficiency are emphasized.

191. Iaido (Art of Sword Harmony). Three classes per week; 7 1/2 weeks; 1 credit. Pre- or corequisite: PE 185+. Prerequisites: PE 182+, PE 180+ or 186+, PE 184+. This course is designed to introduce the classical art form of sword drawing skills and its philosophic principle. This course focuses on the skills dynamics of traditional and ceremonial art forms.

194. Intermediate Kendo. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 182+ or equivalent proficiency. This course is designed to provide the intermediate level of Kendo skills beyond a basic skill level. The course emphasizes the correct mental attitude and physical discipline.

195. Theory of Advanced Aikido. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisites: PE 180+, 184+, 185+ or equivalent proficiency level. This course is designed to provide the theoretical framework of Aikido that embodies the mental and physical dynamics of the martial arts discipline of Aikido.

197. Theory of Advanced Karate. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisites: PE 186+, 187+, 190+ and/or equivalent proficiency level. This course is designed to provide the theoretical framework of Karate that embodies the high level of mental and physical dynamics and aims to achieve the advanced skills in Karate.

198. Intermediate Self-Defense. Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 188+ or equivalent skills. This course is designed to provide the intermediate level of self-defense skills beyond the basic skill. The course stresses both the application of basic techniques and proper physical and mental discipline.

III. For Nonphysical Education Majors

196. Topics in Health and Physical Education. 1 credit. A variety of new and innovative courses in lifetime physical activities are offered such as advanced theory class in martial arts, advanced Iaido, self-defense seminar, yoga, cross country skiing, yacht racing, racquetball, nautlius, swim conditioning, water safety instructor, scuba and aerobic dance.

IV. Physical Education — PE

Students enrolling in 200-level and above PE courses must be health and physical education majors or have permission of the instructor.

200. Foundations of Physical Education and Health. Three classes per week; 3 credits. Introductory course for majors: principles, philosophy, and history of physical education and health. Current issues and practices will be presented. Professional teaching portfolio is introduced. PRAXIS I registration verification is required during or prior to enrollment in this course.

217. Fundamental Movement Skills and Dance. Lecture 2 hours; 2 credits. This course is designed to introduce the fundamental components of dance and rhythms. Techniques in rhythmic movement and basic dance styles and build a range of rhythmic activities to be taught in the physical education classroom.

218. Aquatics and Outdoor Education. Lecture 2 hours; 2 credits. Prerequisite: PE 102+. Will be required for any student who is unable to swim in deep water. This course introduces the principles and practices of swimming and outdoor education for the school setting. Activities will include orienteering, team building, cooperative games, and aquatics. Effective instructional strategies, basic skills, and assessment for the teaching of these physical activities will be included.

220. Teaching of Team Sports I. Lecture 1 hour; laboratory 3 hours; 2 credits. This course will introduce the sports of soccer, flag football, field hockey, snowboarding, and ultimate frisbee. Effective instructional strategies, game tactics, and assessment techniques for the teaching of these team sports will be included.

221. Teaching of Team Sports II. Lecture 1 hour; laboratory 3 hours; 2 credits. This course
will introduce the sports of basketball, volleyball, and softball. Effective instructional strategies, game tactics, and assessment techniques for the teaching of these team sports will be included.

222. Teaching Individual Sports. Lecture 1 hour; laboratory 3 hours; 2 credits. This course will introduce a variety of individual and dual sports for the enhancement of life-span involvement in physical activity. Instructional strategies, game tactics, and assessment techniques for the teaching of these individual and dual sports will be included.

224. Teaching Elementary Physical Education. Lecture 3 hours; 3 credits. Designed for the preparation in teaching all elementary age children developmentally appropriate physical activities in educational games, educational gymnastics and motor skill development. Skill proficiency levels, learning styles, and effective assessment are studied through a conceptual-skills theme approach.

295. Topics in Physical Education. 1-3 credits. Prerequisite: sophomore standing and approval of program advisor. This course provides an opportunity for in-depth study of selected topics in physical education.

300. Management and Skills for Teaching Health and Physical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Foundations in psychological, sociological, and academic needs of students, with specific focus on management skills in open classroom and sport settings. Specialized safety concerns and environmental considerations are also addressed. Lesson planning, goal setting, and movement formations unique to HPER activities are included.

301. Teaching Physical Education in the Secondary Schools. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Acquaints the students with current theories, principles, styles and best practices utilized in teaching physical education to students at the secondary school level. Designing and application of lesson plans, curriculum development, analysis of skills and performances are emphasized.

308. Driver Education Foundations of Traffic Safety. Three classes per week; 3 credits. Prerequisite: instructor. The intent of the course is to develop a thorough understanding of the highway transportation systems, the complexity of the driving task, and factors contributing to performance of highway users (e.g. attitudes and skills) necessary to develop competent drivers for prospective teachers to have the essential knowledge and skills to effectively deliver course content as an endorsed driver education trainer.

309. Principles and Methodologies of Classroom and In-Car Instruction. Three classes per week; 3 credits. Prerequisite: PE 308. This course provides teacher candidates with an overview of teaching methods and effective practices for driver education instruction with a focus on teaching skills. An emphasis is placed on program organization, administration, classroom instruction, single car instruction, multiple-car range instruction, simulation and evaluation. A minimum of 20 hours behind-the-wheel supervised teaching experiences is required.

318. Motor Learning. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Designed to provide the student with experiences in the practical application of theory related to motor learning. Feedback, transfer learning, practice, and motor control principles and concepts are addressed.

319. Physical Growth and Motor Development. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An examination of the physical growth and motor development of the human being over the life span. Emphasis is on the assessment of physical and cognitive development, particularly in the K-13 ages. Theory and technique for research are discussed and the use of research findings is incorporated into the assessment materials. Attention is directed toward acquisition of basic skills, perceptual-motor development, and age-related changes.

327. Teaching of Physical Education, PreK-8. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This interactive course is designed to prepare classroom teachers in PreK-8 licensure programs for the teaching of physical education. Appropriate content, instructional strategies, effective classroom management, and safety issues will be presented.

404W/504. Adapted Physical Education. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisites: PE 300 and 319. As a writing intensive course, the students will be acquainted with and research the different disabilities, learning modes of the exceptional child, IDEA—the law that advocates for free education and working with the child with disabilities within an ecosystem. A vital component of the course will be the practical application of theory.

497/597, 498. Topics in Health and Physical Education. 1-3 credits. Prerequisite: junior standing and approval of program advisor. This course provides an opportunity for in-depth study of selected topics in health and physical education.

V. Health Education — HE

224. Advanced First Aid and Emergency Care. Two-three classes per week; 2-3 credits. This course presents the knowledge and skills essential for proper care in most emergency situations. Aspects of emergency first aid are developed, including CPR instruction. Upon satisfactory completion of the course, each student will have the option of receiving certification in CPR and/or First Aid upon payment of a certificate fee if required by the American Red Cross or National Safety Council.

230. Personal and Community Health. Three classes per week; 3 credits. This course is designed to develop knowledge, understanding, attitudes, and desirable practices related to personal and community health.

302. Methods and Materials in Health Education. Three classes per week; 3 credits. Prerequisite: junior standing. Instruction in methods of teaching, organization of classes, evaluation of outcomes, and selection of content for health and safety education. Collection, evaluation, and application of health and safety education materials are emphasized. This course is to be completed prior to student teaching. Field experience is required.

481/581. Teaching of Sexuality Education in the Schools. Three classes per week; 3 credits. Prerequisites: HE 302 and junior standing. This course explores both the appropriate content and instructional strategies for teaching sexuality education in a PreK-12 school setting. Emphasis is placed on achieving a comfort level in presentation of content.

497/597, 498/598. Topics in Health Education. Three classes per week; variable credit. Prerequisite: junior standing. This course provides an opportunity for in-depth study of selected topics in the variety of areas constituting health education.

VI. Health and Physical Education — HPE

230. Field Experience in Physical Education and Health. 2 credits. Prerequisite: passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. Teacher candidates gain insight into the techniques, methodologies, and philosophy of field-based health and physical education teachers. Teacher candidates will be expected to observe and participate in the teaching of simple lessons.

369. Practicum in Physical Education and Health. 3 credits. Prerequisites: HPE 230 and admission into teacher education. A clinical experience that allows the teaching candidate to teach and observe physical education in a field-based setting. Portfolio development, reflective assessment of teaching, and student assessment techniques will be emphasized.

406. Tests and Measurement in Physical Education and Health. Three classes per week; 3 credits. Prerequisite: junior standing. This course is designed to acquaint the student with tests and measurement in the fields of health and physical education, test construction, scoring, and methods of using results.

430. Teaching Wellness and Health-Related Fitness. Lecture 3 hours; 3 credits. Prerequisite: HPE 230 or equivalent. The study of techniques for the teaching of wellness and health-related fitness. Content to be covered includes drug education, nutrition, wellness, mental health, and various aspects of fitness training appropriate for the teaching of PreK-12 physical education and health.

485. Teacher Candidate Internship. Five days per week; full semester; 12 credits. Prerequisites: acceptance into teacher education, completion of approved program, passing scores on the appropriate PRAXIS II content examination, and an approved application for Teacher Candidate Internship. A culminating experience that provides a field-based application of effective techniques in behavior, management, instructional strategies, and the development of professional attributes in K-12 school setting. (qualifies as a CAP experience)

487/587. Teacher Candidate Seminar. One hour; 1 credit. Prerequisites: acceptance into teacher education and approval of the program advisor. Study and group discussion of problems growing out of the student teaching (teacher candidate internship) experience.

VII. Recreation and Tourism Studies — RTS

201. Recreation Programming and Leadership. Lecture and participation 3 hours; 3 credits. Prerequisite: sophomore status. This course is designed to help students understand and develop their activity leadership and programming skills. Theories and techniques in relation to community, therapeutic, commercial, and outdoor recreation leisure service provision are explored. The course will examine the basic principles of recreation program planning and leadership including needs assessment, public relations, and evaluation.

211. Foundations of Recreation and Leisure. Lecture 3 hours; 3 credits. An examination of the historical and philosophical bases of the recreation movement in the U.S. To include a review of theories of play and an assessment of the social, economic and cultural determinants of nonwork-time behavioral patterns. The relationship of leisure to education and the involvement of the government at federal, state and local levels will be considered.

261. Introduction to Therapeutic Recreation. Lecture 3 hours; 3 credits. This course is designed to present an overview of therapeutic recreation as
365. Internship Seminar. Lecture and discussion 1 hour; 1 credit. Prerequisite: completion of all recreation emphasis and core courses plus senior standing. Supervised agency placement is required of all students in the Recreation and Tourism Studies program. Placement must fulfill all professionally appropriate certification standards. Minimum of 400 clock hours. (qualifies as a CAP experience)

368. Internship. 12 credits. Prerequisites: completion of all recreation emphasis and core courses plus senior standing. Supervised agency placement is required of all students in Recreation and Tourism Studies program. Placement must fulfill all professionally appropriate certification standards. Minimum of 400 clock hours. (qualifies as a CAP experience)

369. Practicum in Recreation and Tourism Studies. 3-6 credits. Prerequisite: junior standing. Selected field-based experiences in a recreation and tourism service setting. Minimum of 200 clock hours. (qualifies as a CAP experience)

405. Recreation and Natural Resources. Lecture 3 hours; 3 credits. Prerequisite: junior standing and/or permission of instructor. An examination of the impact of leisure and recreation on the environment. In-depth review of government involvement at federal, state and local levels. Consideration of legislation and the environmental movement, and the resource management philosophy of public and private agencies.

410/510. Clinical Aspects of Therapeutic Recreation. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. The course is designed to provide students with an understanding of treatment centered therapeutic recreation program design. The role of the recreation therapist will be explored. Topics will include patient assessment, activity analysis, documentation, treatment plans and program development.

411. Trends in Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course examines the principles and practices of planning, marketing, and managing cultural tourism. Assessment, development, and maintenance of cultural tourism products are explored.

420. Intervention Techniques in Therapeutic Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Course is designed to introduce students to various disabling conditions that receive therapeutic recreation services. Therapeutic recreation intervention techniques used while implementing a program will be discussed. Emphasis will be given to the rehabilitative and habilitative goals of intervention techniques.

425. Facility Management and Design. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of the principles and practices of facility management in recreation. Focus is geared toward the planning and design of indoor and outdoor recreation facilities as well as how to review and develop effective maintenance and risk management programs. (cross-listed with SMGT 425)

430. Managing Therapeutic Recreation Services. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to address issues related to managing therapeutic recreation services in health care settings. Topics discussed include reimbursement, staff training, quality assurance, marketing strategies, ethical behavior and service delivery management.

433. Community Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to the various facets of public, private, nonprofit and commercial recreation delivery settings. It discusses organizational structure as it relates to personnel and financial management.

434. Local Government Recreation Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to the various aspects of local government recreation management.

441/541. Service and Operations Strategies in Tourism. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to the various aspects of service and operations strategies in tourism.

450. Disabilities and Aging in Therapeutic Recreation. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to the various aspects of disabilities and aging in therapeutic recreation. The course will examine disabilities with specific application to program evaluation in therapeutic recreation.

461/561. Tourism and the Hospitality Industry. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course explores tourism from a social perspective. The focus of the course will be on economic and social dimensions of tourism, tourism development strategies, and current research in hospitality from national and international case studies.

475/575. Tourism and Cultural Heritage Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course examines the principles and practices of planning, marketing, and managing cultural tourism. Assessment, development, and maintenance of cultural tourism products are explored.

482W. Program Evaluation in Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A survey course of measurement tools and research methods with specific application to program evaluation in recreation and sport management service settings.

485. The Philosophy of Play. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. The course is designed to examine the role of play and its impact on health and wellness. Emphasis is placed on play behavior and healthy lifestyle.

491. Festival and Event Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The course will introduce students to the growing profession of events management. Specific focus will be on knowledge that encompasses the management of public assembly and the purpose of celebration, education, marketing and reunions.

495/595. Topics. 1-3 credits. Prerequisite: junior standing. This course provides an opportunity for in-depth study of selected topics in the variety of areas comprising recreation and tourism studies.

497. Independent Study. 3 credits. Prerequisite: junior standing or permission of the instructor. Individualized instruction to include research, specialized studies, or other scholarly writing.

VIII. Exercise Science — EXSC

225. Introduction to Exercise Science. Lecture 3 hours; 3 credits. Broad overview of exercise science including the history of the discipline and introduction to the following: Healthy People 2010 goals and objectives related to physical activity and nutrition; basic principles of nutrition, body composition, applied physiology, functional anatomy, and exercise prescription/programming for healthy individuals and those who are high risk/diseased; career opportunities in various allied-health fields such as physical therapy, physician assistant, personal training; community/corporate/hospital-based wellness programs, cardiac rehabilitation; and research areas in exercise science.


250. Strength and Conditioning Leadership. Lecture 3 hours; 3 credits. Prerequisite: EXSC 225. This course will provide the student with skills in exercise leadership. The student will learn how to lead resistance training, flexibility training, cardiovascular training involving a variety of exercise modes, and group exercise, such as step aerobics.

322. Anatomical Kinesiology and Human Anatomy. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: BIOL 250. Kinesiological, anatomical and mechanical analysis of human musculoskeletal function as they relate to the sport environment, including computer assisted analysis of human motion.

340. Prevention and Care of Injuries Related to Physical Activity. Three classes per week; 3 credits. Prerequisite: BIOL 250 or permission of
the instructor. Practice in the skills of injury recognition and evaluation and training in cardiopulmonary resuscitation. Principles and uses of therapeutic modalities are also discussed.

426W/526. Exercise Physiology I. Lecture 3 hours; 3 credits. Prerequisite: BIOL 250. An investigation into the metabolic adaptations, neuromuscular, endocrinological, and respiratory responses across and chronic exercise endeavors. Implications for enhanced health and physical performance are integrated.

427W/527. Exercise Physiology II. Lecture 3 hours; 3 credits. Prerequisites: EXSC 426/526 and BIOL 250. A continuation of Exercise Physiology I. Focuses on cardiovascular responses to exercise and applied exercise physiology, specifically the effects of different training modes, environmental factors, aging, disease states, nutrition, and ergogenic aids.

428/528. Exercise Prescription for Chronic Disease. Lecture 3 hours; 3 credits. Prerequisite: EXSC 409 or 426. A study of pathophysiology of common diseases with concentration in the design, implementation and administration of exercise prescription for a variety of chronic diseases.

431/531. Wellness Programming and Administration. Lecture 3 hours; 3 credits. Prerequisite: EXSC 409 or 426. An introduction to the principles of administration and implementation of fitness and wellness programs to individuals, groups, and center and corporate settings.

440/540. Exercise and Aging. Lecture 3 hours; 3 credits. Prerequisite: EXSC 409 or equivalent. A physiological study of how exercise interacts with the aging process, a survey of common medical problems of the elderly as they relate to exercise, and an examination of exercise prescription and program implementation for the elderly population.

456/556. Sport Psychology. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Study of the psychological bases of coaching strategies and methodologies. Emphasis is placed on applying knowledge in field settings. (cross-listed with SMGT 456/556)

IX. Sport Management — SMGT

214. Introduction to Sport Management. Lecture 3 hours; 3 credits. Course will introduce students to the sports industry, the wide range of career opportunities involving sport, and the economical impact of sports in America.

235. Sport Management Recitation. 1 credit. Corequisites: SMGT 214 and HIST 104H. Dedicated Monarch Advantage Program (MAP) selection for sport management majors - freshmen only.

305. Sport Administrative Theory. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Principles of organization and administration as they apply to managing sport organizations. Issues related to working with and through individuals to achieve organizational goals and objectives are discussed.

312. Sport Sales. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course will teach students to learn and navigate the sport sales process. The financial strength of a sport entity is determined by its sales ability, and through lecture, guest speakers, and applied “real world” exercises, students will have the opportunity to obtain knowledge, skills, and experiences in sport sales that are essential for entry level positions.

315. Sport Media and Public Relations. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to sport media and public relations. Special emphasis will be placed on the communications process in sport and the various mediums that can be used to convey messages. The internal and external publics involved in sport public relations will be examined along with the steps involved in the process. Additional emphasis will be placed on studying the role of the community media and sport public relations, and employee relations in sport organizations.

331. Fiscal Planning and Management in Sport and Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to examine the principles and practices of financial management in direct recreation and sport service settings. Course will explore the basic concepts of financial planning and analysis to effectively manage a successful operation.

366. Internship Seminar. Lecture and discussion 1 hour; 1 credit. Prerequisite: all emphasis core courses and junior standing. Agency field placement is required of all students in Sport Management. Seminar will include resume and cover letter writing skills, internship requirements, agency placement referrals, and interviewing techniques. (cross-listed with RTS 366) (qualifies as a CAP experience)

368W. Internship. Hours to be arranged: 12 credits. Prerequisites: senior standing, permission of the instructor, and completion of all required courses in appropriate emphasis areas. Final field placement required for all students with an emphasis in sport management. Students will be placed in an agency to gain experience in methodologies, administration techniques, and programs specific to their area of emphasis. Minimum of 400 clock hours. (qualifies as a CAP experience)

369. Practicum in Physical Education, Recreation, and Athletics. 2-6 credits. Prerequisites: permission of the instructor, junior standing. Selected off-campus experiences in physical education, leisure activities, and athletics that will enable students to become more actively involved with field-based professionals engaged in skills within their respective discipline. (cross-listed with PE 369) (qualifies as a CAP experience)

414W. Sport Marketing. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Course will examine competitive market strategies as they apply to the sport industry. Emphasis will be placed on the relationship between sport products and sport markets, the communication mix, market research, and the role of strategic planning for business sponsorship.

415. Principles of Coaching Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to provide students with a basic knowledge of the coaching profession. Special emphasis will be placed on establishing a sound coaching philosophy, selecting a coaching style, desirable qualities of a coach, ethics and the coach, roles of the head coach, managing and recruiting for games and practices, coaching pedagogy, off-season planning, final preparations for the season, and issues and problems related to coaching and recruiting athletes.

421. Legal Aspects in Recreation and Sport Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course presents an overview of the increasing effect the law is having on amateur athletics, professional sports and recreation programs.

425. Facility Management and Design. Lecture 3 hours; 3 credits. Prerequisite: RTS 211 or permission of the instructor. An examination of the principles and practices of facility management.
in recreation. Focus is geared toward the planning and design of indoor and outdoor recreation facilities as well as how to review and develop effective maintenance and risk management programs. (Accelerated Credit)

450/550. Ethics in Sport Management. Lecture 3 hours; 3 credits. Prerequisite: senior standing. This course is designed to provide students with an understanding of ethics and morals and how each applies to sport management settings. The course will include the study of theoretical models of moral development. In addition, teleological and deontological theories of ethics will be examined with special application made to the sports environment. Models of ethical analysis, codes of ethics in sport organizations and the development of a personal and administrative philosophy will be emphasized. The case study approach will be used to examine ethical issues.

452. Sport Facility Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing; graduate standing or permission of instructor for SMGT 553. This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics will include sport sponsorship background and history, reasons for sponsorship, benefits of sponsorship, types of sport sponsorship, strategic communication through sponsorship, sponsorship valuation, and evaluation of sponsorship packages. Special emphasis will be placed on the relationship between sport sponsorship development, event planning, and fund-raising strategies.

453/553. Sport Sponsorship and Event Planning. Lecture 3 hours; 3 credits. Prerequisite: junior standing; graduate standing or permission of instructor for SMGT 553. This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics will include sport sponsorship background and history, reasons for sponsorship, benefits of sponsorship, types of sport sponsorship, strategic communication through sponsorship, sponsorship valuation, and evaluation of sponsorship packages. Special emphasis will be placed on the relationship between sport sponsorship development, event planning, and fund-raising strategies.

455/555. Sport in Contemporary Society. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Discusses the phenomenon of sport as it relates to one of the most pervasive social institutions today. The major theme of this course is to demonstrate how sport reflects and enforces the values, beliefs, and ideologies of society. Emphasis is placed on changing attitudes and current trends in the world of sport. The course will be taught from a sociological and philosophical perspective.

456/556. Sport Psychology. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Study of the psychological bases of coaching strategies and methodologies. Emphasis is placed on applying knowledge in field settings. (cross-listed with EXSC 456/556)

495. Topics in Sport Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course provides an opportunity for in-depth study of selected topics in sport management.

497/597. Independent Study in Sport Management. 3 credits. Prerequisite: permission of the instructor. Individualized instruction to include research, specialized studies, or other scholarly writing.

**Filipino-American Studies — FAST**

100. Introduction to Filipino American Studies. Lecture 3 hours; 3 credits. An interdisciplinary study of the Filipino American experience in the United States. The course examines the historical and contemporary conditions of Filipino American people. It also examines the social, economic, and political forces that have shaped Filipino American culture and identity.

125. Topics in Filipino American Studies. Lecture 3 hours; 3 credits. Prerequisite: appropriate survey or introductory course or permission of the instructor. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

**Finance — FIN**

310. Personal Finance. Lecture and discussion 3 hours; 3 credits. For nonbusiness majors only. Prerequisite: junior standing or permission of the chief departmental advisor. A course designed to teach the student to exercise intelligent control over his or her income, expenditures, borrowing, savings, and investments.

317. Principles of Insurance and Risk Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. Recommended elective for nonbusiness as well as business majors. The primary focus of this introductory course is on evaluating life, health, retirement, property, liability and personnel exposures to loss and analyzing the methods for managing these risks. Risk management and insurance techniques for dealing with potential losses to individuals and organizations will be emphasized.

319. Principles of Real Estate. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. The fundamentals of real estate productivity and value are developed. Legal elements of real estate transactions, physical aspects of real estate location and production, and economic factors pertinent to real estate are examined.

323. Introductory Financial Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227, and ECON 202S and junior standing or permission of the chief departmental advisor. A special honors section of FIN 323. Open only to students in the Honors Program in Business Administration.

387. Honors: Introductory Financial Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227, and ECON 202S and junior standing or permission of the chief departmental advisor. A special honors section of FIN 323. Open only to students in the Honors Program in Business Administration.

388. Honors: Legal Environment of Business. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 317 and junior standing. This course uses a broad-based financial planning approach in considering the nature and importance of individual life and health risks and uses of individual life and health insurance in treating these risks. The implications of various legal, tax, and accounting considerations on businesses and individuals are discussed. The course also provides an overview of the operational aspects of life insurers, including organization, underwriting, actuarial, reassurance, marketing, investment, taxation, and accounting functions. Cases are employed.

389. Honors: Principles of Insurance and Risk Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 317 or equivalent and junior standing. This course considers the ability of group insurance and other private pooling mechanisms to alleviate the financial problems arising from death, disability, medical treatment and retirement. Primary emphasis is on design, tax and administrative characteristics as they relate to employer-sponsored benefit programs.

411. Employee Benefit Planning. Lecture 3 hours; 3 credits. Prerequisites: FIN 317 or equivalent and junior standing. This course considers the ability of group insurance and other private pooling mechanisms to alleviate the financial problems arising from death, disability, medical treatment and retirement. Primary emphasis is on design, tax and administrative characteristics as they relate to employer-sponsored benefit programs.

412. Property Liability Insurance and Risk Management. Lecture 3 hours; 3 credits. Prerequisites: FIN 317 and junior standing. This course analyzes the major commercial property and liability exposures and various risk management techniques used to address these exposures. Risk transfer through insurance is the primary risk management technique considered, with some attention given to other techniques. The course also provides a broad overview of the operational activities and current problems of property and liability companies, including organization, underwriting, pricing, reinsurance, marketing, investment, taxation, and accounting functions.

413. Risk Analysis and Control. Lecture 3 hours; 3 credits. Prerequisites: FIN 317 or
equivalent and junior standing or permission of the chief departmental advisor. Recommended elective for nonbusiness as well as business majors. This course focuses on the risk analysis and control phases of management process in business and governmental organizations. Particular attention is paid to the recognition, measurement, and treatment of pure risks, risk financing options other than commercial insurance, and decision making under conditions of uncertainty. Cases and computer analyses are employed.

431. Investments. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and junior standing. This course develops the financial tools and knowledge needed to select among alternative financial assets. The emphasis is on the individual investor. Real world experience includes stock analysis, portfolio simulations and interviews with professionals in the securities industry. (qualifies as a CAP experience)

432. Intermediate Financial Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and junior standing. Theoretical framework relevant to business decision making in financial management; capital budgeting, capital structure, cost of capital, and working capital management.

433. Introduction to Futures and Options. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and 431 and junior standing. An introduction to the understanding of futures and options. Basic features and trading mechanisms; valuation of financial derivatives; methods of managing financial risk; arbitrage techniques; and speculation strategies.

434. Management of Financial Institutions. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and junior standing. An examination of the objectives, functions, policies, organizational practices, and government regulations of financial institutions.

435. International Financial Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and junior standing. Permission of the chief departmental advisor. Financial decision making involving flow and funds across national boundaries.

439. Financial Decision Making. Lecture and discussion 3 hours; 3 credits. Prerequisite: FIN 432 with a grade of C or better. Application of financial theory and techniques to the analysis and solution of actual financial problems. Case analysis.

443. Seminar in Insurance and Risk Management. Lecture 3 hours; 3 credits. Prerequisites: FIN 317 and at least two courses from FIN 340, 410, 411, 412, and 413. This course is designed as a capstone course for students concentrating in risk management and insurance. The instructor supervises students’ investigations of specific topics and problems in the field of risk management and insurance. Topics will vary with the professional goals and interests of the students. Professional standards and communication skills are also stressed.

450. Real Estate Finance. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor. Explores the different financing and ownership arrangements used in real estate transactions.

451. Real Estate Appraisal. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor. Economic theories of value applied to real estate as a guide to business decisions.

454. Real Estate Investment Analysis. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor. Examination of developments in real estate valuation and investment with use of computer terminal models.

497. Selected Topics in Finance. 3 credits. Prerequisite: permission of the department chair. For advanced students in financial management.

498. Selected Topics in Real Estate. 3 credits. Prerequisite: permission of the department chair. For advanced students in real estate.

499. Selected Topics in Insurance. 3 credits. Prerequisite: permission of the department chair. For advanced students in insurance.

Foreign Languages and Literatures

Arabic — ARAB

111F. Beginning Arabic. Lecture 6 hours; 6 credits. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory.

212. Intermediate Arabic. Lecture 6 hours; 6 credits. Prerequisite: ARAB 111F.

311. Advanced Arabic Language and Culture I. Lecture 3 hours; 3 credits. Prerequisite: ARAB 212.

312. Advanced Arabic Language and Culture II. Lecture 3 hours; 3 credits. Prerequisite: ARAB 311.

435-396. Topics in Arabic. 1-3 credits each semester. Prerequisite: ARAB 212 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

Chinese — CHIN

111F. Beginning Chinese. Lecture 6 hours; 6 credits. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory.

212. Intermediate Chinese. Lecture 6 hours; 6 credits. Prerequisite CHIN 111F. Lecture 3 hours; 3 credits each semester.

311. Advanced Chinese Language and Culture I. Lecture 3 hours; 3 credits. Prerequisite: CHIN 212.

312. Advanced Chinese Language and Culture II. Lecture 3 hours; 3 credits. Prerequisite: CHIN 311.

395-396. Topics in Chinese. 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics for elective credit. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

495. Topics in Chinese. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. This course will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

French — FR

101F-102F. Beginning French I and II. 101F or satisfactory score on the placement exam is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory.

195, 196. Topics in French. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

201-202. Intermediate French I and II. Lecture 3 hours; 3 credits. Prerequisite for 201: either FR 102F or satisfactory score on the placement exam. Prerequisite for 202: FR 201 or satisfactory score on the placement exam. Graded readings with grammar review. Emphasis on civilization and culture.

295-296. Topics in French. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

311. Communicative Competence: Speaking and Listening. (oral communication course) Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of task-oriented communication strategies enabling students to become full, conversational partners.

312W. Communicative Competence: Writing and Reading. Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. An introduction to task-oriented communication strategies enabling students to understand content, style, audience and organization.

320. Contemporary France through the Media. Lecture 3 hours; 3 credits. Prerequisites: FR 202 or advanced placement. This course introduces students to social, political, economic, intellectual and artistic manifestations of French culture today, and also provides a day-by-day analysis of contemporary France by reading current newspapers, magazines, watching French news broadcasts and tapping into Internet resources.

331. French Literary Forms: Prose. Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of the novel and other prose genres in francophone literature with representative works from various periods and national origins.

332. French Literary Forms: Theatre. Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of the theater in francophone literature with representative works from the various periods and national origins.

333. French Literary Forms: Poetry. Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. This course will introduce students to a wide sampling of different styles and periods from the Middle Ages to the 1990s. Students will learn different ways of approaching French Poetry (the traditional explication de texte; understanding cultural contexts; rules of versification, and how to write about French poetry critically and creatively.)

366. Business French: Language and Culture. Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. Prepares student for the commercial French exam of the Paris Chamber of Commerce and Industry. Presents aspects of French business life: banking, publicity,
commerce, insurance, accounting, import-export, taxes, etc., 369. Practicum. 1-3 credits. Prerequisite: nine credit hours at the 300 or 400 level. Internships in private, public, and governmental agencies that deal with foreign nationals, foreign products, or are involved in teaching French. (qualifies as a CAP experience)

395-396. Topics in French. 1-3 credits each semester. Prerequisite: FR 202 or the equivalent. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

407/507. Advanced Grammar and Syntax. Lecture 3 hours; 3 credits. Prerequisite: FR 312W or permission of the department chair. An intensive study of French grammar and development of style through activities, including theme, version, composition, and dictation.

410W/510. Berlin-Paris: Crucibles of European Ideas. Lecture 3 hours; 3 credits. Prerequisite: German and French students must read and write in the target language. This course explores the cultural movements that have characterized the development of French civilization and differences from the early 1900s through the 1990s in cross-disciplinary discourse such as film, literature, art, politics, and economics. Cross-listed with FLET 410W/510.

415/515. Applied Phonetics. Lecture 3 hours; 3 credits. Prerequisite: FR 311 or 312W or permission of the department chair. Designed to develop the mastery of spoken French. Intensive study of French phonetics with exercises in pronunciation and its application to media comprehension.

418/518. Studies in Medieval and Sixteenth-Century French Literature. Lecture 3 hours; 3 credits. Prerequisite: FR 311 or 312W or permission of the department chair. Introduction to the major works in medieval literature from the Chanson de Roland to the "Chanson de geste," followed by representative works from the Renaissance, including new and developing forms, such as the autobiography.

420/520. Francophone Civilization. Lecture 3 hours; 3 credits. Prerequisites: FR 311, 312W or 320. A study of the culture and civilization of the main Francophone countries, the Magreb, West Africa, La Republique Malgache, the Caribbean Islands, Canada, Belgium, and Switzerland, through selected cultural readings, art, music and literature.

427/527. Studies in Seventeenth-Century French Literature. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. Following a preparatory period, the political stability of the French monarchy ushered in the golden age of classicism. Representative works from comic and dramatic theater, philosophy, poetry and the evolving novel.

428/528. Studies in Eighteenth-Century French Literature. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the two main currents of ideas of the Age of Reason or Enlightenment; the rationalistic drive to question established authority and exemplified by the "Encyclopedie" and leading to the Revolution of 1789; and the Rousseausic return to nature and emotivity. Representative readings.

437/537. Studies in Nineteenth-Century French Literature. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the post-Revolutionary (1789) literary movements: Romanticism, Realism, Naturalism, Symbolism, which opened new horizons of modern science and culture in France. Representative works.

438/538. Studies in Twentieth-Century French Literature. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the greatness and decadence of modern man trapped in the "belle epoque," then in two savage World Wars, and finally in the inhuman Nuclear Age. Reflecting great scientific advances, the vast new horizons to be discovered are mainly inward: Dadaism, Surrealism, Existentialism, Literature of the Absurd, Structuralism focus on the anguish, absurdity, and madness of modern life.

469/569. A History of French Cinema. Lecture 3 hours; 3 credits. Prerequisites: FR 311 or 312W or permission of instructor. This course will function as a survey of French film classics from the birth of the cinema through contemporary times, and also shed light on various French cultural and literary movements as they are represented in film (Surrealism, WWII, Nouvelle Vague, decolonization).

496/596. Topics in French. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of the selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These intensive courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

497, 498. Tutorial Work in Special Topics in French. 1-3 credits each semester. Prerequisites: senior standing and approval of department chair. Independent reading and study on topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

German — GER

101F-102F. Beginning German I and II. 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory.

195, 196. Topics in German. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

201-202. Intermediate German I and II. 201 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Prerequisite: GER 102F or satisfactory score on the placement test. An introduction to German grammar, literature and civilization.

295, 296. Topics in German. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

311. Communicative Competence: Speaking and Listening. (oral communication course) Lecture 3 hours; 3 credits. Prerequisite: GER 202 or equivalent. An intensive study of the principles of German grammar and syntax accompanied by oral and written exercises.

312W. Communicative Competence: Writing and Reading. Lecture 3 hours; 3 credits. Prerequisite: GER 202, advanced placement or permission of the instructor. A functional approach to the development of reading and writing skills targeting a variety of subjects, styles, and audiences.

330. German Civilization from the Age of Enlightenment to World War I. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. A study of the major developments of German culture, highlighting its contributions to the modern culture of Western Civilization. Examples include the “German-Jewish Symbiosis” of the enlightenment, German Classicism (Goethe, Humboldt and their humanistic ideals), German Romanticism (music, poetry, "Lieder"), the German Gothic (the “uncanny” and its influence on the Western imagination from E.A. Poe to Baudelaire and Hollywood cinema), German philosophy, Vienna 1900 (“Art nouveau,” psychoanalysis), and German Expressionism (painting, poetry and the utopian visionary).

350. Modern Swiss German Literature: A Multicultural Model. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. Readings and discussions of selected master works by Frisch and Dürenmatt, the two literary giants of modern Swiss culture. Topics include the multiplicity of modern Switzerland, the dialectics of myth and modernity, provincialism versus globalization, Old World versus New World, the mixed blessing of technology, as well as the discourses of gender ideology.

355. The City as Cultural Focus. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. Readings and discussions of selected master works by Frisch and Dürenmatt, the two literary giants of modern Swiss culture. Topics include the multiplicity of modern Switzerland, the dialectics of myth and modernity, provincialism versus globalization, Old World versus New World, the mixed blessing of technology, as well as the discourses of gender ideology.

366. Business German: Language and Culture. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. An advanced language course focusing on practical vocabulary building, grammar, and cultural information for career and business-related situations.

369. Practicum. 3 credits. Prerequisites: nine credit hours of upper-level language at Old Dominion University and junior standing. Internships in private, public and business organizations that deal with foreign nationals, foreign products or are involved in teaching German. (qualifies as a CAP experience)

377, 378. Extracurricular Studies. 1-3 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

380. German Literature from Sturm and Drang to Jugendstil. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. The course will cover representative literary works from Weimar Classicism to the literature of 1900, such as Goethe, Eichendorf, Büchner, Heine, Nietzsche, Rilke, etc. at.

395, 396. Topics in German. 1-3 credits each semester. Prerequisite: GER 202 or the equivalent. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule...
intellectual history as represented by thinkers such as Lessing, Kant, Hegel, Marx, Nietzsche, and Freud. More recent works by Frankfurt School writers Adorno and Horkheimer represent critical engagements with the tenets of the European Enlightenment.

476/576. German-Jewish Literature and Culture. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A survey of seminal texts by German-Jewish authors from the Enlightenment to the present day, including figures such as Marx, Kafka, Freud, Schnitzler and Arendt. (cross-listed with FLET 476/576.

478/578. German Drama. Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W. An exploration of German dramatic works ranging from the Enlightenment period to contemporary drama. Students will read individual works by authors such as Lessing, Goethe, Schiller, Hebbel, Brecht, or Jelinek as well as texts concerned with the function of drama in German culture by these and other authors.

495/595, 496/596. Topics in German. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit qualified students who want to extend their knowledge of German, on subjects of mutual interest which due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

497, 498. Tutorial Work in Special Topics in German. 3 credits each semester. Prerequisite: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Hebrew — HEBR

111F, Beginning Hebrew I. Lecture 6 hours; 6 credits. Oral and discussion of grammar principles, written exercises and reading assignments. This course requires extensive work in the language lab.

121. Intermediate Hebrew. Lecture 6 hours; 6 credits. Prerequisite: HEBR 111F or permission of the instructor. Oral drill and discussion of grammar principles, written exercises and reading assignments. This course requires extensive work in the language lab.

Italian — ITAL

101F-102F. Beginning Italian I and II. Lecture 3 hours; 3 credits each semester. 101F is prerequisite to 102F. Oral drill and discussion of grammar principles; written exercises, and reading assignments. This course requires extensive work in the language laboratory.

201-202. Intermediate Italian I and II. 201 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Prerequisite: ITAL 102F or satisfactory score on the placement test. Graded readings with grammar review followed in the second semester by an introduction to Italian.

395/396. Topics in Italian. 1-3 credits each semester. Prerequisite: ITAL 202 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

Japanese — JAPN

111F, Beginning Japanese. Lecture 3 hours; drill 3 hours; 6 credits. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory. All four skills, listening, speaking, reading and writing, are implemented from the beginning of the course.

212. Intermediate Japanese. Lecture 3 hours; drill 3 hours; 6 credits. Corequisite: JAPN 111F. This course is designed for students who finished the first semester of Beginning Japanese I. The main focus of this course is on training students how to use a kanji dictionary efficiently and guiding them to become an independent scholar of the Japanese language.

295/296. Topics in Japanese. 1-3 credits each semester. Prerequisite: 6 hours at the 100 level. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

310W. The Faces of Japan. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A study of contemporary Japan. Emphasis on the development of aural-oral skills. An intensive study of the principles of the Japanese grammar and syntax accompanied by oral and written exercises.

312. Advanced Japanese Language and Culture I. Lecture 3 hours; drill 1 hour; 4 credits. Prerequisite: JAPN 212 and 250. Emphasis on the development of aural-oral skills. A study of selected topics in Japanese. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

395/396. Topics in Japanese. 1-3 credits each semester. Prerequisite: JAPN 212 or the equivalent. A study of selected topics in Japanese. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

Latin — LATN

101F-102F. Beginning Latin I and II. 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Introduction to Latin literature and Roman civilization. Graded Latin readings. Study of Roman and culture and its influence.

201-202. Intermediate Latin I and II. 201 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Prerequisite: LATN 202 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

395-396. Topics in Latin. 1-3 credits each semester. Prerequisite: LATN 202 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.
booklet and will be more fully described in a booklet distributed to all academic advisors.

Portuguese — PRTG

101F-102F. Beginning Portuguese I and II. Lecture 3 hours; 3 credits each semester. 101F or permission of the instructor is prerequisite to 102F. Introduction to the four skills (listening, speaking, reading, writing) of elementary Portuguese. 102F will build and expand on the linguistic proficiency in all four skills.

295. Topics in Portuguese. 1-3 credits. A study of selected topics for elective credit. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

Russian — RUS

101F-102F. Beginning Russian I and II. 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the language laboratory.

195, 196. Topics in Russian. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

201-202. Intermediate Russian I and II. 201 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Graded readings with grammar review followed in the second semester by an introduction to Russian literature.

295, 296. Topics in Russian. 1-3 credits each semester. Prerequisite: RUS 202 or the equivalent. A study of selected topics designed as electives. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

305. Contemporary Russian Conversation. Lecture 3 hours; 3 credits. Prerequisite: RUS 202 or advanced placement. A study of selected dialogues emphasizing the spoken language and designed to improve oral proficiency and aural comprehension.

395. Topics in Russian. 1-3 credits each semester. Prerequisite: RUS 202 or the equivalent. A study of selected topics designed as electives. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

Spanish — SPAN

101F-102F. Beginning Spanish I and II. 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. An introduction to the Spanish language providing a foundation in listening, speaking, reading, writing and culture. Weekly attendance in language laboratory is required in addition to the classroom meetings.

121F. Intensive Beginning Spanish. Lecture 3 hours; 3 credits. Prerequisite: at least three years of high school Spanish and placement test. This course is designed for students who have had significant experience in the study of Spanish but do not place in the second year of the program.

195, 196. Topics in Spanish. 1-3 credits. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

201-202. Intermediate Spanish I and II. Lecture 3 hours; 3 credits each semester. Prerequisite: SPAN 102F or 121F or advanced placement for 201; SPAN 201 or advanced placement for 202. 201 builds on concepts taught in 101F-102F with considerable emphasis on culture through discussion, reading and writing in Spanish. 202 will place more attention on writing, listening and conversational skills. The culture component continues with readings which may include literary pieces.

221. Intensive Intermediate Spanish. Lecture 3 hours; 3 credits. Prerequisite: SPAN 121F or advanced placement or permission of the instructor. This accelerated course is designed for students who have successfully completed Spanish 121F or have scores above the Spanish 201 level but below the 300 level on the Spanish placement test. Students completing this course will have completed the foreign language requirement through the 202 level.

295, 296. Topics in Spanish. 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

311. Communicative Competence: Speaking and Listening. Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in SPAN 202 or advanced placement. Development of speaking and listening skills using a variety of task-oriented strategies enabling students to become full conversational partners.

312W. Communicative Competence: Reading and Writing. Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in SPAN 202 or advanced placement. A functional approach to the development of reading and writing skills targeting a variety of subjects, styles, and audiences.

320. Spanish Civilization. Lecture 3 hours; 3 credits. Prerequisite: SPAN 312W, advanced placement, or permission of instructor. A study of Spanish civilization from the Roman occupation of the Iberian Peninsula to the present day with emphasis on the political and social development of Spain.

321. Spanish American Civilization. Lecture 3 hours; 3 credits. Prerequisite: SPAN 312W, advanced placement, or permission of instructor. A situation-based language course focusing on Spanish civilization in the Americas through a close study of its politics, art, literature, film and other related areas.

331. Introduction to Spanish Literature: Medieval to 1700. Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of the instructor. This survey course introduces students to the literary tradition of medieval and Golden Age Spain. In addition to reading the prose, poetry and theater of the most prominent writers of this period, students will learn critical terminology for talking about literature. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements of the 13th-17th centuries; and relate the texts read in class to their corresponding historical contexts.

332. Introduction to Spanish Literature: 1700 to Present. Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of the instructor. The course offers an overview of the literature of Spain from the mid-1700s to the present. Students will read works of prose, poetry and theater of the most prominent writers of these centuries, along with background material in order to become familiar with literary periods and their historical contexts. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements from the 17th to 20th centuries; and relate the texts read in class to their corresponding historical contexts.

333. Survey of Early Latin American Literature. Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of the instructor. A panoramic study of Spanish American literature from its origins in pre-Columbian indigenous literature through the essayists of the Spanish conquest, the colonial writers of the seventeenth and eighteenth centuries, the Romantics and Realists to the Modernists.

334. Survey of Modern Latin American Literature. Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of the instructor. A panoramic study of Spanish American literature from Modernists to the post-Modernists to the contemporary novelists, short story writers, poets and dramatists.

366. Business Spanish: Language and Culture. Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of instructor. A situation-based language course focusing on grammar, vocabulary, and conversation in a workplace setting. (qualifies as a CAP experience)

377, 378. Extracurricular Studies. 1-3 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

395, 396. Topics in Spanish. 1-3 credits each semester. Prerequisite: SPAN 202 or the equivalent. A study of selected topics designed as electives for non-majors, or for elective credit within a major. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

407/507. Advanced Grammar and Syntax. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. Designed to refine competence in grammar and style in the process of writing various types of essays.

410/510. Spanish Applied Linguistics. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. Course is an introduction to Spanish linguistics and its applications to the teaching and learning of Spanish. Topics include Spanish syntax, semantics, phonetics, and pragmatics and their practical applications to language learning.

415/515. Spanish Phonetics. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the sound system of Spanish from both theoretical and applied perspectives. Intensive practice in pronunciation and contrastive analysis of Spanish and English.

447/547. Drama of the Spanish Golden Age. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of selected works of the major playwrights of the Golden Age:
Lope de Vega, Calderon de la Barca, Tirso de Molina, Ruiz de Alarcon.

448/449. Contemporary Spanish Drama. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of contemporary Spanish playwrights since Federico Garcia Lorca.

449. Contemporary Spanish-American Drama. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the Spanish-American novel since the Mexican revolution. Reading of representative works.

455. The Spanish-American Short Story. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the Spanish American short story with readings from the 16th to the 20th centuries.

456/556. The Spanish Short Story. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the development of the short story with works written by Spanish writers from the 15th century to the present.

457. Cervantes. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the principal works of the foremost Spanish novelist, including Don Quijote, Novelas Ejemplares, and selected theatrical works.

458/558. The Spanish Novel. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. Study of the Spanish novel from Don Quijote to modern times.

459/559. Hispanic Film. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A topical study of the major works of Spanish and Latin American film from Buñuel to the present. The course will explore many issues, including those related to gender, race, symbolism, and class struggle.

471/571. Hispanic Women Authors. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of the life and works of prominent women writers from the 16th to the 20th century. The course analyzes gender identity and roles in the interaction of gender, race, and class in literary representations of courtship and marriage, spirituality, nationalism, colonialism, and multiculturalism.

495/595, 496/596. Topics in Spanish. 1-3 credits each semester. Prerequisite: 9 hours of 300-level Spanish courses. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

497, 498. Tutorial Work in Special Topics in Spanish. 1-3 credits each semester. Prerequisite: 9 hours of 300-level Spanish courses. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Foreign Languages and Literatures — FL

195/196. Topics in Foreign Languages. 1-3 credits. A study of selected topics for elective credit. These courses will appear in the schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

369. Foreign Language Practicum. 3 credits. Prerequisites: nine credit hours of upper-level language at ODU, junior standing. Internships in private, public and business organizations that deal with foreign nationals, foreign products or are involved in teaching French, German or Spanish. (qualifies as a CAP experience)

452. Methods for Teaching Foreign Languages in Pre-K through Grade 12. Lecture 3 hours; 3 credits. Prerequisite: permission of the Department of Foreign Languages. Corequisite: FL 456. Taken in the fall semester preceding student teaching. A systematic approach to established and experimental methods of foreign language instruction.

456. Field Practicum in Foreign Languages. Hours to be arranged; 1 credit. Must be taken concurrently with FL 452. Students observe established teachers and test selected teaching practices in secondary school settings. Available for pass/fail grading only. (qualifies as a CAP experience)

495/595, 496/596. Topics in Foreign Languages. 1-3 credits each semester. Prerequisite: permission of the instructor or, in the case of 595, graduate standing. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

497/597. Tutorial Work in Special Topics in Foreign Languages and Literatures. 1-6 credits. Prerequisite: appropriate survey course or permission by the instructor and chair. Independent readings and study on a topic to be selected under direction of professor.

Foreign Literatures in English Translation — FLET

100L. Understanding World Literature. Lecture 3 hours; 3 credits. This multicultural course introduces the student to the forms and meanings of poems, stories, novels, and plays from around the world. It provides students with the skills necessary for the appreciation and comparative analysis of these works both as literature and as representations of rich and diverse cultural values. A primary focus of the course will be the role of culture in the formation of national and individual identity, paying special attention to gender, sexuality, race, and class. All works will be read in English.

307. Understanding European Film. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course provides students with an historic overview of films from a variety of European countries. Students will gain the vocabulary necessary to analyze individual films and for the comparative analysis of films from different cultural and historical contexts. The course will focus on issues such as national and individual identity, film as aesthetic form, gender and sexuality, and popular culture. (cross-listed with COMM 307)

310W. The Faces of Japan. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Lectures, films and slides provide an introduction to the literature, culture, contemporary life style and geography of Japan. Taught in English.

410W/510. Berlin-Paris: Crucibles of European Ideas. Lecture 3 hours; 3 credits. Prerequisite: junior standing, completion of the literature perspective, or permission of the instructor. This course explores the cultural movements that have characterized the German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary dimensions, such as film, literature, art, politics, and economics.

445/545. German Cinema. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing. This course will focus on the German cinema from perspectives such as fascism and its legacy, film as historical critique, or Weimar cinema. (Cross-listed with GER 445/545 and COMM 444/544)

471/571. Hispanic Women Authors. Lecture 3 hours; 3 credits. Prerequisite: junior standing, completion of the literary perspective, or permission of the instructor. A study of fiction and non-fictional works by Spanish, Spanish-American, and U.S. Latina writers from the 16th to the 20th century. The course analyzes gender identity and roles and the interaction of gender, race, and class in literary representations of courtship and marriage, spirituality, nationalism, colonialism, and multiculturalism.

473. Contemporary Latina Literature: From Borders to Crossroads. Lecture 3 hours; 3 credits. Prerequisite: permission by the instructor and chair. This course focuses on poetry and prose fiction written by Chicana, Puerto Rican, Cuban-American, and Dominican-American women authors in the last twenty years. Attention will also be paid to the very influential theoretical work written by Chicanas. Students will develop a critical understanding of the varieties of Latina construction of a cultural identity.

476/576. German-Jewish Literature and Culture. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A survey of seminal texts by German-Jewish authors from the Enlightenment to the present day, including figures such as Marx, Kafka, Freud, Schnitzler and Arendt. Course is in English. (cross-listed with GER 476/576)

495/595, 496/596. Topics in Foreign Literature in English Translation. 1-3 credits each semester. Prerequisite: junior standing, completion of the literary perspective, or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule booklet, and will be more fully described in a booklet distributed to all academic advisors.

General Education — GEN

101. New Portal to Appreciating Our Global Environment. Lecture 1 hour; discussion sections 2 hours; 3 credits. Required for all first-year and transfer students with fewer than 12 transfer credits. This course is designed to permit small groups of study developed by the several colleges in the University. It is designed to introduce students to the complexities and the interrelationships of natural scientific, historical, geographical, economic, societal, philosophical, aesthetic, engineering, educational, and health issues of our global environment.

126. Honors: New Portal to Appreciating Our Global Environment. Open only to students in the Honors College. Special honors section of GEN 101. Lecture 1 hour; discussion sections 2 hours; 3 credits. Required for all first-year and transfer students with fewer than 12 transfer credits. This course is multidisciplinary with units of study developed by the several colleges in the University.
of study developed by the several colleges in the University. It is designed to introduce students to the complexities and the interrelationships of natural scientific, historical, geographical, economic, social, political, philosophical, aesthetic, engineering, educational, and health issues of our global environment.

Geography — GEOG

100S. Cultural Geography. Lecture and discussion 3 hours; 3 credits. This course provides a basic topical introduction to human and cultural geography. It focuses on the diversity of human societies, their distribution, characteristics, and cultural impact on the landscape. Topics include the geography of population, migration, language, religion, economic development, urbanization, resources, and the political landscape.

101S. Environmental Geography. Lecture and discussion 3 hours; 3 credits. A systematic study of environmental processes, issues and patterns emphasizing the interactions among people and their ecosystems. The course focuses on the influence of the physical environment on people and the impact of people on the environment.

126S. Honors: Cultural Geography. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of GEOG 100S.

250. World Regional Geography. Lecture and discussion 3 hours; 3 credits. A study of the physical and cultural characteristics of the major geographical regions of the world. The course focuses upon significant problems within each of the world’s major regions and examines the relevance of the geographical background to these problems.

300. Maps and Geographic Information. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. An investigation of different representations of the earth: physical and cognitive maps, atlases, spatial databases, aerial photographs, remote sensing imagery.

305. World Resources. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of instructor. A geographical analysis of the distribution and accessibility of the world’s resources including population, agricultural land, water, renewable and nonrenewable materials, and energy sources.

306T. Hazards: Natural and Technological. Lecture and discussion 3 hours; 3 credits. Prerequisites: GEOG 100S or 101S. An exploration of human perceptions of and responses to extreme geophysical and technological threats, including nuclear bomb effects and accidents, hurricanes, tornados, earthquakes, and volcanoes.

309. Research Design. Lecture 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. Covers the design and implementation of quantitative and qualitative methods of inquiry in social sciences.

310. Geography of the City. Lecture and discussion 3 hours; 3 credits. Prerequisite: completion of General Education social science requirement. An analysis of the structure, growth, and development of cities. Topics include the use of urban land, location of public services, structure of the urban economy, social problems of urban populations, and decay and revitalization.

320. Political Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: completion of General Education social science requirement. A study of the relationship between geographical and political factors; the nation state and its subdivisions; interaction among states; and the political geography of the world.

321. World Economic Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. An analysis of differences in spatial patterns on the economic landscape at national and international levels, and the processes which create such differences. Introduces basic concepts, theories and models in economic geography at the global scale.

325. Ethnic Minorities. Lecture and discussion 3 hours; 3 credits. Prerequisite: sophomore standing or permission of the instructor. A study of ethnic minorities worldwide with emphasis on geographical dimensions of ethnic identity and relationships between ethnicity and territory, regionalism, politics, and cultural expression.

330. Field Methods. Lecture 2 hours; field project 1 hour; 3 credits. Prerequisite: sophomore standing or permission of the instructor. A review of selected techniques for generating data in a field situation. Lecture and laboratory description and evaluation of techniques such as sampling methods, observation, interviewing, questionnaires, human relations skills and ethical considerations. The project component involves the definition of field problems and the application of appropriate techniques.

350. Geography of the United States and Canada. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and six credits in the social sciences, or permission of the instructor. The human and physical geography of the United States and Canada with special emphasis on the distribution of population and natural resources, migration patterns, location of major economic activities, and the variety of regional identities within the U.S. and Canada.

355. Topics in Regional Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A study of selected regions or selected problems within a particular region of the world.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship in Geography. 1-12 credits. Prerequisite: 12 hours in geography. Admission at the discretion of faculty advisor. Available for pass/fail grading only. Individualized practical experience in the area of applied geography. The credits will be commensurate with the level of the student’s involvement. (qualifies as a CAP experience)

395, 396. Topics in Geography. 1-4 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

400W/500. Seminar in Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. Advanced study of a specialized topic in geography. The choice of the topic may vary according to the availability of faculty expertise and student interest.

402/502. Geographic Information Systems. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the conceptual basis of GIS as a tool for managing spatial information. The course focuses on how geographic information can be input and organized within the framework of a GIS. Students will work on a computer-based GIS to gain a greater understanding of spatial database structures and analytical operations.

404/504. Digital Techniques for Remote Sensing. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Study of the theory and application of remote sensing, emphasizing environmental applications and aerial and satellite imagery. Covers the fundamentals of multispectral digital image processing, including sensors pre-processing, enhancement, classification, accuracy assessment and GIS data interpretation.

405W/505. Seminar in International Resource Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S; 305 recommended. Discussion of the ecological and management principles underlying international resource management and the goal of attaining a sustainable, ecologically balanced world.

408/508. Cartography. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 300 or 402 or CS 149D. Computer-assisted methods and techniques employed in the design, construction, and use of maps and other graphics as tools for data analysis and communication.

410W/510. Seminar in Urban Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. Discussion of specific urban and metropolitan problems based on outside readings and individually selected research topics.

411/511. Urban and Regional Planning. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. A study of planning concepts and powers used to guide contemporary metropolitan growth and development. Emphasis is on the application of social science principles and methods to the planning process.

412/512. Cities of the World. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of cities of the world’s major cultural realms with an emphasis on the urban landscape as it varies between developed and developing countries.

418. Quantitative Methods. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M with a grade of C- or better. Prerequisites: GEOG 100S or 101S, GEOG 308 with a grade of C- or better. A survey of and practice in the basic techniques of quantitative research, including the logic of empirical research, the identification of data sources, and the use of appropriate statistical techniques.

419/519. Spatial Analysis of Coastal Environments. Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisite: OEAS 414. The course integrates remotely sensed and field techniques for scientific investigation and practical
management of coastal environmental systems. Spatial modeling of coastal processes and management tools using Geographic Information System (GIS).

462/562. Marine Geography. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and six credits in the social sciences, or permission of the instructor. An analysis of human-sea relationships with particular emphasis on resource management and political organization from global, regional, and national perspectives.

422W/522. Coastal Geography. Lecture 3 hours; 3 credits. Prerequisites: GEOG 100S or 101S, or permission of the instructor. An examination of the physical and human geography of the coastal zone. Considers problems of managing coastal resources with an emphasis on North America.

425. Internet Geographic Information Systems. Lecture 3 hours; 3 credits. Prerequisite: GEOG 402/502. Theoretical and practical exploration of methods, standards, and policies related to the development and utilization of geographic information systems on the Internet. Students will create and utilize distributed geospatial data and analytical systems using the WWW and the Internet to address geographical problems.

432. Advanced GIS. Lecture 3 hours; 3 credits. Prerequisite: GEOG 402/502. The study of a series of advanced topics in the field of geographic information systems/science. Focus is placed on the development of projects/models and a survey of several advanced techniques. Students will work on a computer based GIS to implement topics from lectures.

451/551. Europe. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Europe.

452/552. Africa. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Africa.

453/553. Asia. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Asia excluding the Middle East and the former USSR.

454W. Latin America. Lecture 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Latin America.

455/555. The Middle East. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in the Middle East.

456/556. Geography of Southeast Asia. Lecture 3 hours; 3 credits. Prerequisite: GEOG 100S. Analysis of the physical, historical, cultural, economic, environmental, and political patterns and problems of Southeast Asia. The focus is on the diversity of the region and on the nature and impact of development.

458/558. Geography of Virginia. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. An analysis of Virginia’s population, resources, and regional landscapes as they have been influenced by physical, cultural, historical, and economic factors.

460. Introduction to Historical Methods. Lecture 3 hours; 3 credits. Prerequisite: junior standing and six credits in the social sciences, or permission of the instructor. A systematic study of the various environmental and cultural factors that play an important role in the production of wines followed by a regional analysis of major wine-producing areas of the world.

480W. Senior Seminar in International Studies. Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies.

490/590. Applied Cartography/GIS. 1-3 credits. Prerequisite: junior standing or permission of the instructor. Practical experience in applying the principles of cartography and geographical information systems to the design and construction of maps and other graphics.

495/595, 496/596. Topics in Geography. 1-4 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

497/597. Independent Research in Geography, 1-3 credits. Prerequisite: senior standing and approval of the director of geography and department chair. Independent reading and study on a topic to be selected under the direction of the instructor. Conferences and papers as appropriate.

499W. Senior Thesis. 3 credits. Prerequisites: GEOG 308 and senior standing in Geography. Completion of a research paper supervised by a faculty member from the Geography program. Research topic to be selected in concert with the faculty supervisor and a final written report required.

Health — HLTH

The HLTH designation has been established to facilitate the offering of interdisciplinary courses in the College of Health Sciences. These courses are coordinated through the School of Medical Laboratory and Radiation Sciences.

101. Introduction to the Health Professions. Lecture 1 hour; 1 credit. Explores careers in the health professions. Assists students in making informed choices regarding careers and programs of study and prepares students to apply for acceptance into health-related majors.

102. Health Professions in the United States. Lecture 1 hour; 1 credit. Prerequisite: HLTH 101 or permission of instructor. This course examines the health care system in the U.S. and identifies the role played by selected health professions in the delivery of care. Designed for students preparing themselves for entry into health-related professions.

425. Leadership and Management for Health Professionals. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the administration, management, policies, and practices governed by scopes of practice in a variety of health care settings. Topics covered include communication, planning and decision making, leadership and conflict management, and legal and ethical issues of concern to specific health professions.

Health, Physical Education and Recreation—See Exercise Science, Sport, Physical Education and Recreation

History — HIST

101H. Asia in a World Setting. Lecture 3 hours; 3 credits. Surveys significant themes in the history of Asian societies and cultures, as related to other world regions, from the emergence of Indian and Chinese civilizations to the contemporary world.

102H. Europe in a World Setting. Lecture 3 hours; 3 credits. Surveys significant themes in the history of European societies and cultures, as related to other world regions, from the emergence of Mesopotamian civilizations to the contemporary world.

103H. Latin America in a World Setting. Lecture 3 hours; 3 credits. Surveys significant themes in Latin American history, as related to other world regions, from the indigenous civilizations, through conquest and colonization and the post-colonial period, to the contemporary world.

104H. United States in a World Setting. Lecture 3 hours; 3 credits. Surveys significant themes in the history of the United States, as related to other world regions, from the period of European exploration to the contemporary world.

105H. Africa in a World Setting. Lecture 3 hours; 3 credits. This is an introductory course on the history of African peoples, culture, and the African diaspora. The course will explore the early history of the continental societies, kingdoms and empires, the economic, political and cultural institutions of Africa, and the history and consequences of the interactions both within Africa and overseas. It will also examine the impact of Christianity and Islam and of European colonialism and finally trace the development of modern African states.

126H. Honors: United States in a World Setting. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of HIST 104H.

127H. Honors: Europe in a World Setting. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of HIST 102H.

201. Introduction to Historical Methods. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Required of all history and secondary education social studies majors. Recommended prior to upper-division course work. Examines methods of historical research, analysis, and writing. Introduces students to issues in the philosophy of history.

303. The City in Western Civilization. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. An examination of the city and humankind’s changing relationship with the urban environment. Special attention will be given to individual cities in various eras from Ancient Greece to the 19th century.

304T. History of Medicine, Disease, and Health Technology. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or
105H. Examines the history of medicine and epidemiology from ancient times through the twentieth century. The course takes a comparative look at medical practices in Europe and around the globe and focuses heavily on the complex relationship between human societies and disease. The development of medical technologies and their impact are examined.

305. Ancient Greece. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of Greece from the Bronze Age to the Hellenistic era. Special attention will be paid to the Persian and Peloponnesian Wars, the Golden Age of Athens, and the life of Alexander the Great.

306. Ancient Rome. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of Rome from its foundation in 753 B.C. down to its fall in 476 A.D. Special attention will be placed on constitutional developments in the Republican period, the career of Augustus, and the strengths and failings of the Empire.

307. The Early Middle Ages. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. An examination of the time of the Hunnish migrations through the Carolingian era. Primary emphasis will be on the social, cultural, economic, and political development of the various continental barbarian states.

308. The High Middle Ages. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The study of continental Medieval Europe from the later Carolingians through Dante. Primary emphasis will be placed on the social, cultural, economic, and religious aspects of medieval society.

310. Renaissance Europe. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Covers the period between the late Middle Ages and the beginning of the modern era, roughly 1350-1715, exploring the Renaissance, the Reformation, and the Age of Exploration. Emphasis on the culture of the period as contemporaries coped with depression, plague, religious change, and cultural encounters outside Europe.

316. Cold War in History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores changes in the international system which arose in the wake of World War II and focuses on conflict and cooperation in geopolitically defined regions of the developed and developing world.

322. History of England Through the Seventeenth Century. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A survey of English history beginning at the time of Stonehenge, continuing through the Saxons, Normans, and Plantagenets, and concluding with the constitutional and religious developments under the Tudors and the Stuarts.

323. History of Modern England. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A survey of English history with emphasis on eighteenth-century political life and culture, the Industrial Revolution, the development of the modern constitutional monarchy, and the vicissitudes of empire.

324. Europe in the Twentieth Century. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H (HIST 102H recommended). This course will explore the evolution and development of European states, institutions and cultures over the course of the twentieth century. Relations among European states--large and small--and their peoples will be explored.

325. The Russian: The Old Regime. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Survey of Russian history from the ninth to the end of the nineteenth century stressing the distinctiveness of Russian culture and institutions, the influence of the West, the multinational character of the Empire, and the decline of the old regime.

328. Russia and the Soviet Union: 20th Century. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Survey of the formation and development of the USSR in the twentieth century from the fall of the Russian monarchy and the revolutions of 1917 to the present.

330. Colonialism and Nationalism in Southeast Asia. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A study of Southeast Asia between 1750 and 1950. The focus will be on Indonesia, Vietnam, the Philippines, Burma, Malaysia and Thailand. Topics examined will include major theoretical frameworks used to understand colonialism and nationalism, the differential impact of colonial rule, and the impact of religions and “western” ideologies on nationalist movements.

332. South Asia Since Independence. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. This is a comparative study of the main political, economic and social developments in the major countries of South Asia. Themes will include democratization, problems of economic development, the role of caste and religion, the causes of intra-state conflict and interstate conflict and the influence of global forces on the region. (cross listed with POLS 336 and ASIA 332).

336. The Emergence of New China. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of China covering late Imperial China, the impact of Western imperialism, the Republican Period, and the establishment of the People’s Republic. (cross listed with ASIA 336).

338. Japan’s Era of Transformation. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of Japan since 1800. The decline of the Tokugawa Shogunate, modern nation building in the Meiji period, cooperatice conflicts and war in the twentieth century, and the roots of Japan’s economic prominence today. (Cross listed with ASIA 337)

345. Native American History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines the history and culture of Native American peoples from early contact with Europeans to present day. Particular focus on ways that cultural interactions affected and transformed native peoples - their beliefs, societies, and political structures.

346. Colonial and Revolutionary America. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines social, cultural, economic and political developments in North America from 1492 to the ratification of the Constitution of 1787. Course explores the role of class, gender, and race in the creation of an American culture.

347. The United States, 1776-1850. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores America’s transformation from a republic to a democracy by examining the political, economic, social and intellectual history of the United States’ first half century.

351. The Civil War and Reconstruction. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines industrialism of the late nineteenth and early twentieth centuries and its relation to urbanization, political experimentation, social change, the Roaring Twenties, and the Great Depression.

354. America in Depression and War. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The political, cultural, social, artistic and diplomatic impact of the Great Depression and World War II on the United States.

355. The United States, 1945-1991. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The history of the United States from the end of World War II to the end of the Cold War. The course focuses on domestic politics, social change, economic developments and international relations.

356. Virginia History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. An examination of Virginia’s past from Jamestown to the present. The course emphasizes the colonial experience, Virginia’s role in the new nation, the post-Civil War era and Virginia in the twentieth century.

359. The United States, 1918-1960. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines the political, social and cultural revolutions which occurred in the United States from 1960 to 1974. Topics include the reforms of JFK and LBJ; the rise of conservatism; the impact of the baby boom generation; the civil rights, anti-war, and women’s movements; the war in Indochina; and Watergate and the fall of Richard Nixon.

360. History of Witchcraft and the Occult. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores the topic of witchcraft and the occult as a means of understanding beliefs, practices and social phenomenon from ancient to modern times. Focuses on the fifteenth to the eighteenth centuries when witchcraft beliefs led to mass executions in Western Europe, and the Salem trials of 1692 are used as a case study. Modern wicca and recent cults are examined.

361. African-American History to 1865. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A study of American military policy, 1763 to the present, in relation to its political, economic, and social implications.

362. African-American History to 1865. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines social, cultural, economic and political developments in North America from 1492 to the ratification of the Constitution of 1787. Course explores the role of class, gender, and race in the creation of an American culture.
African-American history from the African background through the Civil War. Emphasis is placed on an analysis of African-Americans’ role in the political, economic, social and cultural life of the United States.

362. African-American History Since 1865. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines African-American history from Reconstruction to the present. Emphasis is placed on the analysis of African-Americans’ role in the political, economic, social and cultural life of the United States.

367. Women in U.S. History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examines women in U.S. history from 1607 to the present, paying particular attention to influences of race, class, ethnicity and changing conceptions of gender.

376. Cooperative Education. 1-3 credits (may be repeated for a total of 6 credits). Prerequisites: 2.5 grade average, completed 50 semester hours, and approval of Career Management. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management. Open to the semester in which the work experience is to take place. (qualifies as a CAP experience)

389T. Technology and Civilization. Lecture 3 hours; 3 credits. Prerequisite: 3 hours of history. This course will examine the role of technology and relevant science. Students will examine the interaction between society and technology and investigate why, in both a reflection of, and a shaping influence upon, modern culture.

393. Studies in Jewish History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Studies in Jewish History will examine specific topics, eras, and themes of Jewish history. Specific titles will be listed in the on-line course schedule.

395. Topics in History. 1-3 credits each semester. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A study of selected topics described specifically for nonmajors. History majors may take these courses only for general elective credit and may not take them to satisfy history concentration requirements. No research paper is required. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

396. Topics in History. 1-3 credits each semester. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. A study of selected topics. These courses are open to history majors. History majors may take these courses to satisfy history concentration requirements. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

402W. Seminar in History. Seminar 3 hours; 3 credits. Prerequisite: senior standing and 12 hours in history. Advanced study of selected topics leading to production of a research paper. Required of all history and secondary education majors.

405/505. History of International Relations: Nineteenth Century Systems. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics, diplomacy, and social, cultural, and economic structures between 1792 and 1914. Explores the relationship among the European powers and their relations with smaller states in Europe and spheres of influence around the world. Internationalist initiatives by various groups operating within the European states system are investigated.

406. History of European International Relations: Twentieth Century. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics, diplomacy, and social, cultural and economic structures in twentieth century Europe. Emphasis on shifting European alignments from 1890, the Paris Peace conference, Europe’s fortunes through two World Wars, adapting to the bi-polar structure, Revolutions of 1989, and modern European community are emphasized.

408/508. War and American Society in the Twentieth Century. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. An exploration of the content and meaning of wartime experiences within American society between 1898 and 1975. Emphasis is on comparing the levels of national, institutional and personal experiences of war as they affected people at home and in battle, and on considering the relationships between warmaking and social development at particular times.

410. War as Human Experience. Lecture 3 hours; 3 credits. Prerequisite: 3 hours of history. This course takes a comparative and multi-disciplinary approach to the study of how individuals have understood and adapted to the exigencies of war and its effects on political and religious institutions, social organizations, language, and self-identity.

411/511. Fascism in Europe. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores the genesis and development of fascism in Europe between World Wars I and II. Particular emphasis on Fascism in Italy and National Socialism in Germany. Appeal of fascist movements to populations across the socioeconomic spectrum, fluidities of ideology and practice, fascism’s impact on political, economic, social, and cultural life in the interwar period are explored.

439/539. Politics and Society in East Asia Since 1945. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Development of religious, political, philosophical, and literary thought in the period between the founding of Massachusetts Bay and the beginning of the Civil War.

446. History of Modern American Thought. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Development of religious, political, philosophical, and literary thought in the period between the founding of Massachusetts Bay and the beginning of the Civil War.

447. History of Modern American Thought. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Development of religious, political, philosophical, and literary thought in the period between the founding of Massachusetts Bay and the beginning of the Civil War.

448. U.S. Foreign Relations Since 1914. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores the foreign relations of the United States from the revolutionary period to 1914 with particular emphasis on the ideological and domestic roots of American foreign policy.

453. American Constitutional History to 1876. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Development of the American constitutional system from its origins to the end of Reconstruction. Special attention is given to the
Constitutional Convention, the nature of the American Union, the development of the Presidency, and the significance of the Marshall and Taney Courts.

American Constitutional History Since 1876. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The development of the American constitutional system since 1876. Emphasis is placed on the rise of the twentieth century presidency, civil rights, the emergence of a centralized bureaucratic state, and the significant role of the Supreme Court.

455/555. African-American Historiography. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Examination of the ways historians have addressed specific issues in African-American history.

456/556. Research in Local History. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Explores the history of Hampton Roads through student use of research materials.

470/570. Democracy and Development in Modern Latin America. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. This course analyzes, from a historical perspective, key processes in Latin America’s modernization (since c. 1880) and its economic development. The temporal and spatial dimensions of change will be highlighted in discussions of patron-client political systems, military autonomy and impunity, social movements and revolution, export-oriented economic growth, industrialization, and the roles of national, ethnic and gender identities.

475/575. History of Modern Africa. Lecture 3 hours; 3 credits. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. The course is designed to enrich students’ understanding of the intersections of political, economic, social and cultural forces that shaped Africa in the last 150 years and continue to affect the lives of peoples throughout the continent. It will focus on a series of major historical transitions that have shaped the development of modern Africa, including the end of the Atlantic slave trade, European imperial conquest and colonial rule, African resistance to European rule, social and cultural transformations, the end of colonial rule and post-colonial challenges.

480W. Senior Seminar in International Studies. Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies.

495/595, 496/596. Topics in History. 1-3 credits each semester. Prerequisite: HIST 101H, 102H, 103H, 104H or 105H. Advanced study of selected topics designed for small groups of qualified students to work on subjects of mutual interest which may not be offered regularly. These courses appear in the course schedule, and will be more fully described in information distributed to academic advisors.

497/597, 498/598. Tutorial Work in Special Topics in History. 3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Honors — HNRS

387. Honors Tutorial. 1 credit each semester. Prerequisite: junior standing in the Honors College or permission of the Honors College students with junior standing. Under the direction of the Honors College Dean, the student works within an experiential framework on a project that is outside the student’s major.

387. Honors Senior Colloquium. 3 credits. Prerequisite: senior standing in the Honors College or permission of the dean. A required course for Honors College students in their final year of study. In this interdisciplinary seminar, the goal is to integrate the general education experience with each student’s major.

Human Services — HMSV

339. Interpersonal Relations. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Students will learn concepts and theories of interpersonal relationships. Development of skills necessary for effective communication will be stressed. A grade of C or better is required.

341. Introduction to Human Services. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Students will learn about human services, the helping process, and the role and function of the human service worker. Students will be exposed to local and state human services facilities. A grade of C or better is required.

343. Human Services Methods. Lecture 3 hours; 3 credits. Corequisite: HMSV 341. Prerequisite: junior standing or permission of the instructor. Presents theories and techniques used by human services workers in a variety of settings. A grade of C or better is required.

344. Career Development and Appraisal. Lecture 3 hours; 3 credits. Corequisite: HMSV 341. Prerequisite: junior standing or permission of the instructor. Focuses on career development throughout the life span with emphasis on vocational theories, interventions, assessments, and socio-economic factors.

345. Divergent Experiences in Human Services. Lecture 3 hours; 3 credits. Prerequisite: HMSV 341. This course serves as an introduction to multicultural helping. The influence of socio-identities (e.g., race, ethnicity, religion, gender, socioeconomic status, sexual orientation) on individuals’ functioning, concerns, and the helping process will be explored.

368. Field Observation in Human Services. Lecture 3 hours; 3 credits. Prerequisites: HMSV 339, 341, 343 and 346. Students will visit and examine human services systems such as mental health, substance abuse, criminal justice, education, rehabilitation, and professional associations to facilitate decision-making in selecting an internship and to gain a complex understanding of the roles of the human services professional. A grade of C or better is required.

440W/540. Program Development, Implementation, and Funding. Lecture 3 hours; 3 credits. Prerequisites: HMSV 341, 344, 346, and 368. This course represents models and practices of developing, implementing, and evaluating human services programs. The course includes an introduction to grant writing and fund raising.

441/541. Non-Profit Fund-Raising in Human Services. Lecture 3 hours; 3 credits. Prerequisites: HMSV 341 and 440W. This course is designed to expose human service students to the art of ethical fund-raising in human services, including annual and capital campaigns, telemarketing, special events, direct mail marketing, face-to-face solicitation, e-fund-raising, and grant writing.

444/544. Psycho-educational Groups. Lecture 3 hours; 3 credits. Prerequisite: HMSV 343. This course combines lectures and experiential learning about psycho-educational groups. Principles and practices for developing and leading psycho-educational groups are emphasized.

447/547. Addictions: Theory and Intervention. Lecture and discussion 3 hours; 3 credits. Prerequisites: HMSV 341 and 12 hours in human services. This course examines the etiology, risk factors and treatment of alcoholism and other addictions.

448. Interventions and Advocacy with Children. Lecture 3 hours; 3 credits. Prerequisites: HMSV 341 and 12 hours in human services. This course provides an overview of how human service workers assist children in a variety of settings. Emphasis will be placed upon advocacy, supportive work, and short term crisis intervention.

450/550. Addictions: Assessment and Treatment Planning. Lecture 3 hours; 3 credits. Prerequisites: HMSV 447 and 12 hours of Human Services courses or permission of instructor. Examines the diagnostic criteria for substance use disorders as well as other mental health disorders often seen in substance abusing populations. Provides a systematic approach to screening assessment and treatment planning.

451/551. Loss, Grief and Growth. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course offers a study of loss and grief and development of the ability to help those who have experienced loss. Growth through the experience of loss is explored.

454/554. Principles and Practices of Vocational Rehabilitation. Lecture 3 hours; 3 credits. Prerequisites: HMSV 343, 344, 346, and 440W. This course provides basic information on the disability law and worker's compensation. Fundamentals of vocational rehabilitation will also be presented.

455/555. Assessment and Placement Techniques in Vocational Rehabilitation. Lecture 3 hours; 3 credits. Prerequisites: HMSV 343, 344, 440W, and 454. This course emphasizes tests, behavioral assessment and observational techniques used to evaluate vocational rehabilitation clients.

456/556. Diversity Experience in Ireland. 3 credits. Prerequisite: HMSV 341 or permission of instructor. This course is an in-depth, cross-disciplinary study of cultural similarities and differences in approaches to social conflict and other social problems in the United States and in Ireland. A two-week study abroad period will bring students into intensive contact with educators, scholars, and community activists in Ireland. This course will also serve as an introduction to multicultural helping. The influence of socio-identities (e.g. race, ethnicity, religion, gender, socioeconomic status, sexual orientation) on individuals’ functioning, concerns, and the helping process will be explored.

468. Internship in Human Services. 12 credits. Prerequisite: completion of all required HMSV courses, including a C or better in HMSV 339, 341, 343, and 368 and permission of faculty. This course involves field placement in a human
407/507. Management Science. Lecture and discussion 3 hours; 3 credits. Prerequisites: DSCI 306 and junior standing for DSCI 407 and OPMT 611 for DSCI 507 or permission of the instructor. Formulation and solution of mathematical models and their uses and limitations in business. Topics include linear, integer, and goal programming, network models, queuing, utility theory, and Markov analysis. Cases and computer solution of topics introduced in this class, as well as topics from DSCI 206 and 306, are incorporated.

432/532. Forecasting and Quality Management Systems. Lecture and discussion 3 hours; 3 credits. Prerequisites: OPMT 303T and DSCI 306 for DSCI 432 and OPMT 611 for 532. Forecasting systems for both service and manufacturing organizations. Study of technological issues in designing, planning, and operating quality control systems. Computer software will be utilized throughout the course.

441. Supply Chain Management and Logistics. Lecture 3 hours; 3 credits. Prerequisites: OPMT 303T, DSCI 306. Supply chain management integrates all activities associated with the flow of materials and information from product start to customers. Examined will be the role of computer software and information systems project work. The student will be introduced to tools and techniques utilized in development of system models representing traditional and modern business activities. Computer-Aided Systems Engineering (CASE) tools will be employed to create process and data-driven versions of these models.

495. Selected Topics in Decision Sciences. 3 credits. Prerequisites: senior standing and permission of the department. Selected advanced topics in decision sciences. Taught on an occasional basis. See the course schedule for the particular topic being taught each semester.

497. Independent Study in Decision Sciences. 1-3 credits. Prerequisite: permission of department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

Information Technology — IT

201. Introduction to Information Systems. Lecture and discussion 3 hours; 3 credits. An introduction to the major hardware/software components of computer-based information systems. Additional topics include databases, networks, and telecommunications. Intended as an introductory course for Information Systems majors.

210. Business Applications with C++. Lecture and discussion 3 hours; 3 credits. Introduction to computer programming using C++ including: structured programming, top-down design, primitive data types, control structures, conditional expressions, functions, arrays, pointer and data structures. Applications are used that represent the major functional areas in business.

310. GI Programming with C++. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 210 or CS 150 with a C or better (grade requirement may be waived by the department). An advanced programming course using C++ focusing on development of Graphic User Interfaces (GUI) by employing object-oriented methodologies and techniques. Special topics include: function and operator overloading, abstract data types, classes, inheritance, polymorphism and encapsulation.

317. Principles of Technology Architecture. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 201 with a C or better (grade requirement may be waived by the department) and MATH 162M. A comprehensive treatment of information theory, computer architecture, processor implementation and data communications.

325. Web Site and Web Page Design. Lecture and discussion 3 hours; 3 credits. Prerequisites: completion of general education computer literacy requirement; junior standing or permission of the chief departmental advisor. A survey of computer hardware, software, procedures, applications, and management information concepts. Provides an understanding of the application of the computer to the support of managerial decision making. Information Systems majors may not use this course for credit toward the B.S.B.A. degree.

361. Systems Analysis. Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201, IT 201 and 210, each with a C or better (grade requirement may be waived by the department). Introduction to the Systems Development Life Cycle (SCLC) from an information systems project perspective. Emphasis is placed on the planning and analysis functions performed during information systems project work. The student will be introduced to tools and techniques utilized in development of system models representing modern business activities. Computer-Aided Systems Engineering (CASE) tools will be employed to create process and data-driven versions of these models.

367. Cooperative Education. 1-3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. (qualifies as a CAP experience)

368. Student Internship. 1-3 credits. Prerequisites: DSCI 306 and junior standing or permission of the chief departmental advisor. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Prerequisites: DSCI 206 and DSCI 306 and junior standing or permission of the Decision Sciences chief advisor. Approval for enrollment and allowable credits are determined by the CAPP advisor and the Career Management Center in the semester prior to enrollment. Student participation in a professional work experience. (Qualifies as a CAP experience)
451. Database Administration. Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 450. Provides the conceptual framework for database architecture and database administration. Topics include: database implementation, object management, and control of user access.

452. Database Deployment and Performance Tuning. Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 451. Examines techniques and methodologies that are used to insure the deployment of efficient, secure, and high-performance database applications.

461. Implementing Internet Applications. Lecture and discussion 3 hours; 3 credits. Prerequisite: CS 250 or IT 310. Advanced design and implementation strategies are utilized to create dynamic e-commerce applications. Key concepts include: Internet architecture, structured data languages, scripting languages, programming languages, database connectivity, and Internet security.

464. Project Management in Information Systems. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310 and 361. This course focuses on project management techniques and methodologies that can be adopted for the application technology software and systems projects.

473. Systems Design and Implementation. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310 and 361. A case-study-based presentation of system life cycle phases subsequent to systems analysis. The student will utilize Computer-Aided Systems Engineering (CASE) tools to design logical and physical models to define business requirements. Factors relevant to the creation of business information systems through development and implementation will be examined in detail. Topical issues examined include: CASE-based methodologies, project management, feasibility analysis, database design, on-line system design, prototyping, development/testing strategies, and implementation/training strategies. Students, potentially working in teams, are expected to apply these design strategies to industry case studies, resulting in new and comprehensive system designs, the results of which will be delivered in formal presentation fashion in a classroom setting. (qualifies as a CAP experience)

474. Strategic Information Systems. Lecture 3 hours; 3 credits. Prerequisite: IT 473 or equivalent; or permission of the department. Focuses on the use of information system (IS) and information technology (IT) in the strategic management process in business organizations. The emphasis is on the strategic view of IS and IT and their impact on organizational strategy. This course includes a study of the use of IS and IT to support generic business strategy models and IS and IT aid in applying the principles of these generic strategic models.

495. Selected Topics in Information Systems. 3 credits. Prerequisite: permission of the department. Taught on an occasional basis. See the course schedule for the particular topic being taught each semester.

497. Independent Study in Operations Management. 1-3 credits. Prerequisite: permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

Instructional Design and Technology — IDT

475/475. Web Development for Educators. Lecture 3 hours; 3 credits. Prerequisite: senior standing/graduate standing. Provides both a conceptual framework and hands-on experience in the design and development of online web resources for educators. The course introduces the student to the various uses and features of online tools and technologies, investigates online learning strategies, and explores best practices in the use of the web to enhance learning. Topics include fundamentals of web authoring: screen design, use of web page creation tools, and functional use of HTML and derivatives.

Interdisciplinary Studies — IDS

300W. Interdisciplinary Theory and Concepts. Lecture and discussion 3 hours; 3 credits. Corequisites: ENGL 111C, PHIL 111C or HIST 111C. Prerequisite: ENGL 110C. An examination of the history, concepts and application of interdisciplinary study. Includes an examination of similarities and differences among academic disciplines and the application of
interdisciplinary approaches to a specific topic of study.

367. Cooperative Education. 1-6 credits (may be repeated for credit). Prerequisite: approval by IB student advisor and Career Management Center. Supervised experience in the international business work place requiring written statement of objectives and evaluation of experience. Pass/fail grading only. (qualifies as a CAP experience)

368. Internship in Interdisciplinary Studies. 1-3 credits. Prerequisite: junior standing and permission of Individualized interdisciplinary studies program coordinator. An opportunity to integrate service and applied learning experience with interdisciplinary perspectives.

493. IDS Electronic Portfolio Project. 3 credits. Prerequisites: IDS 300W and senior standing. The preparation of an electronic portfolio integrating the student’s academic study, work experiences, skill identification and work products. Alternative formats are used for varying uses of the portfolio.

495, 496. Topics in Integrative Studies. Lecture 3 hours; 3 credits. Prerequisite: IDS 300W. Focused study of selected topics linking perspectives, research and applications from a variety of disciplines. Emphasis is on disciplinary synthesis.

497, 498. IDS Individualized Senior Project. A total of 3 or 6 credits over one or two semesters. Prerequisites: IDS 300W, permission of the instructor and an approved IDS curriculum plan. This course is a vehicle for the execution of the senior project requirement of the Interdisciplinary Studies Program. The project and number of credits will be negotiated between the student, the department, and the faculty sponsors.

International Business — INBU

367. Cooperative Education. 1-3 credits. May be repeated for credit. Prerequisites: approval by IB student advisor and Career Management Center. Supervised experience in the international business work place requiring written statement of objectives and evaluation of experience. Pass/fail grading only. (qualifies as a CAP experience)

368. Internship in International Business. 1-3 credits. Prerequisites: approval by IB student advisor and Career Management Center. Supervised experience in the international business work place requiring written statement of objectives and evaluation of experience. Pass/fail grading only. (qualifies as a CAP experience)

431. Doing Business in Europe. Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor. A survey course to provide an overview of the contemporary business environment in Europe, with a focus on the European Union. Topics will include an examination of the social, political, and economic forces which affect business in Europe.

432. Doing Business in Latin America. Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor. A survey to provide an overview of the contemporary business environment in Latin America. Topics will include an examination of the social, political and economic forces which affect business in Latin America.

433. Doing Business in Asia. Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor. An analysis of business practices in Asia. Emphasis will be on business, government relations, business strategy, structure, organizational processes, and human resource management.

434. International Trade Field Study. Lecture 3 hours; 3 credits. Prerequisites: ECON 450, MKTG 411, FIN 435 or MGMT 361, or permission of the instructor. An applied field research study to develop an export trade plan which involves market analysis, risk analysis, financing and distribution decisions in overseas markets. (qualifies as a CAP experience)

450. International Business Operations. Lecture 3 hours; 3 credits. Prerequisites: ECON 450, MKTG 411, FIN 435. Lecture, discussion and case studies. A capstone course to integrate and apply the theories and concepts learned in required international business courses to the operations of international business organizations.

463. International Business Seminar Abroad. Lecture and discussion 3 hours; 3 credits. Prerequisite: permission of the instructor. A study tour of countries within the foreign commerce of the university, including lectures on international business topics and visits to international firms and economic/business organizations. Written work required.

495, 496. Topics in International Business. Lecture and discussion 3 hours; 1-3 credits. Prerequisite: permission of the instructor and approval of the instructor/department. A study of selected topics, the title of which will appear in the course schedule.

497. Independent Study in International Business. 1-3 credit hours. Prerequisite: permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

Jewish Studies — JST

497. Research Project in Jewish Studies. 3 credits. Prerequisite: junior standing, 6 hours of core courses (for JST major: PHIL 300, PHIL 350, and approval of the coordinator of Jewish Studies). Independent reading and study of a topic to be selected under the direction of an instructor. Research proposal conferences and research project are required.

Management — MGMT

325. Contemporary Organizations and Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. The fundamentals of the managerial process (planning, organizing, leading and controlling) are considered in the context of 21st century organizations. Topics are almost evenly split between macro and micro perspectives.

340. Human Resources Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. A study of the functional duties associated with personnel/human resource administration. Topics include human resource planning, selection, performance appraisal, training, discipline, wage and salary, occupational safety and health, equal employment opportunity, and labor relations.

350. Employee Relations Problems and Practices. Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. Examination of employee problems such as absenteeism, substance abuse, theft, gambling and counseling problem employees. Policies and practices used by organizations to anticipate and resolve these problems are explored and evaluated.

360. Labor Management Relations. Lecture and discussion 3 hours; 3 credits. Prerequisites: MGMT 340, junior standing or permission of the chief departmental advisor. A contextual study of the trade union movement—its development, structure and processes. Emphasizes the impact of union organization on management practice and effectiveness in both private and public sector organizations.

361. International Business Operations. Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323, MKTG 311 and MGMT 325, or permission of the chief departmental advisor. An examination of the environment of multinational business, foreign trade, and the operation of multinational enterprises. Management, marketing, accounting, and financial practices unique to entering in these environments are investigated. This course includes a CAP experience. International business majors may not take MGMT 361 for credit. (qualifies as a CAP experience)

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisites: MGMT 325 and approval by the department and Career Management, in accordance with the policy for granting credit for cooperative education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Management Internship. 1-3 credits. Prerequisite: MGMT 325. Approval for enrollment and allowable credits is determined by the chief departmental advisor. The internship must be completed in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

369. Management Practicum. 1-3 credits. Prerequisite: MGMT 325; transfer students must have completed one semester at Old Dominion University. Approval for enrollment is determined by the Management CAP advisor and the Career Management Center in the semester prior to enrollment. Student will participate in a relevant work setting. (qualifies as a CAP experience)

413/513. Compensation Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: senior standing and MGMT 340 or 602 or permission of the chief departmental advisor. A study of wage theory, practice and problems. Topics include compensation theory, job analysis, job evaluation, wage surveys, incentive plans, benefit programs and special features of compensation for sales, managerial, professional, and public employees.

414/514. Collective Bargaining. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and MGMT 325 and 360 or 602 or permission of the chief departmental advisor. A study of conflict resolution in public and private institutions. Procedures, agencies, legal framework, and major economic issues involved in
labor management relations. Emphasis is placed on the problems of negotiating and administering a collective bargaining agreement.

417/517, Employment Law. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and MGMT 325 or 602 or permission of the chief departmental advisor. An analysis of how the federal and state governments may regulate the employer-employee relationship. Topics include labor relations law, equal employment opportunity law, other current statutory employment law and common law employment issues.

418. Advanced Human Resources Management: Contemporary Issues. Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and MGMT 325 and 340 or permission of the chief departmental advisor. An in-depth analysis of current issues facing human resources managers. Includes topics such as comparable worth, validity in employment testing, assessment centers, sexual harassment, behaviorally anchored performance appraisals, and employment-at-will. HRM applications, using the PC, are included in the course. Prior knowledge of computers is not required.

426. Entrepreneurship: New Ventures Creation. Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, MKTG 311, and ACCT 201, or permission of the chief departmental advisor. A study of the essential elements leading to entrepreneurial and intrapreneurial success with emphasis on the creation, structure and management of new ventures. A recommended elective for business students.

427. Business and Society. Lecture 3 hours; 3 credits. Prerequisites: 3 hours of ACCT and 3 hours of ECON. An examination of the relationship between business (usually the individual firm, but occasionally a group of firms in an industry or a set of headline-makers in different industries) and society (an individual, group of people, the general public, or government entity representing the interests of this individual or group or the public). Emphasizes stakeholders and ethics. The course material is both philosophical and practical for executives and information managers.

451. Organizational Behavior. Lecture and discussion 3 hours; 3 credits. Prerequisites: senior standing and MGMT 325 or permission of the chief departmental advisor. An interdisciplinary approach to the study of interpersonal relationships and problems encountered in managing employees. Topics include motivation, conflict, group behavior, and leadership.

452/552. Organization Development. Lecture and discussion 3 hours; 3 credits. Prerequisites: MGMT 325 and 451 or 602 and senior standing or permission of the chief departmental advisor. Applications of organizational development theory and process. Topics include OD Theory, role of change agent, intervention processes, the consulting process, and design and implementation of OD change programs.

462. Comparative International Management. Lecture and discussion 3 hours; 3 credits. Prerequisites: senior standing and MGMT 325 or permission of the chief departmental advisor. The course examines organizational structure and functioning from cross-cultural and cross-national perspectives. Compares how management practices differ from one society to another. Comparisons are made between the U.S., Western Europe, Japan, the USSR, China, and the Third World nations.
404. Sales Management. Lecture, discussion, individual and group projects 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. Material focuses on qualitative and quantitative goal setting; management, control and evaluation of the sales program; selecting, training, motivating, and evaluating the sales force.

406. Public Relations. Lecture and discussion 3 hours; 3 credits. For nonbusiness as well as business majors. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. Development and application of a philosophy of business expressed in governmental, corporate, social or educational institutions in furthering their public image.

407. Marketing Research. Lecture, discussion, and projects 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 and MKTG 402, DSCI 306. Emphasis is given to the development of the theoretical base in the systematic selection, collection, and interpretation of marketing information leading to sound policies and strategies. Students are required to carry out a group project involving a marketing problem (or opportunity) for a company or involving a real market situation. The project will satisfy the practical experience requirement of the College (CAP). (Qualifies as a CAP experience).

411. Multi-National Marketing. Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. An examination of the operational and cross-cultural aspects of international marketing, including the nature of competition, developmental marketing structures and channels, price and credit policies, promotional methods, trade barriers, and international arrangements.

412. Retail Marketing. Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. This course will introduce students to a broad range of topics within the field of retailing: retailing strategy, targeting of customers, gathering of information, identifying and understanding customers, choosing a store location, managing a retail business, merchandise management and planning, and communication with the customer. The approach will combine both theory and practical application.

414. Ethics and Social Issues in Administration. Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. An examination of the ethical and social problems confronting administrators and personnel dealing with discrimination in employment practices, credit and financing, advertising, warranties and guarantees, packaging and labeling, and environmental problems.

416. Professional Selling. Lecture, discussion, and cases 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. Examines the role of the professional salesperson in a market-oriented organization. Presentation skills are studied in the context of interpersonal negotiations.

428. Marketing of Services. Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. This course examines the applications of the conceptual framework of marketing within the service business context. The course will focus on the characteristics of the service environment as well as important considerations in the service marketing mix.

450. Marketing on the Internet. Lecture, discussion, and cases 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) or permission of instructor. This course examines the use of the Internet as a unique channel for marketing to consumers and businesses. It focuses on Internet marketing strategies, online strategic implementation, and the integration between companies’ online and offline marketing efforts.

490. Marketing Policy and Strategy. Lecture, discussion, and cases 3 hours; 3 credits. Prerequisites: Marketing major, senior standing, Marketing Placement Test and completion of the first course in a two course sequence of courses or permission of instructor. A capstone course covering the marketing function and its relationship to the total business organization and its environment. Emphasis is placed upon the design of total marketing systems, strategies, and the design and production of new products and services.

496. Selected Topics in Marketing. 3 credits. Prerequisites: senior standing and permission of instructor. Designed to provide advanced students in marketing an opportunity to study, independently or in small groups, selected areas of marketing under the guidance of a faculty member.

Mathematics and Statistics

Mathematics — MATH

101M. An Introduction to Mathematics for Critical Thinking. Lecture 3 hours; 3 credits. Prerequisite: completion of the Mathematics Placement Test. Emphasis on the ways in which modern mathematics can be used to analyze the modern world and make logical decisions. Topics include problem solving, sets, logic, consumer mathematics (loans, mortgages, annuities), and elementary statistics.

102M. College Algebra. Lecture 3 hours; 3 credits. Prerequisite: a score on a placement test administered by the University Testing Center or GNST 098. MATH 101M is not a prerequisite for MATH 102M. Not open to students with credit for MATH 162M. A basic course in algebra which emphasizes applications and problem-solving skills. Topics include properties of real numbers, equations and inequalities, the algebra of rational expressions, and properties of exponents and logarithms.

162M. Precalculus I. Lecture 3 hours; 3 credits. Prerequisite: qualifying score on a placement test administered by the University Testing Center or MATH 102M. The first course in a two course sequence designed to provide a strong preparation for calculus. Topics include algebraic operations, equations and inequalities, graphs and functions, polynomial functions, theory of equations, system of equations and Gaussian elimination.

163. Precalculus II. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: MATH 162M. The second course in a two course sequence designed to provide a strong preparation for calculus. Topics include exponential and logarithmic functions, trigonometric functions, trigonometric identities and equations, laws of sines and cosines, vectors and polar representation of complex numbers, and the binomial theorem.

166. Precalculus I and II. Lecture 4 hours; 4 credits. Prerequisites: MATH 102M or 162M or qualifying score on a placement test administered by the University Testing Center (students completing MATH 102M should receive a grade of B- or better in order to enroll in MATH 166). A one-semester precalculus course covering the topics of MATH 162M and MATH 163 at an accelerated pace. Not available to students with credit in MATH 163.

200. Calculus for Business and Economics. Lecture 3 hours; 3 credits. Prerequisite: MATH 162M. The derivative and optimization, exponential functions and growth, and integration with applications to future value and consumer's and producer's surplus.

205-206. Introductory Calculus I and II. 205 is prerequisite to 206. Lecture 3 hours; 3 credits each semester. Prerequisites: MATH 162M and 163. This two semester sequence covers the same material as MATH 211, and in addition introduces some differential equations.

211. Calculus I. Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisites: MATH 162M and 163. Of first interest to students majoring in the analytical geometry. Topics include differentiation and integration of algebraic and transcendental functions of one variable and applications.

212. Calculus II. Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisite: MATH 206, 211 or 226. A second course in calculus and analytic geometry. Topics include techniques of integration, polar coordinates, infinite series, solid geometry, vectors, lines and planes.

226. Honors: Calculus I. Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisites: MATH 162M and 163. Only open to students in the Honors College. A special honors version of MATH 211.

227. Honors: Calculus II. Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisite: MATH 206, 211 or 226. Only open to students in the Honors College. A special honors version of MATH 212.

280. Transfer Credit for Ordinary Differential Equations. 3 credits. This course is a VCCS transfer credit vehicle. Students who have earned transferable credit in MATH 279 or 291 at any member institution of the VCCS will be granted credit for MATH 280. The course will not be offered for credit by Old Dominion University. Cannot be used to substitute for MATH 307 for MATH majors or minors.

285. Transfer Credit for Calculus III. 4 credits. This course is a VCCS transfer credit vehicle. Students who have earned transferable credit for MATH 275 or 277 at any member institution of the VCCS will be granted credit for MATH 285. The course will not be offered for credit by Old Dominion University. Cannot be used to substitute for MATH 312 for MATH majors or minors.

295. Topics in Mathematics. 1-5 credits. Prerequisite: departmental permission.

300. Number Systems. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M or 162M. Sets and systems of numbers, prime, integer, rational, irrational, real, complex, and their properties. Representation of numbers. Divisibility, congruence, modular arithmetic, elementary number theory and symbolic logic. (May not be used to satisfy the upper-division elective requirement of the math majors program.)
302. Geometry. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M or 162M. Elementary plane and solid Euclidean geometry with proofs and applications. Topics include angles, triangles, congruence, similarity, areas, perimeters, volume, polygons, plane and solid constructions. Geometer’s Sketchpad software used to discover geometric properties. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

303. Mathematics for Biologists-Introduction to Calculus for Life Sciences. Lecture 3 hours; 3 credits. Prerequisite: MATH 162M. This course is designed to introduce the concepts and methods of elementary differential and integral calculus, with particular emphasis on applications. Topics include exponential functions, logarithms, growth rates, derivatives and elementary integration. The solution of some simple ordinary differential equations used in population growth models will be studied. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

304. Mathematical Methods. Lecture 3 hours; 3 credits. Prerequisite: MATH 206, 211 or 226. This course introduces problem solving methods drawn from differential equations and Laplace transforms, matrix algebra and statistics. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

305. Discrete Math. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M or 162M. Topics: Vectors and matrices, linear programming, operations research, combinatorics, permutations and combinations, elementary probability, logic, relations and functions, induction, graphs and trees, applications. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

307. Ordinary Differential Equations. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Topics include first order differential equations and systems, second and higher order linear equations, solution by series and Laplace transform, and applications.

311W. Abstract Algebra. Lecture 3 hours; 3 credits. Prerequisite: MATH 212 or departmental permission. This course introduces some logic and methods of proof; sets, relations, and functions; elementary group and ring theory.

312. Calculus III. Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisite: MATH 212. A third course in calculus and analytic geometry. Topics include vector functions, partial derivatives, multiple integrals and an introduction to vector analysis.

316. Introductory Linear Algebra. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. An introduction to linear algebra. Topics include matrices, vectors, vector spaces, linear transformations, eigenvalues and eigenvectors.

317. Calculus and Introductory Analysis. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: MATH 212. An introduction to real analysis. Topics covered include completeness and topological properties of real line, theory of sequences, limits of functions, continuity, differentiability, sequences and series of functions, and uniform convergence.

335. Numerical Systems and Discrete Mathematics. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M or 162M. Estimation and other applications to real world problems, using elementary principles of algebra, geometry, number theory, number systems, and discrete mathematics. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management prior to the semester in which the work experience is to take place. (Qualifies as a CA experience)

369. Practicum. 1-3 credits. (Qualifies as a CA experience)

395. Topics in Mathematics. 1-3 credits. Prerequisite: departmental permission.

399. Putnam Exam Problems and Related Topics. Lecture 1 hour; 1 credit. Prerequisite: MATH 212. This course is designed to help students prepare for the Putnam Exam - an annual national mathematical competition. Problems from previous Putnam Exams and materials related to the solution of such problems will be considered.

400/500. History of Mathematics. Lecture 3 hours; 3 credits. Prerequisites: MATH 311W or 316. This course considers some of the major events in the development of mathematics from ancient times through the seventeenth century, including the discovery of incommensurability, the origins of the axiomatic method, trigonometry, solution of equations, calculation of areas and volumes, analytic geometry, probability, and calculus. Students will be graded on tests which consist mostly of problems typical of the periods considered.

401/501. Partial Differential Equations. Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and 312. Not available to students with credit in MATH 691. Separation of variable techniques, Sturm-Liouville systems, generalized Fourier series, orthogonal functions of the trigonometric, Legendre and Bessel type boundary value problems associated with the wave equation and the heat conduction equation in various coordinate systems, applications to physics and engineering.

402/502. Fundamentals of Geometry. Lecture 3 hours; 3 credits. Prerequisite: MATH 311W. The fundamentals of projective, Euclidean and non-Euclidean geometry are explored by the synthetic method and the algebraic method.

405/505. Matrix Theory. Lecture 3 hours; 3 credits. Prerequisite: MATH 316. Topics include matrix operations; vector spaces; row and column spaces; canonical forms: equivalence, similarity, and congruence; eigenvalues and eigenvectors.

406/506. Number Theory and Discrete Mathematics. Lecture 3 hours; 3 credits. Prerequisites: MATH 311W and 316. A survey course. Topics include the prime number theorem, congruences, Diophantine equations, continued fractions, quadratic reciprocity, combinatorics, logic, graphics, trees, algorithms, coding and linear programming.

408/508. Applied Numerical Methods I. Lecture 3 hours; 3 credits. Prerequisites: MATH 212 and CS 150 or equivalent programming ability. An introduction to the numerical methods commonly used by scientists and engineers. Topics include solutions of equations in one variable, polynomial interpolation, numerical differentiation and integration, approximation theory, and initial value problems for ordinary differential equations.


415/515. Linear Algebra. Lecture 3 hours; 3 credits. Prerequisite: MATH 316. An axiomatic introduction to the theory of linear algebra. Topics include vector spaces, linear independence and basis theorems, linear transformations and their matrix representations, diagonalizability, the Cayley-Hamilton Theorem and the Polar Decomposition Theorem.

417/517, 418/518. Intermediate Real Analysis I and II. Lecture 3 hours; 3 credits each semester. Prerequisites: MATH 311W, 316, 317, and 417/517. This course is prerequisite to 418/518. A rigorous course in classical, nonmeasure theoretic, real analysis. Topics include the topology of Euclidean n-space, properties of vector valued functions of several variables such as limits, continuity, differentiability and integrability, pointwise and uniform convergence, completeness of sequences and series of functions; Fourier series.

420/520. Applied Mathematics I: Biomathematics. Lecture 3 hours; 3 credits. Prerequisite: MATH 307. An introduction to current developments in the mathematical investigation of biological problems. Topics include scaling systems of differential equations, stability, perturbation methods, bifurcation phenomena and wave propagation. Applications are chosen from interacting populations, transport and reaction diffusion kinetics, transmission of nerve impulses, and cardiovascular modeling.

421/521. Applied Mathematics II: Mathematical Modeling. Lecture 3 hours; 3 credits. Prerequisites: MATH 307, 311W, 312, 316, and 317. A one semester course in formulating, evaluating and validating mathematical models of physical phenomena. Models of traffic flow, mechanical vibrations, combustion, quantum mechanics, wave propagation or other biological and physical problems in mathematics will be examined. Techniques learned in previous courses are used to simplify, analyze and solve these models. New methods introduced include phase-plane analysis, characteristics, calculus of variations and perturbation methods.

422/522. Applied Complex Variables. Lecture 3 hours; 3 credits. Prerequisite: MATH 312. Not available to students with credit in MATH 692. Topics include complex numbers, analytical functions and their properties, derivatives, integrals, series representations, residues and conformal mappings. Applications of the calculus of residues and mapping techniques to the solution of boundary value problems in physics and engineering.


427/527. Applied Mathematics III: Elasticity. Lecture 3 hours; 3 credits. Prerequisites: MATH 307, 312 and 316. An introduction to the
mathematical theory of linear and non-linear elastic continua. Topics include vectors, tensors, deformation, stress, nonlinear constitutive theory, exact solutions, infinitesimal theory, antiplane strain, plane stress, plane strain, torsion, bending and elastic wave propagation.

428/528. Applied Mathematics IV: Fluid Mechanics. Lecture 3 hours; 3 credits. Corequisite: MATH 307. Prerequisites: MATH 307 and 312. A mathematical investigation of the differential equations governing fluid flow with an emphasis on steady state incompressible flows. The Navier-Stokes equations are derived and some exact solutions are presented including the potential flow solutions. Topics therefore include classical ideal fluid flow and its complex variable representation, various approximations to the Navier-Stokes equations, boundary layer theory, and also surface and internal gravity wave motion, aspects of hydrodynamic stability theory and convection. Other topics may be introduced by the instructor.

436/536. Mathematics and Statistics for Modeling and Simulation. Lecture 4 hours; 4 credits. Prerequisite: prior coursework in mathematics and statistics beyond algebra and trigonometry. A reference course for students who are entering graduate programs in modeling and simulation. Topics include differential and integral calculus, multivariate calculus, ordinary differential equations, linear algebra, elementary statistics and probability.

457/557. Mathematics in Nature. Lecture 3 hours; 3 credits. Prerequisite: MATH 307. A calculus and differential equations based description of many patterns observable in the natural world including wave motion in the air, oceans, rivers, and puddles; rainbows, halos and other meteorological phenomena; arrangement of leaves, petals and branches; height of trees; river meanders; animal and insect markings; mudcracks; spider webs; and others. Partial differential equations will be discussed as needed but a knowledge of ordinary differential equations will be assumed.

496/596. Topics in Mathematics. 1-3 credits. Prerequisite: permission of the instructor. This course offers special topics in mathematics. 1-3 credits. Prerequisite: permission of the instructor. Independent study under the direction of an instructor including library research and reports.

Statistics - STAT

130M. Elementary Statistics. Lecture 3 hours; 3 credits. Prerequisite: qualifying score on a placement test administered by the University Testing Center, MATH 101M or GSTN 098. Topics include: data description, elementary probability, binomial and normal distributions, interval estimation, hypothesis testing, and correlation. The role of probability in inference is emphasized.

360. Introductory Statistics. Lecture 3 hours; 3 credits. Prerequisites: MATH 102M or 162M. A general probability and statistics course designed specifically to accommodate the needs of school teachers and health professionals. Topics include: descriptive statistics, basic probability, discrete random variables, continuous random variables, interval estimation, regression and correlation, hypothesis testing, and applications. (May not be used to satisfy the upper-division elective requirement of the math major program.)

310W. Introductory Data Analysis. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or MATH 211 or 226. This is a first course in applied data analysis. Identification and implementation of appropriate techniques and interpretation of results will be stressed. Topics include measures of location and dispersion, probability distributions, standard parametric and nonparametric tests of location; one-way analysis of variance; complete block designs; simple and multiple regression; correlation; measures of association for categorical data. Microsoft EXCEL will be used extensively as an aid in data analysis. Written interpretation of results will be a routine component of daily assignments.

330. An Introduction to Probability and Statistics. Lecture 3 hours; 3 credits. Prerequisite: MATH 211 or 226. Not open to students with credit in STAT 331. Descriptive statistics, probability theory and probability distributions, mathematical expectation and its role in decision making, hypothesis testing, point and interval estimation, numerous applications.

331. Theory of Probability. Lecture 3 hours; 3 credits. Prerequisite: MATH 211. An introduction to probability theory including probability functions, continuous and discrete random variables, combinatorics, special probability distributions, moment generating functions, and limit laws.

405/505. SAS: An Introduction to Data Handling. Lecture 1 hour; laboratory .50 hour; 1 credit. Prerequisite STAT 130M or equivalent, or permission of the instructor. Laboratory work required. Use of SAS to bring data sets to a form suitable for statistical analysis by one of the many SAS procedures. Focus is on the SAS data step and related utilities, including data input, merging of data sets, creating new variables, SAS functions, sorting, printing, charting and formatting. Includes a brief overview of SAS statistical procedures.

431/531. Theory of Statistics. Lecture 3 hours; 3 credits. Prerequisite: STAT 310M or departmental permission. Topics include point and interval estimation, tests of hypotheses, introduction to linear models, likelihood techniques, and regression and correlation analysis.

432/532. Sampling Theory. Lecture 3 hours; 3 credits. Prerequisite: STAT 431/531. Sampling frameworks for which simple random sampling, stratified random sampling and ratio and regression estimation are included. Also discussed are aspects of systematic sampling, cluster sampling, and multi-stage sampling.

435/535. Design and Analysis of Experiments. Lecture 3 hours; 3 credits. Prerequisite: STAT 330 or 310W-331 or 431/531. Suggested corequisite: STAT 405/505. Topics include experiments with a single factor, multiple comparisons, randomized blocks, Latin squares, incomplete block designs, multifactor factorial experiments, fractional replications, nested designs, experiments to study variance: random and mixed effects, and split plot designs.

437/537. Applied Regression Analysis. Lecture 3 hours; 3 credits. Prerequisite: STAT 330 or 310W or 431/531. Suggested corequisite: STAT 405/505. Topics include theory of least squares, simple linear regression, multiple regression (including its matrix formulation), applications of these techniques to real life data, residual analysis, selection of variables, multicollinearity issues, regression on dummy variables, and analysis of covariance.

440/540. Clinical Trials. Lecture 3 hours; 3 credits. Prerequisite: STAT 431/531. An introduction to statistical methods used in the design, conduct and analysis of clinical trials. Topics include: study designs, treatment allocation, sample size and power, clinical life tables, log rank test, cross-over designs, and some of the modern methods of clinical trials. Special emphasis will be placed on the use of standard computer packages for the analysis of clinical trials data.

442/542. Environmental Statistics. Lecture 3 hours; 3 credits. Prerequisite: STAT 310W or 330 or permission of the instructor. Topics include basic probability distributions, modeling the number of exceedances using the binomial and Poisson distributions, modeling environmental data using normal, lognormal, and other distributions, environmental monitoring, impact assessment, assessing site reclamation, concept of autocorrelation, diffusion and dispersion of pollutants, distributions with respect to space and time, applications to measuring indoor air quality, water quality, etc. Emphasis will be on the applications of these tools to environmental data using statistical software.

445/545. Statistical Quality Control. Lecture 3 hours; 3 credits. Prerequisite: STAT 330 or 310W-331 or 431/531. A course on the statistical tools necessary for an understanding of quality control processes. Topics include statistical process control, control charts, acceptance sampling, and a study of Deming's contributions to the subject with case studies. A project will be required.

447/547. Analysis of Longitudinal Data. Lecture 3 hours; 3 credits. Prerequisite: STAT 431/531. Suggested corequisite: STAT 405/505. Topics include general linear models, the weighted least squares (WLS), the maximum likelihood (ML), the restricted maximum likelihood (REML) methods of estimation, analysis of continuous response repeated measures data, parametric models for covariance structure, general estimating equations (GEE) and quasi least squares (QLS), models for discrete longitudinal data: marginal, random effects, and transition models. Limitations of existing approaches will be discussed. Emphasis will be on the application of these tools to data related to the biological and health sciences. Methods will be implemented using statistical software.

449/549. Nonparametric Statistics. Lecture 3 hours; 3 credits. Prerequisite: STAT 330 or 331 or departmental permission. Topics include the theory and applications of binomial tests and rank tests, including the tests of McNemar, Mann-Whitney, Friedman, Kruskal-Wallis, and Smirnov.

450/550. Categorical Data Analysis in the Health and Social Sciences. Lecture 3 hours; 3 credits. Prerequisite: STAT 431/531. Suggested corequisite: STAT 405/505. Topics include relative risk and odds ratio measures for 2 x 2 tables, the chi-square and Mantel-Haenszel tests, Fisher's exact test, analysis of sets of 2 x 2 tables using Cochran-Mantel-Haenszel methodology, analysis of I x J and sets of I x J tables for both nominal and ordinal data, logistic regression including the logit and probit models, and building and applying loglinear models. Emphasis will be on the application of these statistical tools to data related to the health and social sciences. Interpretation of computer output will be stressed.

460/560. Statistical Programming for SAS and Other Statistical Packages. Lecture 2.5 hours; laboratory 1 hour; 3 credits. Prerequisites: STAT 405/505 and two of STAT 435/535, 437/537, 447/547, and 450/550. This course is a data-based tour of advanced statistical techniques using software packages, exploring a catalog of data sets spanning a variety of fields and applications, including data suitable for regression, ANOVA, time series modeling, and multivariate techniques. Approaches will include
Mechanical Engineering — ME  

195, 196. Topics in Mechanical Engineering. Lectures variable; 1-3 credits each semester. Permission of the chair required.

201. Materials Science. Lecture 3 hours; 3 credits. Corequisites: ME 205 and MATH 307. This laboratory involves experiments demonstrating lecture material covered in the ME 201 course.

204. Engineering Mechanics I - Statics. Lecture 3 hours; 3 credits. Prerequisites: MATH 211. Introduction to mechanical engineering problems and their solutions through the study of statics of particles and rigid bodies. Emphasis will be placed on the relationship of the static loads with the mechanical properties of the materials being considered. Introduction to the concepts of stress and strain and internal forces as applied to static bodies.

205. Dynamics. Lecture 3 hours; 3 credits. Prerequisite: ME 201. Coveres: ME 303 and 311. Introduction to machine design including review of stress and deflection analysis. Statistical considerations in design, strength of mechanical elements with emphasis on theories of failure and fatigue design, design of mechanical elements such as screws, fasteners, connections, welded joints, and flexible mechanical elements.

300. Advanced Engineering Mechanics I - Solid Mechanics. Lecture 2 hours; 1 credit. Prerequisite: ME 205 and MATH 307. Introduction to concepts of stress, strain and their relation to each other. Stress and strain in axially loaded members and circular rods and tubes subjected to torsion. Normal and shear stress in beams under bending loads. Additional topics include bending deflection, transformation of stress and strain, Mohr’s circles, statically indeterminate problems, combined stress and thin walled pressure vessels.


295, 296. Topics in Mechanical Engineering. Lectures variable; 1-3 credits each semester. Department chair permission required.

303. Mechanics of Fluids. Lecture 3 hours; 3 credits. Prerequisites: ME 205, MATH 307 and 312. Corequisites: ME 305 and 311. Fundamental concepts, fluid statics, basic equations in integral form, open-channel flow, Bernoulli’s equation, dimensional analysis and similitude, incompressible viscous flow, pipe friction, boundary layers, introduction to differential analysis.

305. Mechanical Engineering Laboratory III - Thermo/Fluids. Laboratory 2 hours; 1 credit. Corequisites: ME 205 and 311. An introduction to thermo-fluid experimentation and measurement; basic flow phenomena demonstrated; measurement techniques for flow temperature, pressure and properties; report writing and data reduction methods, including statistical treatment of data; formal oral reports.

311. Thermodynamics I. Lecture 3 hours; 3 credits. Prerequisite: MATH 312. Corequisites: ME 303, 305. Essential definitions of thermodynamics, first law, physical properties, ideal and real gases, second law, reversibility, irreversibility and consequences of thermodynamic cycles.

312. Thermodynamics II. Lecture 3 hours; 3 credits. Prerequisites: MATH 307, ME 303 and 311. Concepts and principles dealing with thermodynamic cycles, relations and generalized charts, mixtures of fluids, chemical reactions, chemical and phase equilibrium, thermodynamic aspects of fluid flow; introduction to compressible flow; isentropic and normal shock wave relations.

332. Mechanical Engineering Design I. Lecture 3 hours; 3 credits. Prerequisites: ME 201, 205, 220, and MET 100. Corequisite: ME 225. Introduction to machine design including review of stress and deflection analysis. Statistical considerations in design, strength of mechanical elements with emphasis on theories of failure and fatigue design, design of mechanical elements such as screws, fasteners, connections, welded joints, and flexible mechanical elements.

340. Computational Methods in Mechanical Engineering. Lecture 3 hours; 3 credits. Prerequisites: CS 150, MATH 307 and 312. A survey of modern computing techniques for mechanical engineers. Numerical algorithms are presented with practical problems in mechanical engineering as found in solid mechanics, fluid mechanics, dynamics, and heat transfer. Emphasis is on providing computational experience in applied numerical methods using computers. Topics include roots of equations, simultaneous equations, differentiation, integration, regression analysis, interpolation and differential equations. Analysis, understanding, and quantification of computational errors are included in all topics and applications.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. A survey of cooperative education programs, available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship. 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. Prerequisite: approval by department and Career Management. A practicum experience in applied engineering problems. These experiences are not replicable within the engineering curriculum. Advances by the department and will vary with the amount of credit desired. Allows students an opportunity to gain short duration career-related experience. (qualifies as a CAP experience)

395, 396. Topics in Mechanical Engineering. Lectures variable; 1-3 credits each semester. Permission of the chair required.

404/504. Vibrations. Lecture 3 hours; 3 credits. Prerequisites: ME 205, 220, and MATH 312. Free and forced vibrations of undamped and damped, single-degree of freedom, multi-degree of freedom, and continuous systems. Exact and approximate methods to find natural frequencies.

406/506. Fluid Dynamics and Aerodynamics. Lecture 3 hours; 3 credits. Prerequisites: ME 303, 312, and 340. Inviscid flow concepts including: Euler equations, stream function, velocity potential, singularities, vorticity, and circulation laws. Viscous flow topics include boundary layers, separation, and turbulent flow. In addition, external flows, travelling waves, and stability theory, finite wing theory, and airfoil design will be discussed. (cross-listed with AE 406/506)

407/507. Motorsports Vehicle Dynamics. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: ME 205 and MATH 307. Basic mechanics governing vehicle dynamic performance. Analytical methods in vehicle dynamics. Laboratory consists of various vehicle dynamics tests on model vehicles. This course cannot replace any of the approved ME option courses. (cross-listed with AE 457/557)

411/511. Mechanical Engineering Power Systems Theory and Design. Lecture 3 hours; 3 credits. Prerequisites: ME 312 and 315. Thermodynamic properties of gases and vapors relating to power generating devices; work-energy relations, combustion, and heat exchangers. Performance analyses and design concepts of gas turbines, internal combustion engines, steam power plants and heat exchanger design from thermodynamic and applied principles.

412/512. Environmental Control. Lecture 3 hours; 3 credits. Prerequisites: ME 312 and 315. Engineering principles as applied to the analysis and design of systems for automatically controlling man or machine environments. Course encompasses fundamentals of heating, ventilating, air conditioning, refrigeration, cryogenics, and design of building energy systems.

413/513. Energy Conversion. Lecture 3 hours; 3 credits. Prerequisite: ME 312. Introduction of relevant kinetic theory, solid state, and thermodynamic principles; operation and analysis of thermoelectric, photovoltaic, thermionic, magnetohydrodynamic devices, fuel cell, isotopic, and solar power generators. Course seeks to define engineering limits of converter efficiency and other performance criteria.

414/514. Introduction to Gas Dynamics. Lecture 3 hours; 3 credits. Prerequisites: ME 303 and 311. One-dimensional compressible flow considering isentropic flow, normal shocks, flow in constant area ducts with friction, flow in ducts with heating and cooling, oblique shocks, Prandtl-Meyer expansions, shock-expansion theory, flow around diamond shaped airfoils, and wind tunnel mechanics.

416/516. Solar Power Engineering. Lecture 3 hours; 3 credits. Prerequisite: ME 315. Basic
solar radiation processes on earth are followed by engineering analysis of collectors (flat-plate, focusing, etc.), receivers/boilers, energy storage methods, space heating and cooling techniques, systems of thermal integration, and renewable energy systems. 

417/517. Propulsion Systems. Lecture 3 hours; 3 credits. Prerequisites: ME 301 or 414/514. Basic principles of operation and performance of propulsion systems—including turbojet, turboprop, turbofan, and ramjet engines; an introduction to chemical rockets, ion and plasma thrusters.

422/522. Modern Engineering Materials. Lecture 3 hours; 3 credits. Prerequisites: ME 201, 203, 220, and 232. Limitations of conventional materials; inter-relationship among materials, design and processing, material selection criteria and procedures; strengthening mechanisms in metals; superelasticity; shape memory effect, amorphous metals; structure-property relationship in polymers; polymers crystallinity; thermoplastic and thermosets; high-temperature restraint polymers; ceramics; toughening mechanisms in ceramics.

424/524. Environmental Effects on Materials. Lecture 3 hours; 3 credits. Prerequisites: ME 201, 203, and 225. Degradation of metal due to corrosion, stress-corrosion, dealloying, liquid metal embrittlement, radiation etc.; damage mechanisms in polymers, such as crazing; effects of high and low temperatures on materials; creep and combined creep and fatigue of metals.

426/526. Structure and Properties of Materials. Lecture 3 hours; 3 credits. Prerequisites: ME 201, 203, and 225. Characteristics of metals, polymers, ceramics and composites; relationship between structure and properties; general considerations of fabrication and mechanical behavior; different types of tests to determine mechanical properties; service requirements, materials selection criteria and procedures.

431/531. Mechanics Analysis and Design. Lecture 3 hours; 3 credits. Prerequisites: ME 205 and 332 and MATH 312. Basic relations necessary for analysis of plane motion mechanisms; numerical and analytical solutions for some of the basic mechanisms, methods of calculating rolling and sliding velocities and accelerations of contacting bodies, cams, and gears.

433. Mechanical Engineering Design II. Lecture 3 hours; 3 credits. Prerequisites: ME 332 and senior standing. Kinematic analysis, force analysis, and design of spur, helical, worm, and bevel gears. Antifriction bearings, lubrication and journal bearings, shaft design, mechanical spring design, design of clutches, brakes and couplings.

434W. Project Design and Management I. Lecture 3 hours; 3 credits. Prerequisite: ME 332. This course prepares students to complete their design project and to write the technical report. Lecture topics include design procedures and technical report-writing; project proposal; design and risk analysis; and product realization techniques. Course involves written and oral presentations for students to improve communication and teamwork skills. (qualifies as a CAP experience)

435. Project Design and Management II. Lecture 3 hours; 3 credits. Prerequisite: ME 434W. Conceptual design ideas are expanded into detailed design ideas. Product realization is applied to computer hardware. Course covers Gantt charts, preliminary design, evaluation and grading matrices, detailed design and analysis, oral and technical reporting including cost analysis. Ethics and patent issues are also included. (qualifies as a CAP experience)

436. Dynamic Systems and Control. Lecture 3 hours; 3 credits. Prerequisites: ME 205, MATH 307 and 507. Stability characteristics of the linear dynamic systems; functional description of dynamic systems; basic controllers; sensitivity, stability and error analysis; transient and steady-state response using computational techniques, root locus and frequency response methods; state-space analysis of control systems.

438/538. Control System Design and Applications. Lecture 3 hours; 3 credits. Prerequisite: ME 436. Analysis, computer-aided design and implementation of practical control systems; introduction to state-space and digital control; laboratory sessions on data acquisition, system identification, analog-computing, and implementation of analog and digital controllers.

440/540. Introduction to Finite Element Analysis. Lecture 3 hours; 3 credits. Prerequisites: ME 315, 332, and 340. Basic concepts of finite-element method, method of weighted residuals, interpolation functions, numerical implementation of finite-element method, applications to engineering problems such as beam deflection, heat conduction, and plate problems. Typical case studies are beam and plate designs, turbine blade design, and pipe networks. Advanced topics include: thermal stress analysis and plates and shells.

495/595, 496. Topics in Mechanical Engineering. Lectures variable; 1-3 credits each semester. Prerequisite: senior standing; permission of the chair is required. Special topics in advanced developments in mechanical engineering or engineering mechanics. (offered fall, spring, summer)

Mechanical Engineering Technology — See Engineering Technology

Medical Technology — MEDIT

2101. Orientation to Medical Technology. Lecture 1 hour: 1 credit. An introduction to the professions of medical technology. Professional, ethical and operational issues will be discussed.

307. Clinical Methods in Microbiology. Laboratory 4 hours; 2 credits. Corequisite: MEDIT 308. Laboratory techniques in the diagnosis of clinically relevant microorganisms.

308. Clinical Microbiology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N; CHEM 311 is recommended or permission of the instructor. A fundamental course in microbiology which includes bacterial growth, synthesis, differentiation, microbial nutrition and metabolism.

309. Medical Bacteriology. Lecture 3 hours; 3 credits. Prerequisites: MEDIT 307, 308. A comprehensive survey of bacteria, including colonial morphology, cultural characteristics, biochemical identification, pathogenicity, epidemiology, and treatment.

310. Urinalysis and Body Fluids. Laboratory 3 hours; 1 credit. Prerequisites: BIOL 250, 251 or permission of the instructor. A study of the chemistry, physical and microscopic analysis of human urine and other body fluids, with abnormal results interpreted and correlated to disease processes.

311. Hematology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 250, 251 or permission of the instructor. The study of the formation and development of blood, including the interpretation of normal and abnormal blood morphology and diagnostic procedures in the investigation of hematological disorders.

312. Hematology Laboratory. Lecture 3 hours; 1 credit. Corequisite: MEDIT 311. Laboratory methods utilizing procedures in the diagnosis and investigation of hematological disorders.

313. Diagnostic Methods in Urinalysis. Laboratory 3 hours; 1 credit. Prerequisite: BIOL 250 or equivalent. Laboratory experience in the chemical, physical, and microscopic examination of the urine with emphasis on quality control, osmometry, and disease correlates.

315. Clinical Laboratory Diagnosis. Lecture 3 hours; 3 credits. Prerequisite: students must be graduates of a clinical laboratory training program. An introduction to clinical diagnostic principles utilized in immunology, serology, and hemostasis.

319. Medical Bacteriology Methods. Laboratory 4 hours; 2 credits. Corequisite: MEDIT 309. Laboratory methods emphasizing isolation, identification and media requirements for pathogenic microorganisms.

320. Phlebotomy Methods. Lecture 1 hour; Laboratory 3 hours; 2 credits. Prerequisite: BIOL 250 or equivalent. Laboratory methods in the procurement of blood by capillary, venipuncture and arterial draws, special phlebotomy tests, isolation techniques, safety, legal and ethical implications.

321. Blood Collection Techniques. Lecture 2 hours; laboratory 4 hours; clinical 8 hours; 5 credits. Prerequisite: BIOL 250 or equivalent. Experience in laboratory techniques in phlebotomy, including venipuncture, capillary sticks, special test procedures and isolation techniques, safety, legal and ethical implications. Includes a clinical component.

322. Phlebotomy Internship. 2 credits. Prerequisite: MEDIT 320. A 120-hour clinical internship for non-majors desiring to qualify for the ASCP certification exam.

324. Clinical Instrumentation and Electronics. Lecture 3 hours; 3 credits. Prerequisites: CHEM 311 or 321, MATH 102M or permission of the instructor. A course covering the theory, operation, and maintenance of instruments in the clinical laboratory. Instruments discussed include spectrophotometers, flame instruments, pH and blood gas analyzers, gas and liquid chromatography, electrophoresis, radiation counters, dosimetry, osmometry, electrochemistry, basic electronics and trouble shooting equipment. Statistical applications to data analysis and quality control in the clinical laboratory.

325. Clinical Instrumentation Methods. Laboratory 3 hours; 1 credit. Prerequisites: CHEM 115N, 116N, 311, 312. Corequisite: MEDIT 324. A course designed for students in the clinical laboratory field. The course includes the instrumental and data processing techniques required for the clinical analysis of blood, urine, and other body fluids as well as applied statistical techniques to the interpretation of laboratory data.

326. Immunohematology. Lecture 3 hours; 3 credits. Prerequisites: MEDIT 311, 330, 331, BIOL 250, 251 or permission of the instructor. The study of the identification of blood group antigens and antibodies, standard testing
procedures, decision criteria for component selection, and regulations of blood banks and transfusion services.

327. Hemostasis. Lecture 1 hour; laboratory 2 hours; 1 credit. Prerequisites: MEDT 307, 308 or permission of the instructor. The study of the fundamentals of hemostasis, emphasizing principles, evaluation techniques, and diagnostic applications. Class meets the first 7 weeks of the semester.

328. Medical Parasitology, Mycology, and Virology. Lecture 1 hour; 1 credit. Prerequisites: MEDT 307, 308 or permission of the instructor. The study of the medically important parasites, fungi and viruses and their medical significance.

330. Clinical Immunology/Serology. Lecture 2 hours; 2 credits. Prerequisites: BIOL 115N and 250-251 or permission of the instructor. A study of the body’s immune response, its cellular and non-cellular components including in-vitro manifestations, and interpretations related to the investigation and diagnosis of disease states.

331. Clinical Immunology/Serology Laboratory. Laboratory 2 hours; 1 credit. Corequisite: MEDT 330. Laboratory methods emphasizing in-vitro antigen and antibody reactions used to identify infectious and non-infectious disorders.

336. Immunohematology Laboratory. Laboratory 3 hours; 1 credit. Corequisite: MEDT 326. Laboratory methods emphasizing procedures identifying blood group antigens and antibodies needed in making transfusion-related decisions.

337. Advanced Hematology. Lecture 1 hour; laboratory 2 hours; 1 credit. Prerequisites: MEDT 311, 312 or permission of the instructor. The study of blood cells in blood and body fluids, morphologic identification and correlation of laboratory data in order to identify specific disease states. Class meets the second 7 weeks of the semester.

339. Parasitology, Mycology Laboratory. Laboratory 2 hours; 1 credit. Corequisite: MEDT 328 or 340. Laboratory methods emphasizing the identification of medically relevant parasites and fungi.

340. Medical Parasitology, Mycology, Virology I. Lecture 3 hours; 1 credit. Prerequisites: MEDT 307, 308 or permission of the instructor. A study of the medically important parasites, fungi, and viruses, and their medical significance.

350. Urinalysis. 1 credit. Prerequisites: BIOL 250, 251 or permission of the instructor. A study of the chemical, physical and microscopic analysis of human urine, with abnormal results interpreted and correlated to disease processes.

351. Clinical Biochemistry. Lecture 3 hours; 3 credits. Prerequisites: BIOL 250, 251, CHEM 311-312, or permission of the instructor. An introduction to the applications of biochemistry and clinical testing in the diagnosis of human disease and health. The course gives in the interpretation of laboratory data in the area of liver, renal, pancreatic, G.I., enzymatic, and cardiac testing, electrolytes, acid base physiology, tumor markers, endocrinology, pharmacokinetics and therapeutic drug monitoring.

401. General Pathology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 250 and 251 or equivalent. This course is an overview of general disease processes and causes in the human. All body systems will be covered including respiratory, gastrointestinal, circulatory, nervous, reproductive, and urinary. Aging, dietary, and stress factors will be discussed in the disease process. Bacteria, fungi, and viruses will be discussed in general and for each body system. Neoplasms will be covered for each body site. This course will be of benefit to anyone interested in diseases of the human body or entering the medical field. (cross-listed as BIOL 350.)

403W/503. Management in the Clinical Setting. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course concerned with organization and management in the clinical setting including personnel supervision, planning, equipment justification, quality assurance, data processing, budgeting, fiscal techniques, marketing, regulatory agencies, educational methodologies, current issues, as well as legal and ethical considerations.

404. Clinical Hematology Practicum. 4 credits. Prerequisites: MEDT 311, 312, 327, 337, and permission of the program director. Direct clinical experience offered in automated and manual hematology toetur used in distinguishing blood dyscrasias and coagulation abnormalities. (qualifies as a CAP experience)

406. Clinical Microbiology Practicum. 5 credits. Prerequisites: MEDT 308, 309, and permission of the program director. Direct clinical experience offered in isolating and identifying human pathogens such as bacteria, fungi, and parasites from various clinical specimens. (qualifies as a CAP experience)

440/540. Statistical Applications and Data Analysis in the Clinical Laboratory. Lecture 3 hours; 3 credits. Prerequisites: STAT 130M. Topics include review of basic statistics used in the laboratory; use of statistics for quality control; reference range determination, method comparisons, test utility assessment, techniques for searching the literature and assessing quality and applicability of published studies; and data organization and retrieval via queries. Students will perform projects, preferably using actual laboratory data, that relate to lecture topics.

441. Clinical Hematology Competencies. 1 credit. Prerequisites: MEDT 311, 315. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of hematology.

442. Clinical Microbiology Competencies. 1 credit. Prerequisites: MEDT 308, 309. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of clinical microbiology.

443. Clinical Chemistry Competencies. 1 credit. Prerequisites: MEDT 324, 351. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of clinical chemistry.

444. Clinical Blood Bank Competencies. 1 credit. Prerequisites: MEDT 315, 326. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of blood banking.

445. Clinical Elective Practicum. 3 credits. Prerequisite: MEDT 440 or approved research methods course; or permission of instructor. A project-based advanced clinical experience for laboratory practitioners emphasizing enhancement of basic procedures and techniques and development of management, research, computer and educational skills, resulting in a written paper and oral presentation. (qualifies as a CAP experience)

452. Clinical Biochemistry Practicum. 5 credits. Prerequisites: MEDT 324, 325, 351, and permission of the program director. Direct clinical experience offered in automated and manual clinical chemistry determinations with emphasis on the principles, instrumentation, interpretation, and diagnostic significance. (qualifies as a CAP experience)

454. Clinical Blood Bank Practicum. 4 credits. Prerequisites: MEDT 311, 312, 326, 336, and permission of the program director. Direct clinical experience offered in the theories and principles of blood banking with emphasis on the instruction of technical procedures used in an AABB approved blood bank. (qualifies as a CAP experience)

457. Medical Technology Seminar. 1 credit. Prerequisite: permission of the program director. Independent study in all the areas of the clinical laboratory, culminating in a comprehensive final exam in all areas of medical technology. Excellent review for certification exams.

458. Clinical Elective Practicum. 1 credit. Prerequisite: permission of the program director. Directed externship in any clinical area of interest approved by the clinical instructor and program director. (qualifies as a CAP experience)

495. Special Topics in Medical Technology. 1-3 credits. Prerequisite: permission of the program director. The advanced study of selected topics within the medical field. (Directed Study in Medical Technology, 1-3 credits. Prerequisite: permission of the program director. Supervised experience in medical technology specialties, allowing students to pursue areas of interest under faculty direction.

498. Clinical Research Methods, Lecture 3 hours; 3 credits. Prerequisites: STAT 130M or permission of the instructor. An introduction to clinical research methods to include sampling techniques, data collection and analysis, inferential statistics, multivariate analysis, hypothesis testing and research design. The student will be expected to develop a research proposal based upon a critical review of the literature.

Middle Eastern Studies—MIDE

300. Perspectives on the Middle East. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course explores the Middle East from interdisciplinary perspectives.

395/495. Topics in Middle Eastern Studies. 3 credits. Prerequisite: junior standing or permission of instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on topics of mutual interest which, due to their specialized nature, may not be offered regularly.

405. Communication and Culture in the Middle East. Lecture 3 hours; 3 credits. Prerequisite: three hours of lower level social science. The course examines the tensions between modernity and tradition in the context of Middle East culture. Cultural variables to be studied include myths, religion, family structures, and the use of science and technology.

410/510. Islam and the Rhetoric of Science. Lecture 3 hours; 3 credits. Prerequisite: three hours of lower level social science. The course begins with the ways medieval Muslim society did and did not accept and assimilate the “rational sciences” and ends with a consideration of how modern Muslim societies can assimilate science.

Military Science and Leadership—MSL

101+. Introduction to ROTC. Lecture/Lab 3 hours; 1 credit. Learn fundamental concepts of
leadership in a profession in both classroom and outdoor laboratory environments. Examines organization, customs and courtesies of the Army and ROTC with emphasis on career opportunities for ROTC graduates. Studies the military profession, lifestyle, and historical growth development of the Army. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

201 †. Leadership Skills I. Lecture/Lab 3 hours; 1 credit. Prerequisite: MSL 101+ or 195, or departmental approval. Course is designed to refine and continue to develop knowledge of basic military skills. Learn/apply ethics-based leadership skills that develop individual and group proficiencies in all basic military skills. Prerequisite: departmental approval. A study of selected topics designed to accommodate special cadet's educational and commissioning requirements. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

202 †. Foundations of the Military Profession. Lecture/Lab 3 hours; 1 credit. Prerequisite: MSL 201+ or 295, or departmental approval. Continued development of leadership ability through active participation as squadron leaders at the basic unit level. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

250 †. Alternate Summer Training Program: Leaders Training Course (LTC). 6 credits. Prerequisite: departmental approval. A six-week course conducted at Fort Benning, Georgia, which focuses on basic marksmanship, day and night land navigation, individual soldier skill and rifle marksmanship. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

251 †. Optional Summer Training Program: Airborne School. 2 credits. Prerequisite: departmental approval. A three-week course conducted at Fort Benning, Georgia, which focuses on parachute operations, individual and group parachute jumps, equipment orientation, and physical training. Award of the Airborne Badge upon course completion. Travel, lodging and most meal costs are defrayed by the U.S. Army.

252 †. Optional Summer Training Program: Air Assault School. 2 credits. Prerequisite: departmental approval. A two-week course conducted at locations in the United States designed to train cadets for basic air assault qualification in rappelling, helicopter rappelling, troop leader procedures, pathfinder techniques, and rigging and slingsetting. Award of the Air Assault Badge upon course completion. Travel, lodging and most meal costs are defrayed by the U.S. Army.

295/296. Independent Study of Selected Military Topics. Lecture/Lab 2 hours; 1 credit. Prerequisite: MSL 101+/-102+ or 195/196, or departmental approval. Course is designed to refine and continue to develop knowledge of basic military skills. Learn/apply ethics-based leadership skills that develop individual and group proficiencies in all basic military skills. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

295/296. Independent Study of Selected Military Topics. Lecture/Lab 2 hours; 1 credit. Prerequisite: MSL 101+/-102+ or 195/196, or departmental approval. Course is designed to refine and continue to develop knowledge of basic military skills. Learn/apply ethics-based leadership skills that develop individual and group proficiencies in all basic military skills. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

295, 395. Independent Study. 3 credit hours. Prerequisite: departmental approval. A study of selected topics within military science designed to accommodate special cadet's educational and commissioning requirements. Participation in physical fitness program required. Participation in one overnight adventure training exercise is required.

301. Advanced Leadership Skills. Lecture 3 hours; 3 credits. Prerequisites: MSL 201+/-202+, or 295/296, or 250+ or departmental approval. Course prerequisite: MSL 311+. Course teaches decision making and problem solving skills. Students learn to plan, direct and coordinate individual and group efforts toward task accomplishment. Field exercises afford practical opportunities for the students to apply instruction. Cadets are evaluated against 16 criteria, including decisiveness, delegation, influence, problem analysis, planning, technical competence, and communication.

302. Applied Leadership. Lecture 3 hours; 3 credits. Prerequisite: MSL 301 or 395. Corequisite: MSL 312+. Course presents an increasing complex situations in which students apply the skills and leadership to solve tactical problems. Students develop leadership proficiency in all basic military technical and tactical skills, including basic rifle marksmanship, day and night land navigation, physical training, and small/large unit tactics. Field training exercises afford opportunities to apply leadership and management skills. Cadets are evaluated using 16 leadership dimensions.

311/312 †. Advanced Leadership Laboratory. 1 credit. Corequisite: MSL 301/302. Practical application of military skills or simulated tactical environments of increasing complexity and intensity. Includes weekend training in basic rifle marksmanship, day and night land navigation, and small unit tactics. Affords students opportunities to apply leadership skills to plan, direct, and coordinate the activities of others to accomplish a mission. Mandatory physical fitness training 3 times a week to build stamina and physical condition to lead from the front. Participation in one overnight adventure training exercise per semester is required.

315. Summer Training Program - Leader Development and Assessment Course (LDAC). 6 credits. Prerequisites: MSL 301/302 or 395/396. A five-week summer camp conducted at Fort Lewis, Washington. Students will receive pay. Travel, lodging and most meal costs are defrayed by the U.S. Army. The camp environment is highly structured and demanding, stressing leadership at the small unit level under varying, challenging conditions. The leadership and skills emphasized will be those that are evaluated at the subsequent selection process that determines the type of commission and job opportunities given to the student upon graduation from ROTC and the University.

316 †. ROTC Nurse Summer Training Program (NSTP). 3 credits. Prerequisites: MSL 301/302 or 395/396. A five-week summer camp conducted at Lewis, Washington. The student will receive pay. Travel, lodging and most meal costs are defrayed by the U.S. Army. A five-week summer camp conducted at Fort Lewis, Washington. The student will receive pay. Travel, lodging and most meal costs are defrayed by the U.S. Army. The camp environment is highly structured and demanding, stressing leadership at the small unit level under varying, challenging conditions. The leadership and skills emphasized will be those that are evaluated at the subsequent selection process that determines the type of commission and job opportunities given to the student upon graduation from ROTC and the University.

317. Cadet Troop Leadership Program (CTLT). 3 credit hours. Prerequisite: departmental approval. A study of selected topics within military science designed to accommodate special cadet educational and commissioning requirements. Participation in one-hour physical fitness session is mandatory.

401. Military Leadership and Management. Lecture 3 hours; 3 credits. Prerequisites: MSL 301/302, 395/396, or departmental approval. Corequisite: MSL 411+. Class teaches the Army's training management system, leadership theories, staff planning and coordination, and counseling skills. Simultaneously, students in the course will assume leadership responsibilities in the ROTC battalion, affording practical opportunities to apply skills learned in the classroom. At the end of the semester, students will possess the fundamental skills, attributes, and abilities to operate as competent leaders in the cadet battalion and...
confidently shoulder the responsibilities entrusted to them.

402. Officership. Lecture 3 hours; 3 credits. Prerequisite: MSL 401 or departmental approval. Corequisite: MSL 412+. Final training for commissioning as a Lieutenant. Course emphasizes effective communications skills gained through individual presentations and by leading and influencing groups within the Cadet Battalion. Students also examine topics in military law and explore practical and ethical challenges of military leadership as they relate to personnel management, logistics, training, and operations. Students are the primary instructors and leaders within the Cadet Battalion.

411/+412+. Senior Leadership Laboratory. 1 credit. Corequisite: MSL 401/402. Practical application of individual and leadership skills in simulated tactical environments of increasing complexity and intensity. Includes weekend training in basic rifle marksmanship, day and night land navigation, and small unit tactics. Affords students opportunities to apply leadership skills to plan, direct, and coordinate the activities of others to accomplish a mission. Mandatory physical fitness training 3 times a week to build stamina and physical condition to lead from the front. Participation in one overnight adventure training exercise per semester is required.

495/496. Independent Study. Lecture 3 hours; 3 credits. Prerequisite: departmental approval. A study of selected topics within the military science program designed to accommodate special cadet education and commissioning requirements. Participation in a one-hour physical fitness session is mandatory.

Modeling and Simulation — MSIM

405/505. Introduction to Discrete Event Simulation. Lecture 3 hours; 3 credits. Prerequisites: undergraduate course in probability and statistics; computer literacy. An introduction to the fundamentals of discrete event simulation (DES). Topics include discrete event simulation methodology, development of simulation models, simulation verification and validation, and the design of simulation experiments. Important statistical concepts, including selection of input probability distribution and output data analysis are developed and applied. A DES tool will be used to create, simulate and analyze self-defined projects. (cross listed with ECE 405/505)

Music

I. Music — MUSC

101-102. Beginning Piano Class.1 Two meetings per week; 1 credit each semester. 101 is prerequisite to 102. Introduction, practical training, and development of basic piano skills, including the playing of scales, arpeggios, chords, and simple songs; sight reading, transposition, harmonization of melodies, and improvisation. (For music majors only) 103-104. Intermediate Piano Class.2 Two meetings per week; 1 credit each semester. Prerequisite: MUSC 102 or permission of the instructor. MUSC 103 is a prerequisite to 104. Continued practical training and development of basic piano skills. (For music majors only)

105-106. Advanced Piano Class.1 Two meetings per week; 1 credit each semester. Prerequisite: MUSC 104 or permission of the instructor. MUSC 105 is a prerequisite to MUSC 106. Advanced practical development of basic piano skills, including the playing of scales, arpeggios, chords, and simple songs; sight reading, transposition, harmonization of melodies, and improvisation. (For music majors only)

107-108. Beginning Voice Class.1 Two meetings per week; 1 credit each semester. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in this course prior to pursuing Applied Music 141 for credit.

109-110. Intermediate Voice Class.1 Two meetings per week; 1 credit each semester. Prerequisite: MUSC 108 or permission of the instructor. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in this course prior to pursuing Applied Music 141 for credit.

111-112. Advanced Voice Class.2 Two meetings per week; 1 credit each semester. Prerequisite: MUSC 109 or permission of the instructor. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in this course prior to pursuing Applied Music 141 for credit.

113. Basic Musicianship. Lecture 3 hours; 3 credits. Open as an elective to all students of any standing. A beginning course designed to teach the reading of musical notation, beginning with basic lines and spaces and progressing to the writing of simple melodies.

126A. Honors: Music in History and Culture. Lecture 3 hours; 3 credits each semester. A survey of major composers and their works in the historical context of different style periods, including a discussion of the central philosophical and cultural issues of each period. Students will be required to attend at least three musical events and turn in written critiques. Open to Honors College students only.

221-222. Music Theory. 221 is prerequisite to 222. Lecture 3 hours; 3 credits each semester. Prerequisite: music major or permission of the instructor. Written and keyboard harmony. An elementary course dealing with the fundamentals of pitch and time and the use of triads.

223-224. Ear Training, Sight Singing, and Dictation. 223 is prerequisite to 224. Lecture 1 hour; drill section 1 hour; 1 credit each semester. Prerequisite or corequisite: MUSC 221. Melodic, rhythmic, and harmonic dictation; singing, recognition, and writing of various intervals and triads.

261, 262. Music Literature Survey. Lecture 1 hour; 1 credit each semester. Required for music majors. Available to qualified nonmajors. A technical study of music from the Middle Ages through the twentieth century. Listening to recordings and attending live concerts are required.

264A. Music in History and Culture. Lecture and listening sessions 3 hours; 3 credits. A survey of major composers and their works in the historical context of different style periods, including a discussion of the central philosophical and cultural issues of each period. Students will be required to attend at least three musical events and turn in written critiques.

301. Music Education: Trumpet Class. Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Required of all instrumental music education students. Designed to develop basic skills of playing and teaching the trumpet, which serves as a foundation for the other brass instruments. (offered fall, odd years)

302. Music Education: Brass Class. Laboratory 2 hours; 1 credit. Prerequisite: MUSC 301 or permission of the instructor. Required of all instrumental music education students. Designed to develop basic skills of playing and teaching French horn, trombone, euphonium, and tuba. (offered spring, even years)

303. Music Education: Clarinet Class. Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Designed to develop basic skills of playing and teaching the clarinet, which serves as a foundation for the other woodwind instruments. (offered fall, even years)

304. Music Education: Woodwind Class. Laboratory 2 hours; 1 credit. Prerequisite: MUSC 303 or permission of the instructor. Designed to develop basic skills of playing and teaching flute, oboe, bassoon, and saxophone. (offered spring, odd years)

305. Music Education: Violin Class. Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Designed to enable the prospective teacher to gain basic playing proficiency on the violin, to understand the problems of methods of teaching this instrument, and to evaluate effectively the instruction of the instrument. (offered fall, even years)

306. Music Education: String Class. Laboratory 2 hours; 1 credit. Prerequisite: MUSC 305 or permission of the instructor. Designed to enable the prospective teacher to gain playing proficiency on viola, cello, and string bass, to understand problems and methods of teaching these instruments, and to evaluate effectively materials used in the instruction of each of these instruments. (offered spring, odd years)

307. Music Education: Percussion Class. Laboratory 2 hours; 1 credit. Prerequisite: students must display the ability to read music. Designed to teach percussion Class lessons on all percussion instruments and the study of teaching methods for these instruments. (offered fall, odd years)

308. Music Education: Music for the Elementary Classroom Teacher. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Students gain skills and experience related to the use of music in elementary school.

309. Principles of Conducting. Lecture 1 hour; 1 credit. Prerequisites: MUSC 224, 322, or permission of the instructor. The development of basic skills and techniques necessary for conducting choral and instrumental ensembles.

321-322. Advanced Theory. 321 is prerequisite to 322. Lecture 2 hours; 2 credits each semester. Prerequisites: MUSC 222 and 224, or permission of the instructor. A continuation of MUSC 222; written and keyboard work introducing modulation, seventh chords, and harmonic harmony.

323-324. Advanced Ear Training, Sight Singing and Dictation. 323 is prerequisite to 324. Lecture/labatory 2 hours; 1 credit each semester. Prerequisites: MUSC 222 and 224 or permission of the instructor. A continuation of MUSC 224, written and keyboard work introducing modulation, seventh chords and harmonic harmony.

MUSIC COURSES 235
335T. Introduction to MIDI Technology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: music student or permission of instructor. This course will introduce students to MIDI technology with an emphasis on sequencing and editing techniques and music notation skills.

336. Music Production: Digital Audio I. Lecture 3 hours; 3 credits. Prerequisite: music student or permission of instructor. This introductory course is designed to give students hands-on experience working with both hardware and software in the modern virtual recording studio. Topics covered include signal flow, audio mixing and bussing, digital audio recording and multi-tracking, digital audio editing, mixing and mastering techniques, CD burning and an introduction to acoustic and digital audio theory.

337. Jazz Improvisation I. Lecture 2 hours; 2 credits. Prerequisite: MUSC 222 or permission of the instructor. This course will introduce students to the basic concepts of Jazz improvisation, including harmonic and melodic implications.

338. Jazz Improvisation II. Lecture 2 hours; 2 credits. Prerequisite: MUSC 337 or permission of the instructor. This course is a continuation of MUSC 337, with further more advanced techniques used in Jazz improvisation.

345, 346. Diction for Singers. Lecture 2 hours; 1 credit each semester. Prerequisites: MUSA 142, 152, or permission of the instructor. An introductory course dealing with correct principles of effective diction essential to the singing of English and Italian songs (MUSC 345) and German and French songs (MUSC 346). (345 offered fall; odd years; 346 offered spring, even years)

361W, 362. History of Music. Lecture 3 hours; 3 credits each semester. Prerequisites: MUSC 126A, 264A, 261, 262, or permission of instructor. A general survey of the growth of music showing the influence of historical events upon musical developments.

377, 378. Extracurricular Studies. 1-6 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Credit for extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student before the semester in which the activity is to take place. Credit is subject to review by the provost.

395, 396. Topics in Music. 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics designed for nonmajors, or for credit within a major. These courses will appear in the course schedule. Course descriptions and prerequisites for each course may be found in information distributed to all academic advisors.

401. Music Education: Elementary Vocal Methods. Lecture 2 hours; 2 credits. Corequisite: MUSC 401. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Must be taken concurrently with MUSC 401. Enables students to observe master classroom teachers and to test accumulated teaching practices in elementary school vocal classroom settings. (qualifies as a CAP experience)

402. Music Education: Practicum (Elementary Vocal). Hours to be arranged; 1 credit. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with the keyboard or guitar concentration. Must be taken concurrently with MUSC 401. Enables students to observe master classroom teachers and to test accumulated teaching practices in elementary school vocal classroom settings. (qualifies as a CAP experience)

403. Music Education: Secondary Vocal Methods. Lecture 2 hours; 2 credits. Corequisite: MUSC 404. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Focuses on methods of vocal instruction, materials and rehearsals methods for secondary vocal classroom settings. (offered spring, even years)

404. Music Education: Practicum (Secondary Vocal). 1 credit. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Must be taken concurrently with MUSC 403. Enables students to observe master teachers and to test accumulated teaching practices in secondary school vocal classroom settings. (offered spring, even years) (qualifies as a CAP experience)

405. Music Education: Elementary Instrumental Methods. Lecture 2 hours; 2 credits. Corequisite: MUSC 406. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with instrumental music concentration. Focuses on materials and methods of instrumental instruction in the elementary setting. (offered fall, even years)

406. Music Education: Practicum (Elementary Instrumental). 1 credit. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with an instrumental music concentration. Must be taken concurrently with MUSC 405. Enables students to observe master teachers and to test accumulated teaching practices in elementary school music classroom settings. (offered fall, even years) (qualifies as a CAP experience)

407. Music Education: Secondary Instrumental Methods. Lecture 2 hours; 2 credits. Corequisite: MUSC 408. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with instrumental music concentration. Focuses on methods of instruction, materials and rehearsal methods for secondary instrumental classrooms. (offered spring, odd years)

408. Music Education: Practicum (Secondary Instrumental). 1 credit. Prerequisite: ECI 301. Required prior to student teaching for all students in music education with instrumental music concentration. Must be taken concurrently with MUSC 407. Enables students to observe master teachers and to test accumulated teaching practices in secondary school instrumental classrooms. (offered spring, odd years) (qualifies as a CAP experience)

409. Music Education: Instrumental Techniques. Lecture 1 hour; 1 credit. Prerequisite: ability to read music or permission of the instructor. Required prior to student teaching for all students in music education with vocal, keyboard and guitar concentration. Focuses on development of vocal majors' ability to read instrumental scores; provides vocal majors an understanding of families of instruments and practical experience in playing selected instruments.

410/510. Psychology of Music. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to assist students in enhancing their understanding of the aesthetic response to music in various settings. Students will learn to integrate their understanding of musical aptitude as it relates to human growth and development. In addition, students will study the psychological implication of personality types as they develop, implement, and assess their pedagogical approach.

413. Advanced Choral Conducting. Lecture 2 hours; 2 credits. Prerequisite: MUSC 309. Course deals with the analysis, interpretation, and conducting of varied choral literature.

414. Advanced Instrumental Conducting. Lecture 2 hours; 2 credits. Prerequisite: MUSC 309. Course deals with the analysis, interpretation, and conducting of varied instrumental literature.

421. Counterpoint. Lecture 2 hours; 2 credits. Prerequisite: MUSC 221. A study of the contrapuntal techniques of sixteenth century composers and their influence upon composers of the eighteenth through twentieth centuries. (offered fall, odd years)

422/522. Form and Analysis. Lecture 2 hours; aural analysis 1 hour; 2 credits. Prerequisites: MUSC 322 and 324 or permission of the instructor. Study and analysis of the principal traditional musical forms. Stylistic and harmonic analysis as it related to score study will be discussed. (offered spring, even years)

424. Orchestration. Lecture 2 hours; 2 credits. Prerequisite: MUSC 321. A study of the range, musical functions, and technical characteristics of the instruments and their color possibilities in various combinations. Practical experience in scoring for small and large ensembles. (offered spring, even years)

428/528. Music Theory Review. Lecture 3 hours; 3 credits. Prerequisite: junior standing and/or permission of the instructor. A review of basic music theory with more advanced work in music analysis. The course is primarily for students in the M.S. in Education degree program. This course is required of all students who do not pass the Theory Placement Test. No credit for this course may be applied toward the degree.

435. Music Production: MIDI II. Lecture 3 hours; 3 credits. Prerequisite: MUSC 335T. This course builds upon the fundamentals experienced in the introductory MIDI course. Topics include: advanced sequencing techniques, looping, editing, data manipulation, patch and control changes through real-time recording, patch editing, storage and retrieval, incorporation of external hardware, sampling, and an introduction to the incorporation of digital audio.

436. Music Production: Digital Audio II. Lecture 3 hours; 3 credits. Prerequisite: MUSC 336. This course builds upon the fundamentals experienced in Digital Audio I and delves more deeply into advanced production concepts, including: channel inserts, auxiliary bussing, practical uses of EQing, Compression, Limiting, and audio enhancement/correction, mixing automation, groups and subgroups, digital editing at the sample level, and advanced mastering.

445/545. Applied Music Pedagogy. One hour seminar; 1 hour laboratory; 1 credit each semester. Prerequisite: music major senior standing or permission of the department. Teaching techniques, literature in the performing area. Seminar deals with resource materials.
Laboratory: observation and teaching under supervision.

446/546. Applied Music Literature. One hour seminar; 1 hour laboratory; 1 credit each semester. Prerequisite: senior music major, standing or permission of the department. Teaching techniques, literature in the performing area. Seminar deals with resource materials. Laboratory: observation and teaching under supervision.

460/560. History of Jazz. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course will study the historical development of jazz as an American art form. The emotion and meaning of this style will be investigated as well as the historical and contemporary aesthetic response. Emphasis will include the defining role of African American artists. The influence of jazz on the development of contemporary American music will be discussed. Written critiques of live performances and a research paper will be required.

466/566. Modern Music. Lecture 3 hours; 3 credits. Prerequisites: MUSC 361W and 362 or permission of the instructor. A study of the techniques and styles in music in the twentieth and twenty-first centuries, focusing on the music of selected composers. A performing component will be required.

467. Musicoology Seminar. Independent study and weekly meetings with the instructor; 3 credits. Prerequisite: senior and music major standing. An introduction to techniques and materials for research in music. Students conduct investigations of selected topics and submit written reports of findings.

491/591. Music in the Baroque Era. Lecture 3 hours; 3 credits. Prerequisites: MUSC 361W-362. A study of music history from monody through the works of Bach and Handel. A discussion of musical style within the context of cultural history.

492/592. Music in the Classical Era. Lecture 3 hours; 3 credits. Prerequisites: MUSC 361W-362. A study of music history from the Rococo Period through the works of Haydn, Mozart and Beethoven. A discussion of musical style within the context of cultural history.


495/595, 496/596. Topics in Music. 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. These courses will appear in the course schedule. Course descriptions and prerequisites for each course may be found in information distributed to all academic advisors.

497, 498. Tutorial Work in Special Topics in Music. 3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

II. Music Performing Organizations

(See ensemble requirements for music majors.)

370. Jazz Combo. 1 credit. Prerequisite: permission of the instructor. This ensemble will explore Jazz literature, focusing primarily on the small group format. Previous experience with improvisation is necessary for all participants.

371. Ensemble (Opera Workshop, Percussion, Piano, Guitar, String, Woodwind). 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and permission of the instructor. Participation in rehearsals and public performances of the ensemble.

381. Concert Choir. 2 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music. Participation in rehearsals and public performances of the Concert Choir.

382. Concert Band. 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor. Participation in rehearsals and public performances of the band.

383. Symphony Orchestra. Full orchestra 3 hours per week, and dress rehearsals TBA; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor. Participation in rehearsals and public performances of the University Symphony Orchestra.

384. Jazz Ensemble. 1-3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

385. Pep Band. 1-3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and permission of the instructor.

386. New Dominions. 1-3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

387. Collegium Musicum. 1-2 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

388. Madrigal Singers. 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

389. Brass Choir. 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

III. Applied Music Instruction — MUSA

All students wishing to register for applied music must have a placement audition prior to registration. Music Department requirements are described in detail in the section entitled “College of Arts and Letters Degree Requirements.” Students studying applied music for credit will perform before an examining committee at the end of each semester following their first semester of study at this institution.

Applied Music Major (Performance)

Ap. Mus. 151-152. One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisite: for 152: 151 and permission of faculty.


Ap. Mus. 251-252. One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisite: previous number and permission of faculty. Completion of this level includes successful performance of a half-hour public recital. Numbers may be repeated.

For these courses the student is charged the applied music fee of $175 for one-credit courses and $250 for two- or three-credit courses. Individual instruction in applied music is offered in guitar, harpsichord, piano, organ, voice, and the orchestral instruments. For information concerning fees for applied music, refer to the section entitled “Fees and Expenses.” Students in applied music are assigned to teachers by the department chair.

Ap. Mus. 331-332. Hour Lesson: Applied Composition. One hour lesson per week; 3 credits per semester. Prerequisites: MUSA 232 for MUSA 331; MUSA 331 for MUSA 332. Original work in composition starting with the smaller forms in both the vocal and the instrumental fields.

Ap. Mus. 351-352. One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisites: previous number and permission of faculty to advance to upper-division performance level.


Ap. Mus. 446. Advanced Electronic Composition I. 2 credits. Prerequisites: MUSC 335T and 336. This course is designed only for music majors and/or minors. Students must complete two semesters of the recording class (MUSC 335T and MUSC 336) or have equivalent experience before taking MUSA 441. Music hardware and software for this course are studied, but is not limited to: K2500 Mackie 1604 VLZ 2 pro, Opcode MIDI 96 and Digital Audio.

Ap. Mus. 447. Advanced Electronic Composition II. 2 credits. Prerequisite: MUSA 445. This course is designed for music majors and/or minors. Music hardware and software to be studied includes, but is not limited to: K2500, Sound Designer, Orto Tools, and Finale. The participants are expected to compose a medium-length work (at least 4-5 minutes) Using the above equipment. Grading is based on the knowledge of the electronic equipment and the quality of composing.

Ap. Mus. 451-452. One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisites: previous number and permission of faculty. Completion of this level includes successful performance of a one-hour public recital. Numbers may be repeated.

Applied Music Minor (Music Education)

Ap. Mus. 139-140. One half-hour lesson per week; 1 credit. Prerequisite: permission of the faculty and 139 for 140.

Ap. Mus. 141-142. One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisite for 142: 141 or 143 and/or permission of faculty.

Ap. Mus. 239-240. One half-hour lesson per week; 1 credit. Prerequisite: previous number and permission of the faculty.

Ap. Mus. 241-242. One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and permission of faculty.


Ap. Mus. 341-342. One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and permission of faculty.


Ap. Mus. 441-442. One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and
permission of faculty. Satisfaction of a degree requirement on this level includes successful performance of a one-half hour private or, at faculty discretion, public recital. Numbers may be repeated.

**Naval Science — NAVS**

101. Introduction to Naval Science. Lecture 2 hours; 2 credits. General introduction to sea power and the naval service. Particularly emphasized is the mission, organization, regulations and broad warfare components of the Navy. Includes customs, discipline and nomenclature.

111. Naval Laboratory I. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers basic military formations, drill movements, commands, customs, courtesies, and inspections. Lecture and discussion topics include cruise preparation and evaluation, security, equal opportunity and military justice. First year Naval Science students only.

112. Naval Laboratory I. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Continues basic military formations, drill movements, commands, customs, courtesies, and inspections. Lecture and discussion topics include cruise preparation and evaluation, security, equal opportunity and military justice. First year Naval Science students only.

201. Naval Ships Systems I. Lecture 3 hours; 3 credits. Familiarizes students with types, structure and purpose of naval engineering systems, propulsion systems, auxiliary power systems, electrical systems and ship control. Ship design and stability characteristics are examined.

202. Naval Ships Systems II. Lecture 3 hours; 3 credits. Introduction to theory and principles of operation of naval weapons systems. Covers types of weapons and fire control systems, capabilities/limitations, theory of target acquisition, identification and tracking, trajectory principles and basics of naval ordnance.

211. Naval Laboratory II. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include cruise preparation/evaluation, security, administration and military justice. Second year Naval Science students only.

212. Naval Laboratory II. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include cruise preparation and evaluation, safety, administration, security, equal opportunity and military justice. Second year Naval Science students only.

301. Navigation and Naval Operations I. Lecture 3 hours; 3 credits. In-depth study of piloting including theory, principles and procedures. Includes use of charts, visual and electronic aids, and theory and operation of compasses. Other topics include tides, currents, effects of wind and weather, and nautical rules of the road.

302. Navigation and Naval Operations II. Lecture 2 hours; laboratory 2 hours; 3 credits. Relative motion vector-analysis theory, relative motion problems, formation tactics, and ship employment. Also includes an introduction to naval operations and operations analysis, ship behavior and characteristics in maneuvering, applied aspects of ship handling, and afloat communications. Concepts in naval leadership and naval operations reinforced through case studies.

310. Evolution of Warfare. Lecture 3 hours; 3 credits. Prerequisite: departmental permission. Explores the impact of historical precedent of military thought and actions to illustrate the degree of continuity in warfare, to develop a basic sense of strategy and to formulate alternative military actions.

311. Naval Laboratory III. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include cruise preparation and evaluation, security and military justice. Third year Naval Science students only.

312. Naval Laboratory III. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include cruise preparation and evaluation, safety, administration, security, equal opportunity and military justice. Third year Naval Science students only.

320. Naval Sea Power. Lecture 3 hours; 3 credits. Prerequisite: NAVS 101 or department approval. The study of the evolution of the major world naval and maritime nations. The role of American naval and maritime affairs in the rivalries of the great world powers during the colonial period, the spread of revolutionary movements, and the era of civil and international conflicts in the 19th and 20th centuries.

401. Leadership and Management I. Lecture and discussion 3 hours; 3 credits. The fundamentals of the managerial process (planning, organization, directing, and controlling) are considered in their relationship to the effectiveness of naval organization and readiness. Coverage includes human resources management, naval personnel management, material management and administration of division discipline.

402. Leadership and Ethics. Lecture 3 hours; 3 credits. Prerequisite: completion of all previous NAVS courses. Capstone course, designed to equip the student with operational skills and management abilities needed for competence as a commissioned officer.

410. Amphibious Warfare. Lecture 3 hours; 3 credits. Prerequisite: departmental permission. Historical survey of the projection of sea power with the emphasis on the evolution of the amphibious warfare in the 20th century. Defines the concept of amphibious warfare, explores its doctrinal origins and traces in evolution as an element of navy.

411. Naval Laboratory IV. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers military formations, drills, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include precommissioning preparation, administration, equal opportunity, safety and military justice. Fourth year Naval Science students only.

412. Naval Laboratory IV. On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include precommissioning preparation, safety, administration, security, equal opportunity and military justice. Fourth year Naval Science students only.

**Nuclear Medicine Technology — NMED**

300. Medical Terminology. Lecture 3 hours; 3 credits. Prerequisite: permission of the program director. A course designed to cover the terminology and abbreviations used in the clinical sciences.

331. Fundamental Concepts in Nuclear Medicine Technology. Lecture 4 hours; 4 credits. Prerequisites: PHYS 101N, 102N or equivalent and permission of the program director. A course designed to cover the physical principles related to nuclear medicine technology. The methods of radioactive decay, types of radiation, radiation interactions, origins of radionuclides, SPECT/PET radionuclides and non-nuclear imaging techniques are presented.

332. Nuclear Instrumentation. Lecture 4 hours; 4 credits. Prerequisite: permission of the program director. This course is designed to familiarize the student with the theory, operation and quality assurance associated with the instrumentation found in a typical nuclear medicine department.

335. Radiation Health. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Discussions of radiation effects on cellular systems as well as guidelines for radiation protection and safe handling of radioactive material.

401. Nuclear Medicine Technology I. Lecture 4 hours; 4 credits. Prerequisites: BIOL 250-251 or permission of the program director. A course designed to cover the nuclear medicine procedures of the gastrointestinal, genitourinary, central nervous and skeletal systems. Relevant clinical procedures are also covered.

402. Nuclear Medicine Technology II. Lecture 4 hours; 4 credits. Prerequisites: NMED 401 or permission of the program director. A course designed to cover the nuclear medicine procedures of the respiratory, cardiovascular and endocrine systems. Relevant clinical procedures are also presented.

403. Radiopharmacy. Lecture 3 hours; 3 credits. Prerequisites: NMED 331, CHEM 101N-102N or equivalent and permission of the program director. This course is designed to cover the concepts and techniques related to the field of radiopharmacy. The production, preparation and quality assurance of radiopharmaceuticals are presented.

410. Non-Imaging Nuclear Medicine Technology. Lecture 3 hours; 3 credits. Prerequisite: NMED 401. This course is designed to provide the student with an understanding of the theory and techniques relevant to non-imaging nuclear medicine technology. Topics include radioimmunoassay, organ function studies, cellular kinetics and radionuclide therapy.

440. Clinical Nuclear Medicine Technology I. 8 credits. Prerequisites: NMED 401 and permission of the program director. Clinical instruction in patient care, radiation safety, radiopharmaceutical administration, imaging and nonimaging techniques and quality assurance procedures. (qualifies as a CAP experience)

450. Clinical Nuclear Medicine Technology II. 9 credits. Prerequisites: NMED 440 and permission of the program director. Continued
NURSING COURSES

300. Introduction to Nursing Theories and Concepts I. Lecture 3 hours; 3 credits. Corequisite: NURS 302. Prerequisite: admission to the B.S.N. program. Emphasis is placed on concepts and theories underlying professional nursing practice, the nursing process, and therapeutic nurse-client communication.

301. Introduction to Nursing Theories and Concepts II. Lecture 3 hours; 3 credits. Corequisite: NURS 303. Prerequisite: NURS 300. This course emphasizes theories specific to nursing and their relevance to the practice of professional nursing.

302. Health Assessment Clinical Laboratory. Laboratory 6 hours; 2 credits. Corequisite: NURS 300. This clinical laboratory course emphasizes the assessment phase of the nursing process. Skill acquisition in health assessment and health history interviewing is facilitated by supervised practice, faculty demonstration, and self-paced learning in the audio-visual laboratory.

303. Fundamentals of Nursing Practice. Clinical experience 6 hours; 2 credits. Corequisite: NURS 301. This clinical course emphasizes the supervised application of health assessment skills, nursing process, and clinical nursing techniques in clinical laboratory and acute care settings. (qualifies as a CAP experience)

305. Health Assessment. Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. This course emphasizes the physical assessment phase of the nursing process. For registered nurse students only.

306. Theoretical Foundation of Professional Nursing Practice. Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. Pre- or corequisite: NURS 401. This course focuses on selected nursing models, concepts, and theories as supporting frameworks for professional nursing practice. Emphasis is placed on the utilization of nursing theory as a methodology for improving nursing practice in various client situations and practice settings. For registered nurse students only.

310. Therapeutic Diets I. Lecture 1 hour; 1 credit. Prerequisite: admission to the B.S.N. program. This course focuses on concepts of normal nutrition. Emphasis is placed on understanding the impact of various nutrients on the body.

311. Therapeutic Diets II. Lecture 1 hour; 1 credit. Prerequisite: NURS 300 or permission of instructor. This course introduces the student to selected therapeutic diets. Emphasis is placed on restrictive diets associated with maternal-infant and selected medical-surgical processes.

312. Therapeutic Diets III. Lecture 1 hour; 1 credit. Prerequisites: NURS 310, 311. This course focuses on therapeutic diets associated with selected medical/surgical and pediatric disease processes.

320. Adult Health Nursing I. Lecture 3 hours; 3 credits. Corequisite: NURS 321. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300, 301, 302 and 303. This lecture course focuses on the adult client experiencing alterations and/or adaptations in bodily defense mechanisms. Emphasis is on the use of the nursing process to assist adults to adapt to the body’s breakdown of defense mechanisms.

321. Clinical Management: Adult Health Nursing I. Clinical experience 6 hours; 2 credits. Corequisite: NURS 320. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300, 301, 302 and 303. This clinical course focuses on the nursing process with adult clients experiencing alterations/adaptations in bodily defense mechanisms. The concepts inclusive in the didactic component (NURS 320) will be actualized on general surgical nursing units and oncology units. (qualifies as a CAP experience)

330. Nursing Care of the Childbearing Family. Lecture 3 hours; 3 credits. Corequisite: NURS 331. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300 and 301. This lecture course focuses on the theoretical and applied concepts related to the care of families experiencing pregnancy and childbirth. Emphasis is on the dynamic familial, societal, psychologic and physiologic changes which occur in this stage of family and personal development. The role of the nurse as assistive and family-centered provider of care is a major focus.

331. Clinical Management of the Childbearing Family. Clinical experience 3 hours; 1 credit. Corequisite: NURS 330. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300 and 321. This lecture course focuses on the theoretical and applied concepts related to the care of families experiencing pregnancy and childbirth. Emphasis is on the dynamic familial, societal, psychologic and physiologic changes which occur in this stage of family and personal development. The role of the nurse as assistive and family-centered provider of care is a major focus.

332. Nursing Process and Drug Therapy I. Lecture 3 hours; 2 credits. Prerequisite: admission to the B.S.N. program and completion of NURS 300 and 301. This clinical course focuses on therapeutic diets associated with selected medical/surgical and pediatric disease processes.

333. Nursing Process and Drug Therapy II. Lecture 3 hours; 3 credits. Prerequisite: permission of the program director. This lecture course focuses on psychotherapeutic processes across the lifespan. Building on foundations from the social and behavioral sciences, emphasis is on the use of the nursing process in providing care to clients with acute and chronic illness in a variety of psychiatric settings.

335. Clinical Management of Psychiatric/Mental Health Problems. Clinical experience 3 hours; 1 credit. Corequisite: NURS 350. Prerequisite: junior standing in the B.S.N. program. This clinical course provides a mechanism for students to perform mental health assessments, plan nursing care, practice therapeutic communication techniques and observe group processes in both inpatient and outpatient settings. (qualifies as a CAP experience)

358. Studies in Professional Nursing. Lecture 2 hours; 2 credits. Prerequisite: admission to B.S.N. program. The study of selected topics in professional nursing practice designed to provide an in-depth exploration of current nursing issues. Topic titles denoted in Guide to Enrollment each semester.

363. Nursing Science. Lecture 3 hours; 3 credits. Prerequisite: admission to B.S.N. program. Co- or prerequisite: STAT 130M. This course focuses on the theories and concepts utilized in the scientific investigation of nursing practice. Content emphasizes the development of skills necessary to be a consumer of nursing research.

369. Practicum: Studies in Clinical Nursing Practice. 1-3 credits. Prerequisite: admission to the B.S.N. program. This course addresses the general principles of drug therapy and beginning application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

374. Nursing Process and Drug Therapy II. Lecture 2 hours; 2 credits. Prerequisite: admission to the B.S.N. program. This course addresses the general principles of drug therapy and beginning application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

375. Nursing Process and Drug Therapy II. Lecture 2 hours; 2 credits. Prerequisite: NURS 374 and junior standing in the B.S.N. program. This course addresses drug therapy and continued application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

378. Nursing Science. Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. This course addresses drug therapy and continued application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

393. Clinical Skills for Nonnursing Majors. Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: junior standing and permission of the instructor. Focuses on basic hygiene, comfort
and safety skills required of health professionals providing diagnostic and/or supportive therapies to clients in a health care facility. May not be taken as required elective by nursing majors. Open to nuclear medicine technology students only.

395. Topics. 1-3 credits. Prerequisite: school permission. Selected health-related topics of interest. Course descriptions and prerequisites are available from the chief academic advisor.

396. Independent Study. 1-3 credits. Prerequisite: school permission. Nursing majors only. Selected health-related topics of interest to nursing majors. Selected health-related topics of interest to nursing majors. Course descriptions and prerequisites are available from the chief academic advisor.

397. Independent Study. 1-3 credits. Prerequisite: school permission.

398. Clinical Nursing Concepts I. 17 credits. Prerequisite: senior standing in the B.S.N. program. The focus of this course is to enhance the clinical decision making and nursing intervention skills of the senior student. (qualifies as a CAP experience)

400. Nursing Process in Rehabilitation. Lecture 2 hours; 2 credits. Corequisite: NURS 441. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course emphasizes the provision of nursing care to clients with physical disabilities. Emphasis is on the multi/complex needs of the older adult. (qualifies as a CAP experience)

401. Career Pathway: Assessment. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: admission to the B.S.N. program. This course focuses on basic skills required for success in the post-licensure baccalaureate nursing program. Emphasis is placed on career pathway assessment. Selected skills to be acquired include development of a professional portfolio, APA professional writing format, library use and professional communication strategies. For registered nurse students only.

402. Career Pathway: Development. Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: NURS 401. This course focuses on further development of the post-licensure baccalaureate nursing student with an emphasis on expanding critical thinking skills, teaching-learning theories and application, professional resume development and exploration of nursing specialties and practice roles. For registered nursing students only.

403. Career Pathway: Expanding Horizons. Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: all other RN sequence nursing courses. Prerequisite: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course emphasizes the provision of nursing care to clients to prevent further dependence and restore maximum levels of function to the client who has a physical disability. (qualifies as a CAP experience)

404. Clinical Management of Rehabilitation Clients. Clinical experience 6 hours; 2 credits. Corequisite: NURS 440. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This clinical course emphasizes the provision of nursing care to clients to prevent further dependence and restore levels of function. (qualifies as a CAP experience)

405. Adult Health Nursing III. Lecture 3 hours; 3 credits. Corequisite: NURS 451. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course focuses on the adaptation of clients to critical illness. Content emphasizes concepts and theories of crisis and the utilization of the nursing process with critically ill clients who require assistance in adapting to their condition. (qualifies as a CAP experience)

406. Nurse Leadership: Expanding Horizons. Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: all other RN sequence nursing courses. This course facilitates the completion of a professional portfolio for the post-licensure baccalaureate nursing student. Emphasis is on advanced professional communication strategies and reflective processes for professional role expansion and development. For registered nurse students only.

407. Nursing Care of Infants and Children. Lecture 3 hours; 3 credits. Corequisite: NURS 421. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This lecture course provides a basis for understanding the nursing care of children of various ages. Emphasis is on the use of the nursing process to assist children as they encounter acute and chronic illness. The nurse’s communication with and education of the family and child as individuals or as part of a group are discussed as a means of achieving the goal of comprehensive individualized child care in the home and in health care settings.

421. Clinical Management of Infants and Children. Clinical experience 6 hours; 2 credits. Corequisite: NURS 420. Prerequisites: senior standing in the B.S.N program and completion of NURS 340 and 341. This clinical course emphasizes the provision of nursing care to infants and children suffering from acute and chronic illnesses. Through the use of the nursing process, students provide and coordinate care, serving as client advocates. Students are expected to demonstrate responsibility for personal actions related to the practice of nursing. (qualifies as a CAP experience)

430. Nursing and the Gerontological Client. Lecture 2 hours; 2 credits. Prerequisite: admission to the B.S.N. program. This course focuses on the nursing needs of the gerontological client. Emphasis is on the multi/complex needs of the older adult.

431. Transition to Professional Nursing Practice. Clinical experience 6 hours; seminar 1 hour; 3 credits. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This capstone clinical course allows students to practice in selected areas. The focus of this practicum is to enhance the clinical decision making and nursing intervention skills of the senior student. (qualifies as a CAP experience)

440. Nursing Process in Rehabilitation. Lecture 2 hours; 2 credits. Corequisite: NURS 441. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course focuses on using the nursing process to prevent further dependence and restore maximum levels of function to the client who has a physical disability. (qualifies as a CAP experience)

441. Clinical Management of Rehabilitation Clients. Clinical experience 6 hours; 2 credits. Corequisite: NURS 440. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This clinical course emphasizes the provision of nursing care to clients to prevent further dependence and restore levels of function. (qualifies as a CAP experience)

450. Adult Health Nursing III. Lecture 3 hours; 3 credits. Corequisite: NURS 451. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course focuses on the adaptation of clients to critical illness. Content emphasizes concepts and theories of crisis and the utilization of the nursing process with critically ill clients who require assistance in adapting to their condition. (qualifies as a CAP experience)

471. Community Health Nursing II. Lecture 1 hour; clinical experience 3 hours; 2 credits. Prerequisite: senior standing in the B.S.N. program. This course focuses on family and community health nursing. Content emphasizes concepts and themes of families and communities and the use of the nursing process to assist in promoting and maintaining health. Application of course concepts through experiences and interactions with health care coalition groups is emphasized. (qualifies as a CAP experience)

480W. Leadership and Management. Lecture 3 hours; 3 credits. Prerequisites: senior standing in the B.S.N. program and completion of NURS 450. This course applies concepts of nursing leadership and management within the health care setting. Focuses on the management issues and responsibility of the new graduate in contemporary professional nursing practice. Emphasis is on communication and complex organization, decision making, leadership and motivation, techniques of delegation and evaluation, conflict management and change, and risk management and quality assurance.

486. Career Pathway: Expanding Horizons. Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: all other RN sequence nursing courses. This course facilitates the completion of a professional portfolio for the post-licensure baccalaureate nursing student. Emphasis is on advanced professional communication strategies and reflective processes for professional role expansion and development. An honors version of NURS 403. Open to Honors College students only.

487W. Leadership and Management. Lecture 3 hours; 3 credits. Theoretical and applied concepts of leadership and management within the health care setting. Focuses on management issues and responsibilities of new graduates. Emphasis is on communication, decision making, leadership motivation, delegation, evaluation, conflict and change. An honors version of NURS 480W. Open to Honors College students only.

489. Transition to Professional Nursing Practice. Clinical experience 6 hours; 2 credits. Prerequisite: senior standing in the B.S.N. program. This capstone clinical course allows students to practice in selected areas. The focus of this course is to enhance the clinical decision making and nursing intervention skills of the senior student. An honors version of NURS 431. Open to Honors College students only.

490W. Nursing Leadership. Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. This course focuses on utilization of strategies from leadership, management, systems and change theory to facilitate professional nursing practice. Emphasis is placed on the professional nurse as a leader in the health care system. The influence of organizational behavior, proactive political action, professional image and case management on nursing practice is examined. For registered nurse students only.
492. Community Health Nursing. Lecture 3 hours; 3 credits. Prerequisites: admission to the B.S.N. program. This course focuses on professional nursing practice with families and communities. Emphasis is on community wellness, interaction with political influences and epidemiological principles. For registered nurse students only.

494/594. Advanced Physical Assessment. Lecture 2 or 3 hours; laboratory 2 or 4 hours; 3 or 5 credits. Prerequisites: NURS 302, 305 or permission of the instructor. Emphasis is on advanced interviewing skills, pathophysiological concepts, and comprehensive physical assessment skills with an emphasis on primary care decision making.

495/595. Topics in Nursing. 1-3 credits. Prerequisite: Permission of the instructor. The study of selected topics that may not be offered regularly. Students learn to plan, instruction, to implement competency-based and standards-based education, and to modify and use the Virginia career and technical education curriculum guides.

401/501. Foundations of Career and Technical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to teach career and technical education majors to plan, develop, and administer a comprehensive program of career and technical education for high school students and adults. Students also develop an understanding of the historical and sociological foundations underlying the role, development and organization of public education in the United States.

403/503. Methods in Career and Technical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A practical study and application of recommended methods of teaching career and technical education to high school students. Video-taped micro-teaching demonstrations are included. The course should be taken the semester prior to student teaching.

408/508. Advanced Classroom Issues and Practices in Career and Technical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An overview of classroom issues and practices for prospective career and technical teachers. The course covers classroom management, communication processes, reading in the content area and child abuse and neglect. Students learn the legal requirements and alternative teaching strategies for serving students with special needs. Students visit schools for a 30-hour student observation.

484/584. Student Teaching Mentored. 6-12 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, and permission of the director of teacher education services. Passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. It is not intended for students pursuing majors in the College of Business and Public Administration.

297. Observation and Participation. 1 credit. Prerequisite: sophomore standing. Students observe middle and/or high school classes for 30 clock hours. Assist teachers and students in practical settings. Relate principles and theories of education and specialty content to actual practice in the classroom and schools. Attend seminars related to contemporary school practices. (qualifies as a CAP experience)

304. Laboratory Organization and Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The basic principles of laboratory planning and operation are the foundation of this course. Equipment selection, placement, and utilization, as well as the identification and control of conditions that result in efficient laboratory administration, are emphasized.

305. Curriculum for Technology Education. Lecture and discussion 3 hours; 3 credits. Prerequisite: OTS 251D and junior standing. National and state trends in instructional content are analyzed. Course content, activities, and facilities are planned. Competency-based and standards-based educational methods are stressed.

306. Methods for Technology Education. Lecture and discussion 3 hours; 3 credits. Prerequisite: OTS 251D and junior standing. A practical study and application of recommended methods for teaching technology education. Students plan and present micro-lessons; videotaped micro-teaching demonstrations are included. They also learn to organize student organizations and plan for laboratory management.

400/500. Instructional Systems Development. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Students learn how to design and develop classroom instructional materials including career and technical education and training curricula and programs. Skills in this area include the selection and use of materials, including media and computers and evaluation of pupil performance. Training specialist students learn to develop instructional materials using the instructional systems design process. Career and technical education majors to plan, develop, and administer a comprehensive program of career and technical education for high school students and adults. Students also develop an understanding of the historical and sociological foundations underlying the role, development and organization of public education in the United States.

OCCUPATIONAL AND TECHNICAL STUDIES COURSES - OTED

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492. Community Health Nursing. Lecture 3 hours; 3 credits. Prerequisites: admission to the B.S.N. program. This course focuses on professional nursing practice with families and communities. Emphasis is on community wellness, interaction with political influences and epidemiological principles. For registered nurse students only.

494/594. Advanced Physical Assessment. Lecture 2 or 3 hours; laboratory 2 or 4 hours; 3 or 5 credits. Prerequisites: NURS 302, 305 or permission of the instructor. Emphasis is on advanced interviewing skills, pathophysiological concepts, and comprehensive physical assessment skills with an emphasis on primary care decision making.

495/595. Topics in Nursing. 1-3 credits. Prerequisite: Permission of the instructor. The study of selected topics that may not be offered regularly. Students learn to plan, instruction, to implement competency-based and standards-based education, and to modify and use the Virginia career and technical education curriculum guides.

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403/503. Methods in Career and Technical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A practical study and application of recommended methods of teaching career and technical education to high school students. Video-taped micro-teaching demonstrations are included. The course should be taken the semester prior to student teaching.

408/508. Advanced Classroom Issues and Practices in Career and Technical Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing. An overview of classroom issues and practices for prospective career and technical teachers. The course covers classroom management, communication processes, reading in the content area and child abuse and neglect. Students learn the legal requirements and alternative teaching strategies for serving students with special needs. Students visit schools for a 30-hour student observation.

484/584. Student Teaching Mentored. 6-12 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, and permission of the director of teacher education services. Passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. It is not intended for students pursuing majors in the College of Business and Public Administration.

100. Sales Techniques. Lecture 3 hours; 3 credits. This is an introductory course that emphasizes the concept of determining customer needs, wants, and desires and matching them to products and services for a long-term sales relationship. The course is not intended for students pursuing majors in the College of Business and Public Administration.

102. Advertising and Promotion. Lecture 3 hours; 3 credits. This is an introductory course designed to teach the fundamental product and service promotion processes of planning and producing advertising and promotion campaigns. The course is not intended for students pursuing majors in the College of Business and Public Administration.

110T. Technology and Your World. Lecture 1 hour; laboratory 5 hours; 3 credits. A course that explains communication design principles and product development techniques. Activities include traditional processes and computer aided design (CAD) techniques.

202. Supervision of Personnel. Lecture 3 hours; 3 credits. This course introduces the basic concepts of employee supervision. It emphasizes strategies that first-line supervisors may use to insure that their subordinates follow company personnel policies. It is not intended for students pursuing majors in the College of Business and Public Administration.

208. Buying. Lecture 3 hours; 3 credits. Prerequisites: OTS 100 and 102 or permission of the instructor. Designed for marketing education and fashion students, the course explores the buyer’s responsibilities, customer wants and needs, vendors and merchandising sources, buying plans, merchandise control and use of technology in merchandising. Not intended for students pursuing majors in the College of Business and Public Administration.
220. The Fashion Industry. Lecture 3 hours; 3 credits. Course is designed for marketing education and fashion students. It covers fashion as a force which alters patterns of change and growth in the fashion industry. Students learn the techniques and design principles and techniques that are required of professionals in the fashion industry. Activities include traditional processes and computer aided design (CAD) techniques.

230. Production Technology. Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of automated production processes used in manufacturing and construction systems. Students will research and design manufactured products for mass production and constructed products for building. The social, cultural, environmental and economic impacts of manufacturing and constructed products on society are discussed.

300. Medical, Agricultural, and Bio-related Technologies. Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A course for technology education majors that studies technological systems related to medical and food production. Students learn the basis of these technologies and complete activities that integrate the content with processes and products found in our technological world.

320. Transportation Technology. Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of the department. A course for transportation technology education majors that studies automated systems. Emphasis is placed on equipment integration and system automation. Students learn to use computer, CAD, CAM, robotic and vision equipment to design, control, and monitor automated systems.

351. Communication Technology. Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: OTS 112, 231, 251D, or permission of instructor. A study of automated production processes used by industry. Emphasis is placed on equipment integration and system automation. Students learn to use computer, CAD, CAM, robotic and vision equipment to design, control, and monitor automated systems.

360. Transportation Technology. Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: OTS 112, 231, 251D, or permission of instructor. A study of automated production processes used by industry. Emphasis is placed on equipment integration and system automation. Students learn to use computer, CAD, CAM, robotic and vision equipment to design, control, and monitor automated systems.

382. Industrial Design. Lecture 3 hours; 3 credits. Prerequisites: junior standing. Students will analyze and design products representative of today’s industrial technological society. Emphasis will be on design methodology, aesthetic value, and design thinking.

386. Architecture. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course designed to apply principles of space planning, architectural construction techniques, and energy-efficient building methods as they apply to residential and commercial structures.

389. Education and Training of Adults. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An in-depth overview of education and training of adults. Attention is given to adult learning theory and strategies for facilitating the learning process. Aspects of the course will focus on helping students understand and visualize jobs and careers in adult education and training.

395. Topics in Occupational Education. 1-3 credits. Prerequisite: permission of the instructor. The department offers selected topics designed to permit small groups of qualified students to work on subjects of mutual interest.

400. Customer Service. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Designed to develop a student’s ability to use basic instructional presentation techniques and methods applicable to business, government, and industrial organizations. Emphasis is on training adults. It involves videotaped micro-teaching demonstrations.

405. Directed Work Experience. 3 credits. prerequisite: senior standing. Student must be employed the summer prior to his/hers senior year in an emphasis-related job approved by the instructor. The student work is supervised by a job supervisor and the course instructor in a cooperative effort. Must complete a job package that describes all aspects of the organization. (qualifies as a CAP experience)

415. Advanced Merchandising. Lecture 3 hours; 3 credits. Prerequisites: OTS 208 and ACCT 201. This course is designed for marketing education and fashion students. It includes advanced merchandising experience focused in the merchandising industry. Topics include pricing and re-pricing merchandise, creating and analyzing six-month plans, maintaining inventory control, and solving problems that are typically experienced in the merchandising field.

417. Exploring Technology and Modern Industry. Lecture 3 hours; 3 credits. Prerequisites: OTS 251D and junior standing or permission of the instructor. A course designed to explore technological systems and new developments in technology education. Emphasis is on middle schools.

422. Fashion Design and Coordination. Lecture 3 hours; 3 credits. Prerequisites: OTS 208 and 220. The course covers the elements of the design process as they relate to merchandising fashions. It also stresses the importance of the coordination functions in the fashion merchandising process.

423/523. Visual Merchandising and Display. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to introduce students to the best practices and effective strategies in visual merchandising. It will provide the basic framework with which prospective merchandisers plan and construct visual displays that enhance the selling of merchandise and ideas.
424/524. Fashion, Textiles, and Construction Analysis. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course explores information related to new textile/apparel and fashion trends and determines consumer preferences for designs and concepts of fashion product quality. It includes the development of standards for judging qualities of merchandise. Fabrics are examined to determine the value they provide to the apparel and accessories customer.

430/530. Technology Applications in Training. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to prepare training professionals to plan and conduct training using computer systems. The course covers instructional technology skills, computer systems, and software that trainers need so that they can teach basic computer and information skills in business, industry and government.

431/531. Internet-Based Fashion Business. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course examines the application of electronic commerce principles to market fashion products and services over the internet. Students learn to conceive, develop, and maintain an Internet Site for a business including developing a functioning web site.

450/550. Assessment, Evaluation and Improvement. Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course prepares training and educational professionals to plan for and conduct assessments to use in planning instructional programs, evaluate individual learning, measure program effectiveness and efficiency, and evaluate the return on investments of training courses and programs.

471/571. Communication Industries. Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 471. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative communication industries from the local region. (qualifies as a CAP experience)

472/572. Construction Industries. Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 472. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative construction industries from the local region. (qualifies as a CAP experience)

473/573. Manufacturing Industries. Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 473. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative manufacturing industries from the local region. (qualifies as a CAP experience)

474/574. Service Industries. Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 474. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative service industries from the local region. (qualifies as a CAP experience)

475/575. Transportation Industries. Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 475. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative transportation industries from the local region. (qualifies as a CAP experience)

480. Senior Project: Merchandise Retailing. Lecture 3 hours; 3 credits. A senior capstone course in which fashion and business knowledge and skills are applied to plan and implement a merchandise retailing business. Students must submit a professional quality written report and present results to a panel of consultants.

481. Occupational Career Transition. Lecture 3 hours; 3 credits. Prerequisite: OTS 251D. To provide the senior-level student majoring in Occupational and Technical Studies with the skills and techniques necessary to bridge the gap from college to career. Focus is on the generation of a professional portfolio and experiential learning that will transfer into today’s job market.

495/595. Topics in Occupational Education. 1-3 credits each semester. Prerequisite: permission of the instructor. The department offers selected topics designed to permit small groups of qualified students and consultants to focus on mutual interest, which, due to their specialized nature, may not be offered regularly.

496/596. Topics. 1-3 credits.

497/597. Independent Study in Occupational Education. 1-6 credits. Prerequisite: permission of the instructor.

Ocean, Earth and Atmospheric Sciences — OEAS

106N-107N. Introductory Oceanography. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 106N is prerequisite to 107N. 106N emphasizes geology and chemistry covering the formation and conditions of the earth and the ocean basins. 107N emphasizes physics and biology including meteorology, waves, tides, currents and life in the sea. Laboratory emphasizes practical application of scientific methods. Knowledge of the metric system, scientific notation, ratio and proportion, and graphing is required. Field trip and research vessel cruise are required.

110N. Earth Science—Historical Geology. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 110N is an introductory course in geological sciences. The course relates the principles of natural science to Earth as a planet, its resources, and its environment. The effects of geologic processes on the environment are stressed. 110N or 111N is a prerequisite for 112N. In 112N, evolution of the continents, ocean basins, mountain chains, and the major life forms throughout Earth’s history are studied in a general introduction to Earth history and the geologic record. The formation of biota is of major interest, and the student will conduct research projects examining the effects of geologic processes on the environment. A student receiving credit for 111N cannot receive credit for 110N.

111N—112N. Physical Geology—Historical Geology. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 111N introduces the student to the study of the earth’s crust and the processes of the Earth. Present terrestrial resources are interpreted in terms of the internal and surface processes that formed them. 110N or 111N is a prerequisite for 112N. In 112N, evolution of the earth’s crust and the processes of the Earth’s history are studied quantitatively and are related to the physical and biological changes which have caused them. A student receiving credit for 111N cannot receive credit for 110N.

122K. Dinosaurs and Evolution. Lecture 3 hours; 3 credits. An introductory course in geologic sciences. Includes the development and characteristics of major groups of dinosaurs; the nature of the geologic and paleontologic record; and processes of evolution and extinction throughout geological time. Students will also discuss the philosophical impact of the discovery of fossils and evolution.

126N-127N. Honors: Introductory Oceanography. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 126N is prerequisite to 127N. Open only to students in the Honors College. Special honors section of OEAS 106N-107N. In addition to broad coverage of the geology, chemistry, physics and biology of the ocean, students will read scientific papers with current environmental problems. There will be several field trips to nearby ecosystems.

210. Environmental Earth Science. Lecture 3 hours; laboratory 2 hours; 4 credits. Dynamic processes of the land, ocean, and atmosphere and how they affect people. Topics include plate tectonics; rocks and minerals; soil and water; weathering and erosion; and limits to atmospheric, oceanic, and natural resources. OEAS 210 is a required course for the IDS program in Early Childhood Education.

302K. Environmental Geology. Lecture 3 hours; 3 credits. Prerequisites: junior standing and an 8-hour sequence in a General Education science course. Geologic resources and processes that limit human activities and pose significant hazards. Does not satisfy a general major degree requirements.

303. Paleontology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: OEAS 112N. Concepts of paleontology and application of paleontological data to problems in other scientific fields are discussed. Major invertebrate phyla represented in the fossil record are studied. Laboratory work includes preparation techniques and study of representative examples of important fossil types.

306. Oceanography. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, CHEM 115N, MATH 111N or 231N. General survey of physical, geologic, chemical and biological oceanography. The application of skills from mathematics, geology, physics, biology and chemistry for the solution of oceanographic problems.

310. Global Earth Systems. Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, CHEM 115N, MATH 211, and OEAS 111N. Core course for ocean and earth sciences majors that examines the processes linking the Earth’s atmosphere, lithosphere, and hydrosphere into an interactive system.

313. Mineralogy. Lecture 2 hours; laboratory 3 hours; 4 credits. Prerequisite: PHYS 111N or 231N. The concepts of mineralogy are developed on the basis of geometrical, crystallographic, chemical bonding, crystal structures, and physical and optical properties. Mineral associations and genesis will be emphasized. Laboratory exercises include mineral identification by physical and optical properties. X-ray diffraction and crystal form analysis.

314. Petrology. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: OEAS 313. The study of igneous, sedimentary, and metamorphic petrology is developed using the concepts of crystal growth, phase equilibria, mineral associations, and composition of the Earth’s crust.
and mantle. Laboratory exercises include hand specimen, microscopic, and X-ray diffraction identification and origin of rocks.

320. Sedimentology and Stratigraphy. Lecture 3 hours; laboratory 3 hours; 3 credits. Prerequisite: OEAS 110N or 111N. The origin, transport, and deposition of sediments with emphasis on interpretation of sediment sequences and principles and methods of correlation. Laboratory exercises involve field sampling, textural analyses, and sedimentary structures. Field trip required.

344W. Geomorphology. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: OEAS 112N, 314 or 320 and either ENGL 111C, 126C, or 131C or permission of instructor. Geologic processes that shape the earth’s surface. Laboratory studies involve interpretation of topographic maps, soil maps, and aerial photographs. Field trip required.

360. Environmental Systems Education. Lecture 3 hours; 3 credits. Prerequisite: physical geology or earth science plus 4 more hours in science. Course explores the interaction between man and his environment including resource utilization, land management and geologic hazards. Man’s interaction with the environment is investigated through case studies and laboratory exercises that can easily be incorporated into a secondary earth science curriculum.

367. Cooperative Education. 1-3 credits. Prerequisites: junior standing and permission of the department. Available for pass/fail grading only. Study and participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Career Management program prior to the semester in which the experience is to take place. (qualifies as a CAP experience)

369. Internship in Ocean and Earth Sciences. 1-3 credits. Prerequisites: junior standing, permission of department and a 3.00 grade point average. Available for pass/fail grading only. Students gain on the job work experience related to their undergraduate curriculum. (qualifies as a CAP experience)

395. Selected Topics. Lecture 3 hours; 3 credits. Prerequisite: completion of 8 hours of a laboratory science. A nonmathematical course based on topics such as urban geology, urban biometeorology, and intelligent life in the universe. Specific topics will be announced each semester.

402/502. Field Experiences in Oceanography for Teachers. Lecture 2 hours; field experience 2 hours; 3 credits. Prerequisite: background in K-12 Education. Field and laboratory experiences in basic oceanography and hands-on experience using equipment and methods suitable for middle and secondary education professionals. Course will provide understanding of oceanic processes using simple field and laboratory experiments.

403W/503. Aquatic Pollution. Lecture 3 hours; 3 credits. Prerequisites: at least two semesters of one of the following: BIOL 115N-116N, CHEM 115N-116N, OEAS 115N-116N, PHYS 111N-112N, OES 106N-107N or 126N-127N. This course will present basic ecological principles relevant to water pollution and toxicology. Topics will cover runoff, eutrophication, sewage treatment, industrial waste, oil pollution, pesticides, and plastics in the sea. Case studies provide focal points for consideration of issues in making decisions and setting policy.

404/504. Environmental Physiology of Marine Animals. Lecture 3 hours; 3 credits. Prerequisites: second semester of general biology courses. Functional morphology and physiological aspects of growth and ecological energetics of marine animals. Basic concepts and habitat comparisons.

405/505. Physical Oceanography. Lecture 3 hours; 3 credits. Prerequisites: 1 semester of calculus and 2 of either physics or hydraulics. Physics of the ocean: properties of seawater and their distribution; water mass formation; mass and energy flows; waves; tides; models; estuarine and coastal processes. An elective for science and engineering majors.

408/508. Introductory Soils. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisites: CHEM 115N-116N and 8 hours of laboratory science. Nature and properties of soils. Physical and chemical processes in soils and their influence on plant growth, the movement of water, and pollutants. Importance of soil properties in determining urban, industrial and agricultural uses.

410/510. Chemical Oceanography. Lecture 3 hours; laboratory 2 hours; 3 credits. Prerequisite: CHEM 115N-116N, OEAS 306 or consent of instructor. Chemical composition of the ocean and the chemical, biological, geological and physical processes controlling it. Laboratory experiments include determination of salinity, oxygen, and nutrients, and a field sampling trip is undertaken.

411. Structural Geology. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: OEAS 320 or permission of instructor. Recognition, habitat, and origin of deformed geologic structures. Relationships between structural patterns and tectonic settings. Laboratory sessions emphasize cartographic and stereographic projections, map interpretation, and hand sample evaluation. Weekend field trip required.

412/512. Global Environmental Change. Lecture 3 hours; 3 credits. Prerequisite: OEAS 306 and 310. An examination of the development of the earth as a habitable planet, from its origin to human impacts on global biogeochemical cycles on land and in the sea. Discussion of the chemical, physical, biological and energy processes controlling these changes on a regional, continental, and global scale. Emphasis will be placed on sea-level history, ice age changes, and possible future changes in the earth system.

413/513. Geochemistry. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: CHEM 115N-116N and OEAS 313. Low temperature geochemistry of surface and near-surface materials and processes. Weathering and the geochemical cycle as influenced by environment.

414/514. Coastal Landscape and Ecology. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: permission of the instructor. Principles of coastal landscape formation based on classical and modern theories. Geotechnical characteristics and plant habitats at elements of coastal landscapes. Field trips.

415/515. Waves and Tides. Lecture 3 hours; 3 credits. Prerequisites: MATH 205-206 and PHYS 111N-12N or 231N-232N or permission of the instructor. Causes, nature, measurement and analysis of wave and tide problems. Mathematical and graphical application to wave and tide problems.

418/518. Chemical Limnology. Lecture 3 hours; 3 credits. Prerequisite: OEAS 306. Chemical cycling in lakes and reservoirs, and interactions with biological and physical processes; quantitative modeling of lake geochemistry.

419/519. Spatial Analysis of Coastal Environments. Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisites: OEAS 414/514 and GEOG 404/504. The course integrates remotely sensed and field techniques for scientific investigation and practical management of coastal environmental systems. Spatial modeling of coastal environments using remote sensing, GIS modeling, and tools using geographic information system (GIS).

420/520. Hydrogeology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: OEAS 320, MATH 205 or 211, PHYS 111N-112N or 231N-232N, or permission of the instructor. Topics covered will include the occurrence and movement of surface and subsurface water; the nature and distribution of permeable rocks and strata, field techniques used in ground-water studies, and the flow of ground-water to wells.

426/526. Concepts in Oceanography for Teachers. 3 credits. Prerequisite: junior standing or permission of the instructor. This web-based course will provide a practical introduction to oceanography for earth science teachers. It is particularly aimed at current science teachers attempting to become certified in earth science education. Topics will include discussions of geological, biological, physical and chemical oceanography. Not available for credit for OEAS majors.

431/531. Sedimentary Petrology. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: OEAS 320. The chemical aspects of sediments and sedimentary rock needed for modern geologic and oceanographic studies. Optical petrology and x-ray diffraction are emphasized in the laboratory with particular attention to clay mineralogy. Field trip required.

434/534. Introduction to Geophysical Methods in Geology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: CHEM 115N or 111N, and PHYS 111N-112N, or permission of the instructor. Discussion on geophysical methods and results, including seismology, gravity, geomagnetism, geoelectricity, and radiometrics. Laboratory includes problem assignments and a few field experiments using geophysical instruments. Part of the laboratory hours will be used for lecturing.

436/536. Barrier Islands and Coastal Lagoons. Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisite: permission of the instructor. Elementary principles of landscape, hydrography and ecology at coastal lagoons and barrier islands. Field trips to wave and tide dominated systems.

440/540. Biological Oceanography. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisites: OEAS 106N-107N, 126N-127N or 306. Marine organisms and their relationship to physical and chemical processes in the ocean. Laboratory study of local marine organisms, marine ecosystem and sampling techniques. Includes identification, data analysis and field trips.

441-442. Ocean and Earth Sciences Field Study I and II. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: OES major with senior standing. 441 is prerequisite for 442. Interdisciplinary investigation of selected sites in Southeast Virginia that includes field sampling, sample analyses, data interpretation and integration, and group report preparation and presentations. Focuses on site selection and evaluation, sampling, and sample analyses. Oral presentations of results will be made by each student.

443. General Meteorology. Lecture 3 hours; 3 credits. Prerequisite: junior standing. Structure of the atmosphere; air masses, fronts, and cyclones; ice and water precipitation; hurricanes, tornadoes,
and thunderstorms; introduction to modern weather forecasting; weather modification and air pollution.

446/546. Quaternary Geology. Lecture 3 hours; 3 credits. Prerequisite: OES 344W. Geologic, climatic, and tectonic movements on marine and terrestrial systems. Weekend field trips to study landscapes and deposits in the coastal plain and Appalachian provinces.

448/548. Population Ecology. Lecture 3 hours; 3 credits. Prerequisite: previous course in general ecology; calculus I. This course uses conceptual and mathematical models to understand how populations grow and persist in space and time. Both plants and animals are discussed.

451W. Data Collection and Analysis in Oceanography. Lecture 3 hours; 3 credits. Prerequisites: OES 306, 310 and MATH 211-212. This course intends to introduce the student to the basic physical oceanographic tools used to obtain and analyze information. The student will use various oceanographic instruments to obtain data at different locations of the Chesapeake Bay. Data obtained with these instruments will be processed and analyzed using the data analysis techniques discussed in class. The data will then be used to answer a particular question related to the temporal and spatial variability in a natural system.

452. Geophysical Fluid Dynamics. Lecture 3 hours; 3 credits. Prerequisites: OES 306, MATH 212 and PHYS 231N. The forces active in ocean and atmospheric dynamics will be analyzed. The implications for certain force balances (geostrophic, frictional layer, uniform or variable density, linear waves) will be determined.

455/555. Introduction into Geomicrobiology. Lecture 3 hours; 3 credits. Prerequisite: OES 303. This course explores microorganisms in marine environments and their role in the fossil record. Students elucidate especially bacteria and protista and investigate Earth’s history during the Precambrian. One field trip.

487, 488. Honors Research in Ocean and Earth Sciences. Independent studies and scheduled meetings with faculty advisor; 1-3 credits each semester. Prerequisite: senior standing and permission to the Academic Honors Program. Supervised study in a field of individual interest. Research results are reported in a public oral presentation and a thesis.

495/595. Special Topics. Lectures, field and laboratory studies; 1-4 credits each semester. Prerequisites: junior standing and permission of the instructor. An investigation of a selected problem in physical, biological, chemical, or biological oceanography.

497. Special Problems and Research. 1-3 credits. Prerequisite: junior standing. Independent reading and study on a topic to be selected with the direction of an instructor.

Operations Management — See Information Systems and Technology/Decision Sciences

Ophthalmic Technology

These courses are coordinated through the School of Community and Environmental Health and are available only to those students admitted to the Ophthalmic Technology Program which is a certificate program jointly offered by Eastern Virginia Medical School and Old Dominion University.

Ophthalmic Sciences — OPHS

311. Motility. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: admission in the ophthalmic technology program. Fundamental study of muscle anatomy and physiology, vision testing for infants and children, and ocular motor evaluation.

312. Ocular Anatomy and Systemic Disease. Lecture 3 hours; laboratory 1 hour; 3 credits. Prerequisite: admission in the ophthalmic technology program. Review of the anatomy and physiology of the ocular system and medical terminology.

320. Optics and Refraction. Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Lensometry, visual function and testing, retinoscopy, refractometry, and basic optics.


330. Pharmacology and Systemic Disease. Lecture 3 hours; laboratory 1 hour; 3 credits. Prerequisite: admission in the ophthalmic technology program. General technical skills, systemic disease, case histories, basic pharmacology.

335. Technical Skills. Lecture 5 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Advanced retinoscopy and refractometry, basic contact lens fitting, photography, and introduction to fluorescein angiography.

337. Advanced Motility. Clinical experience 8 hours; 4 credits. Prerequisite: admission in the ophthalmic technology program. Advanced motility with sensory evaluation. (qualifies as a CAP experience)

350. Advanced Technical Skills. Clinical experience 20 hours; 10 credits. Prerequisite: admission in the ophthalmic technology program. Continuation of advanced lecture topics, introduction to diagnostic testing. (qualifies as a CAP experience)

352. General Clinical Rotation. Lecture 2 hours; 2 credits. Prerequisite: admission in the ophthalmic technology program.externship in private ophthalmologist’s office.

420. Speciality Rotation I. 2 (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

421. Speciality Rotation II. (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

422. Speciality Rotation III. (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

423. Speciality Rotation IV. (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

440. Advanced Topics I. Seminar 3 hours; 3 credits. Prerequisite: admission in the ophthalmic technology program. Lectures on various advanced topics in ophthalmic disease and special testing.

440. Advanced Topics II. Seminar 3 hours; 3 credits. Prerequisite: admission in the ophthalmic technology program. Lectures on various advanced topics in ophthalmology and Board Exam review.

Philosophy and Religious Studies

Philosophy — PHIL

110P. Introduction to Philosophy. Lecture 3 hours; 3 credits. An introduction to basic concepts, methods and issues in philosophy, and a consideration of representative types of philosophical thought concerning human nature, the world, knowledge, and value.

120P. Logic and Philosophy. Lecture 3 hours; 3 credits. A study of the principles of correct reasoning and the types of fallacious reasoning. Includes an examination of the philosophical and historical context of logic, and the application of logical methods to philosophical questions.

126P. Honors: Introduction to Philosophy. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PHIL 110P.

127P. Honors: Science — Knowledge, Reality and Values. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Scientific developments are used as an occasion for philosophical reflection. In the process the student is led to a better understanding of science. The course introduces and makes use of basic logical and conceptual tools of philosophy.

150P. World Religions: A Philosophical Introduction. Lecture 3 hours; 3 credits. A comparative and philosophical study of major world religions in the Eastern and Western traditions with emphasis upon cultural and historical contexts and basic philosophical issues pertaining to religion: the foundations of religious knowledge and belief, the meaning of human life, the basis of right action, the nature of good and evil, divinity, death and immortality.

227P. Honors: World Religions — A Philosophical Introduction. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PHIL 150P.

301. Philosophy and Public Affairs. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of such contemporary moral issues as war, discrimination, poverty, sex, the obligation of scientists, and animal rights.

302. Gender and Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. An examination of ethical issues concerning whether men and women should be treated differently and of the standards by which such decisions are made.

303. Business Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. An intensive examination of ethical
issues which arise in conducting business; an
exploration of the principles underlying ethical
decisions.

304. Marx and the Marxists. Lecture 3 hours; 3 credits. Prerequisites: junior standing; three semester hours in philosophy, or permission of the instructor. Learning how to understand Marxism, yesterday and today, through readings, applications, exercises for discussion and projects.

305. American Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of the writings of some of the major American philosophers such as Peirce, James, Royce, Dewey, and Whitehead.

313. Philosophy of Religion. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An analytical and critical consideration of the philosophical foundations of religion. Such topics as the existence of God, the problem of evil, theism and atheism, prayer, and immortality are discussed.

314. Studies in Western Religious Thought. Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy, or permission of the instructor. A study of the various theories of art and human creativity in the context of historical and cultural backgrounds.

330W. Ancient Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the thought of classical Greek and Roman philosophers from the sixth century B.C. to the fifth-century A.D.

331. Modern Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the thought of the major Western philosophers through the eighteenth century, including the empirical tradition of Bacon, Locke, Berkeley, and Hume; the rationalist tradition of Descartes, Spinoza, and Leibniz, and the critical philosophy of Kant.

340. Logic I. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the basic concepts and methods of logic as they occur in ordinary language, formal logical arguments, and an elementary logical system. Traditional Logic is emphasized, but some elements of Modern Logic are also introduced.

344T. Environmental Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of the nature and basis of human obligations for the welfare of the environment with special attention to the foundations of ethical decision making.

345. Bioethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. A study of ethical decision making in biology, medicine, and the life sciences.

353. Asian Religions. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of religious and philosophical traditions of India, China and Japan. Primary emphasis will be given to Hinduism, Buddhism, Confucianism, and Taoism. (cross listed with ASIA 353)

354. Comparative Philosophy East and West - Personhood. Lecture 3 hours; 3 credits. Prerequisite: PHIL 110P or 150P or permission of the instructor. An examination of the philosophical theme "personhood" in Eastern and Western traditions. The course will include a methodology for comparative analysis, a dialogue on key issues and their application to contemporary topics from historical and contemporary religious, psychological and gender perspectives. The class will sample well known positions in the Eastern and Western traditions as well as social and political contexts for the various conceptions.

355T. Computer Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of ethical issues created, aggravated or transformed by computer technology. Theory-grounded paradigms of ethical decision making will be presented with application to realistic cases. Principal topics: computer crime, privacy, cyberspace, and business applications.

360. Greek and Roman Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing; minimum of 15 credit hours in philosophy. The course offers three forms of practical experience for philosophy majors: Professional (for students anticipating careers in relevant professions, including philosophy); Classroom (for students anticipating graduate study and a teaching career); Civil and Social Affairs (for students interested in grassroots activism). Consult the department for details and certain specific prerequisites. (qualifies as a CAP experience)

383T. Technology: Its Nature and Significance. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. A philosophical examination of technology with special attention to its relationship with and mutual dependence upon society, culture, and human values. Historical developments and specific technologies will also be covered.

395, 396. Topics in Philosophy. 3 credits each semester. Prerequisites: senior standing; permission of the department chair. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

404/504. Twentieth Century Continental Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of influential contemporary movements in European philosophy. Emphasis will be given to the writings of Husserl, Heidegger, Sartre, Gadamer, Derrida, and Foucault.

406/506. Contemporary Analytic Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the twentieth-century analytic tradition, including such thinkers as Moore, Russell, Wittgenstein, Ayer, Carnap, Ryle, Wisdom, and Austin.

410/510. Social and Political Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A philosophical analysis of the relation between man, society, and the state, studying about a dozen philosophers since Plato on such topics as justice, authority, law, freedom, and civil rights.

411/511. Postmodernism and Political Philosophy. Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy and junior standing or permission of the instructor. An examination of intellectual currents in postmodernism as they pertain to central questions in social and political thought. The course covers the roots of modernism in the Enlightenment and various challenges to modernism in 19th and 20th century thought. Particular attention is given to the prospects for democracy in postmodern thinking.

412/512. Philosophy of Law. Lecture 3 hours; 3 credits. Prerequisite: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of the nature of law and philosophical issues concerning the law.

417/517. Philosophy and Educational Issues. Lecture 3 hours; 3 credits. Prerequisites: junior standing and one introductory philosophy course or a course in Principles of Education. Considers the relationship of philosophy and education. Topics considered include: philosophy as a foundation for education, education as an institution, and educational and philosophical issues as they relate to various professions.

427/527. Myth and Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the nature of myth, its role and importance in human thought. The analysis will stress the relationships between mythology, religion, literature, drama, and philosophy in ancient Greece.

431/531. Nineteenth Century Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of significant intellectual innovations and revolutions in nineteenth century European thought that helped shape the modern mind. Emphasis will be given to the writings of Kant, Schopenhauer, Hegel, Marx, Kierkegaard and Nietzsche.

440/540. Philosophy of Natural Science. Lecture 3 hours; 3 credits. Prerequisites: junior standing, three semester hours in philosophy and eight semester hours of laboratory science. A study of the concepts and philosophical problems common to the natural sciences: scientific reasoning, confirmation, explanation, laws, meaning, theories, revolutions, progress, and values.

441/541. Foundations of Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An inquiry into the philosophical foundations of ethical theory. Various ethical systems are considered.

442/542. Studies in Applied Ethics. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of ethical issues in a particular field or profession; an emphasis on ethical theory underlying practical decisions.

480/580. Hinduism. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An intensive examination of ethical issues in a particular field or profession; an emphasis on ethical theory underlying practical decisions.

481/581. Buddhism. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the origin, historical
development, and contemporary status of Buddhism, in terms of its religious and philosophical elements and its influence in Asian cultures.

482/582. Chinese Religion and Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of Chinese thought emphasizing Early and Classical Confucianism and Taoism, Chinese Buddhism, and Neo-Confucianism. Modern currents of Chinese thought will also be discussed.

485/585. Japanese Religion and Philosophy. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. A study of the religious and philosophical traditions of Japan. Emphasis will be given to Shintoism, Buddhism, and Neo-Confucianism and their contemporary status and influence in Japanese culture.

491/591, 492/592, 493/593, 494/594. Seminar in Philosophy. 3 credits each semester. Prerequisites: junior standing and six semester hours in philosophy, or permission of the instructor. Intensive examination of the thought of one major philosopher.

495/595, 496/596. Topics in Philosophy. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

497/597, 498/598. Tutorial Work in Special Topics in Philosophy. 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study of a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

Religious Studies — REL

311. Old Testament. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An investigation of the Hebrew Bible on the basis of Biblical criticism and research. Attention is given to the cultural and historical background of these writings.

312. New Testament. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An investigation of New Testament literature and thought on the basis of Biblical criticism and research. Attention is given to the religious and cultural background of early Christianity, particularly in late Judaism.

350. Judaism. 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Jewish tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Judaism as a way of life.

351. Christianity. Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Christian tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Christianity as a way of life.

352. Islam. Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Islamic tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Islam as a way of life.

Physical Education-See Exercise Science, Sport, Physical Education and Recreation

Physics — PHYS

101N-102N. Elementary Physics. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. PHYS 101N is a prerequisite for 102N. An introductory descriptive course which develops and illustrates the concepts of physics in terms of phenomena encountered in daily life. The first semester covers mechanics, electricity and magnetism. The second semester covers sound, light, fluids and heat. (offered fall-spring sequence)

103N-104N. Introductory Astronomy. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. PHYS 103N is a prerequisite for 104N. 103N is a study of the physical principles and scientific investigation of objects in our solar system. 104N emphasizes the study of stars, star systems, cosmology and relativity. Both semesters stress how we acquire knowledge of celestial objects to develop models of our universe. (offered fall-spring sequence, summer)

109. Introductory Astronomy Laboratory. Laboratory 2 hours; 1 credit. Prerequisites: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory course in astronomy dealing with experiments about the laws of nature that apply to objects in our solar system. (offered fall, spring, summer)

111N-112N. Introductory General Physics. 111N is prerequisite to 112N. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. Prerequisite: MATH 102M or 162M or MATH 166. 111N emphasizes mechanics, wave motion and heat and will also cover the needed elements of trigonometry and vectors. 112N emphasizes electricity, light, and introduction to modern physics. Students receiving credit for PHYS 111N cannot receive credit for PHYS 102N either simultaneously or subsequently. (offered fall, spring, summer)

113. Physics Laboratory. Laboratory 2 hours; 1 credit. Available for pass/fail grading only. Prerequisite: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory covering experiments from mechanics, wave motion, heat and sound. Available for pass/fail grading only. (offered fall, spring, summer)

114. Physics Laboratory. Laboratory 2 hours; 1 credit. Available for pass/fail grading only. Prerequisite: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory covering experiments from electricity, magnetism, and optics. Available for pass/fail grading only. (offered spring, summer)

120. Physics in the 21st Century. Lecture 1 hour; 1 credit. This seminar will provide students with a broad introduction to the cutting edge of physics research and its applications in diverse areas of contemporary physics. Recommended for incoming students interested in physics and the natural sciences. (offered fall)

126N-127N. Honors: Introductory Astronomy. Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of PHYS 103N-104N.

210. Physics in Everyday Life. Lecture 3 hours; laboratory 2 hours; 4 credits. An introductory descriptive course in physics that discusses the basic principles of motion, electricity and magnetism, and thermal physics. Topics emphasized include simple machines, magnets, energy balance, and energy sources.

226N-227N. Honors: University Physics. Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of PHYS 231N-232N.

231N-232N. University Physics. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. Corequisite: MATH 211 or 226 or permission of instructor. 231N is prerequisite to 232N. A general introduction to physics in which the principles of classical and modern physics are applied to the solution of physical problems. The reasoning through which solutions are obtained is stressed. This course is designed for majors in the physical sciences, engineering, mathematics, and computational sciences. Students receiving credit for PHYS 231N-232N cannot simultaneously or subsequently receive credit for any 100-level physics course except Astronomy. (offered fall, spring, summer)

303-304. Intermediate Experimental Physics. Laboratory 6 hours; 3 credits each semester. Prerequisite: PHYS 232N. 303 is a prerequisite to 304. A laboratory oriented course designed to provide students with a broad introduction to instrumentation and techniques of modern physics laboratories. Topics to be covered include: basic electronics, vacuum technology, optics and lasers, nuclear instrumentation, LabView programming and computer interfacing, and glassblowing. (offered fall-spring sequence)

309. Physics on the Back of an Envelope. Lecture 1 hour; 1 credit. Corequisite: PHYS 102N, 112N or 232N. Physicists should be able to estimate the order-of-magnitude of anything. How many atoms of Julius Caesar do you eat every day? How much waste does a nuclear power plant generate? Will develop concepts, relations and numbers useful for estimation. Will cover little new material, emphasizing already acquired knowledge. Will help students apply physics to real-life questions and understand which physical effects are appropriate on which scales. Seminar course. (offered spring)

311. Color in Nature and Art. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. Explores the relationship between light as stimulus and color perceived by us. Develops underlying concept of technology of art and applied art. Describes basis for optical phenomena involved in many facets of daily life. Topics include: the interaction of light and the visual perception it produces; the basic concept of spectra; wave, ray, and polarization optics; photography and photography; paintings; pigments; rainbows and mirages; color theory systems; formation of images; optical instruments. There is no physics prerequisite for this course. (offered fall, odd numbered years)

312. Elements of Optics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 112N or 232N. Explores the relationship between light as stimulus and color perceived by us. Develops underlying concept of technology of art and applied art. Describes basis for optical phenomena involved in many facets of daily life. Topics include: the interaction of light and the visual perception it produces; the basic concept of spectra; wave, ray, and polarization optics; photography and photography; paintings; pigments; rainbows and mirages; color theory systems; formation of images; optical instruments. There is no physics prerequisite for this course. (offered fall, odd numbered years)

313. Elements of Astrophysics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 232N. A one-semester course covering the important topics in the field of astronomy.
of modern astrophysics. The physical basis of stellar evolution and chemical element formation is derived from first principles. Observational details of white dwarfs, neutron stars, pulsars, and black holes are covered.

319. Analytical Mechanics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 232N. Corequisite: MATH 307. Fundamentals of Newtonian mechanics. Topics include kinematics, dynamics, energy and momentum, central forces and planetary motion, and resonance phenomena. (offered fall)

320. Introduction to Electromagnetic Theory. Lecture 3 hours; 3 credits. Corequisite: MATH 312. Prerequisite: PHYS 232N. A study of the classical theory and phenomena of electricity and magnetism. Topics include the calculation of electric and magnetic fields, magnetic and dielectric properties of matter, and an introduction to Maxwell’s equations. (offered spring)

323. Modern Physics. Lecture 3 hours; 3 credits. Corequisite: MATH 212. Prerequisite: PHYS 232N. Introduction to the wave nature of matter, with applications in materials science, atomic, and nuclear physics. Introduction to relativity, including applications in mechanics and electrodynamics. (offered fall)

332W. Physics of Music and Musical Reproduction. Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. This course explores the topics of: the nature of sound, vibrations, resonance, the human ear, loudness, pitch, timbre, musical scales, dissonance and consonance, musical instruments, sound recording and reproduction, electronic music, noise, and acoustics. (offered fall, even numbered years)

350. Light and Lasers. Lecture and demonstrations 3 hours; 3 credits. Prerequisite: PHYS 102N or 112N or 232N. An analysis of those concepts of geometrical physical optics needed for the understanding of laser resonators, optical propagation, and radiation detection. A study of laser diodes, molecular, neutral and ion gas lasers, tuneable dye and excimer lasers. Laser applications in medicine, communications, information processing, holography, pollution detection, and material testing and fabrication are stressed.

352. Introduction to Quantum Mechanics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and 323. Introduction to the physical and mathematical structure of quantum theory, including the historical and experimental origins of the subject. The curriculum includes techniques for solving the Schrödinger wave equation, particularly for the harmonic oscillator and the hydrogen atom. (offered spring)

367. Cooperative Education. 1-3 credits each semester (may be repeated for credit). Prerequisite: approval of the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship. 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

387, 388. Honors Program in Physics. 1-3 credits each semester. Prerequisites: junior standing and formal admission to the Honors Program.

403/503-404/504. Electronic Instrumentation. Lecture 2 hours; laboratory 2 hours; 3 credits each semester. Prerequisite: PHYS 232N or permission of the instructor; 403 is prerequisite to 404. A laboratory-oriented course in which analog circuits in the design of instrumentation systems are covered in 403/503; digital circuits and composite circuits are covered in 404/504. The course emphasizes proper use of the oscilloscope, function generator, DMM, and X-Y recorder in laboratory test and measurement procedures. (offered fall-spring sequence)

405/505. The Planets. Lecture 3 hours; 3 credits. Prerequisites: junior standing and an introductory course in astronomy. The course stresses the use of the planetarium as an educational tool in the teaching of astronomy. Production techniques with audio-visual equipment to enhance concepts in astronomy are presented.

406/506. Observational Astronomy. Lecture 3 hours; 3 credits. Prerequisites: PHYS 303W, CS 150, junior standing. Observational techniques in astronomy with emphasis on constellation identification, celestial movements, and telescopic observation. Individualized night observations are required.

408/508. Astronomy for Teachers. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course in astronomy emphasizing with celestial and stellar systems. Topics will include observational astronomy, the electromagnetic spectrum, relativity, stellar and galactic structures, cosmology, and the search for extraterrestrial intelligence.

411. Introduction to Atomic Physics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 352 and MATH 307. The hydrogen atom, radiative transitions, two-electron systems, many-electron atoms, interaction with external fields, theory of atomic spectra.

413W/513. Methods of Experimental Physics. Laboratory 6 hours; 3 credits. Prerequisites: PHYS 303 and 323. Corequisites: PHYS 413W and CS 150. Experiments in classical and modern physics, designed to develop skills in the collection, analysis, and interpretation of experimental data. (offered spring)

414/514. Principles of Physical Instrumentation. Laboratory 6 hours; 3 credits. Prerequisite: PHYS 413W. Methods for design of experiments using modern physical instrumentation. Included are topics such as analog and digital data acquisition, materials science, vacuum technology, cryogenics measurement techniques, and error and data analysis. (offered fall)

415. Introduction to Nuclear and Particle Physics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 352. Corequisite: MATH 307. An introduction to the structure of the atomic nucleus, natural and artificial radioactivity, nuclear decay processes and stability of nuclei, nuclear reactions, properties of nuclear forces, and nuclear models. Also, particle phenomenology, experimental techniques and the standard model. Topics include the spectra of leptons, mesons, and baryons; strong, weak, and electromagnetic interactions.

416/516. Introduction to Solid State Physics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 352 and MATH 307. Introduction to solid state physics and materials science, with emphasis placed on the applications of each topic to the experimental and analytical techniques. Topics include crystallography, thermal and vibrational properties of crystals and semiconductors, metals and their band theory of solids, conductivity and the magnetic properties of materials.

420/520. Introductory Computational Physics. Lecture 2 hours; Laboratory 2 hours; 3 credits. Prerequisites: PHYS 232N and MATH 212. Introduction of computational methods and visualization techniques for problem solving in physics.

451/551. Theoretical Mechanics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and MATH 312. A mathematical study of the concepts of mechanics. Vector calculus methods are used. Topics include mechanics of a system of particles, Lagrangian mechanics, Hamilton’s canonical equations, and motion of a rigid body.

453/553. Electromagnetic Radiation and Optics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 320 or ECE 323 and MATH 312. A course in physical optics developed from Maxwell’s equations. Topics include a mathematical treatment of the phenomena of dipole radiation, scattering, reflection, refraction, diffraction, and an introduction to the techniques of modern optics. (offered fall)

454/554. Thermal and Statistical Physics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and 323. A study of the fundamental concepts of thermodynamics, kinetic theory, and statistical mechanics. Topics include the thermodynamics of simple systems, kinetic theory of gases, statistical mechanics of gases and an introduction to quantum statistics. (offered spring)

456/556. Intermediate Quantum Mechanics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 323 and 352 or permission of the instructor. A study of the experimental basis of quantum mechanics, basic postulates, solution of the wave equation for simple systems, uncertainty relations, potential barriers, wave packets, angular momentum, symmetry properties of wave functions, Pauli exclusion principle, Dirac notation, perturbation theory, and scattering. (offered fall)

495, 496. Honors Program in Physics. 1-3 credits each semester. Prerequisites: senior standing and formal admission to the Honors Program.

497/597. Special Problems and Research. 1-3 credits each semester. Prerequisite: senior standing. These courses afford the student an opportunity to pursue individual study and research.

499W. Senior Thesis. 3 credits. Prerequisite: permission of the instructor. Each student will undertake a research experience under the supervision of a department faculty member. The experience can be of an experimental, theoretical, or computational nature. A final oral and written report are required. The research may be completed on campus or at one of the department affiliated research organizations. (offered fall, spring, summer)

Political Science — POLS

100S. Introduction to International Politics. Lecture and discussion 3 hours; 3 credits. This course provides a basic introduction to the study of international politics. It considers some of the more prominent theoretical perspectives in the discipline and examines the major political, economic, social, and environmental issues
presently facing the global community. The course prepares students for advanced study in international politics.

101S. Introduction to American Politics. Lecture 3 hours; 3 credits. This course introduces students to the political processes and the institutions of American politics. The course examines American political culture, gender and minority rights, citizen participation, national institutions, public policy, and foreign and defense policy.

102S. Introduction to Comparative Government and Politics. Lecture 3 hours; 3 credits. This course introduces basic concepts and methods for the study of comparative politics. It also surveys and compares the political/socioeconomic development, political cultures/ideologies, political institutions, decision-making processes, and public policies of various countries in the world.

126S. Honors: Introduction to American Politics. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of POLS 101S.

127S. Honors: Introduction to International Politics. Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of POLS 100S.

300. Introduction to Public Policy. Lecture 3 hours; 3 credits. Prerequisite: six credits in the social sciences. An introduction to various approaches to policy making followed by a detailed study of several of the most important domestic contemporary issues (housing, transportation, education, welfare, etc.).

301W. Introduction to Public Law. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. Introduces the student to the American legal system through an examination of its institutions, practitioners, and processes. A general survey of constitutional law; administrative law, civil and criminal law, and selected topics of substantive and procedural law.

306. Judicial Process and Behavior. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. In-depth analysis of the American court system with an emphasis on the political behavior of the judges and the procedural dimensions of the court system.

307. Constitutional Criminal Procedure. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. Development of criminal procedure under the United States Constitution, with particular emphasis on the Fourth, Fifth, Sixth, Eighth, and Fourteenth Amendments as interpreted by the U.S. Supreme Court.

308. Research Design. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 101S and 102 or permission of instructor. Covers the design and implementation of quantitative and qualitative methods of inquiry in social sciences.

309. Race, Culture and Public Policy. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in social sciences. This course examines the public policy problems of various racial groups in America. It analyzes the extent to which the American political system protects and promotes the concerns of African Americans, Hispanics, Native Americans and Asians.

310. Political Theory. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S and 101S or permission of the instructor. This course is a survey of political theory covering political thinkers such as Plato, Aristotle, St. Thomas Aquinas, Machiavelli, Locke, Mill, Marx and Rawls as well as central concepts like justice, order, liberty, and equality.

311. Virginia Politics and Government. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. This course focuses on Virginia state and local government institutions, functions, processes, and behavior of political actors.

312. American Political Thought. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course considers the origins, evolution, purposes, and relevancy of American political thought. It includes studies in democracy versus oligarchy; civil disobedience versus revolution; liberalism versus conservatism.

313. United Nations Seminar. Lecture 1 hour; 1 credit. Prerequisite: junior standing or permission of the instructor. An examination of the United Nations and key issues facing the international community. Includes a three-day visit to United Nations headquarters in New York.

314. European Politics. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S, 102 or permission of the instructor. Analyzes and compares the major political functions and the social, economic, and cultural bases of European states. Also examines the contemporary movement for European economic, military, and political unity.

316. Politics of Africa. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is intended to familiarize students with the struggles, advances, and setbacks of African peoples for state-building and socioeconomic development during the colonial and post-independence eras.

319. Lobbies and Interest Groups. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. A survey of the lobby movement in America, its history and present status, with particular attention to current lobbies and interest groups and their impact on the national government.

320. Model United Nations I. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S or GEOG 100S or permission of the instructor. Combines a study of the structure, history, and functions of the UN with a treatment of major global political, social, and economic issues. Includes organizing and hosting the College Model UN Conference and preparing for the High School Conference.

321W. Model United Nations II. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S; POLS 320 highly recommended. Study of structure, history and functions of the United Nations. Includes simulations and organization of a high school conference. Also includes GREAT DECISIONS lectures.

323. International Political Economy. Lecture 3 hours; 3 credits. Prerequisite: six hours of social science. Introduces students to the primary mechanisms of the global political economy in all areas of global income, wealth and the means to produce them, with emphasis on the international division of labor.

324. International Relations Theory. Lecture 3 hours; 3 credits. Prerequisite: six hours of social science including POLS 100S. Comparative study of the various theories that attempt to explain the patterns of interactions among the different members of the global community. Draws on historical and modern cases to explain traditional and alternative theories.

325W. World Politics. Lecture 3 hours; 3 credits. Prerequisites: six hours of social science and junior standing. This course is designed for advanced students who are interested in learning about world politics (or international relations). The course provides a brief overview of the major theoretical schools and uses them to examine contemporary international and global issues, such as regional/global conflict and cooperation, arms control, the protection of human rights, international trade, regional/global economic development, and environmental preservation.

326. American Foreign Policy. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. This course presents those topics that are of the making and analyzing of American foreign policy, explores their application in decision making, and seeks to test their utilization against contemporary problems.

327W. Politics of National Security. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. Explores key issues related to the welfare of countries, including the environment, nationalism, industrial espionage, and water issues from an international, domestic, and comparative perspective.

328. Russian Politics. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or GEOG 100S or permission of the instructor. Starting with the Soviet communist system, explores Russia’s efforts toward democracy and the rule of law, to fashion a productive, beneficial market economy, to establish viable relationships with the other former republics of the USSR and to craft advantageous foreign and military policies toward the West, Asia, and the developing countries.

330S. State and Local Government. Lecture and discussion 3 hours; 3 credits. Prerequisite: POLS 101S. This course is a survey of state and local government institutions, functions, processes, and behavior of political actors.

332. Europe in World Affairs. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. An examination of the development of the news media and its role of political information and news in American politics. Analysis of the newsmaking process; media coverage of political campaigns, the President and Congress; the impact of the news media on the American public; and the interaction between public officials and journalists.

334. Electoral Politics. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in political science including POLS 101S. A survey of electoral politics and behavior, including the structure of the electoral system, contemporary political campaigning, political partisanship, voting behavior, and role of interest groups in the electoral process.

336. South Asia Since Independence. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. This course examines the evolution of environmentalism in the United States, including the policy-making process, science and the role played by the public and political institutions.

POLITICAL SCIENCE COURSES 249
337. Latin American Politics. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in social science. Examines the evolution of Latin American politics, including early colonial and caudillo rule, political and social changes leading to the emergence of military regimes, and the reestablishment of constitutional democracies. Also considers contemporary economic, social, cultural, and environmental issues which condition state-society relations in the region.

338W. Politics of East Asia. Lecture 3 hours; 3 credits. Prerequisite: six hours of social science and junior standing or permission of the instructor. This writing intensive course examines political cultures/traditions, governmental institutions, decision-making processes, public policies, political organizations, and significant socio-political issues of such East Asian countries as China, Japan and Korea. In addition, it explores the collective impact of these countries on world politics and global economy. (cross listed with ASIA 338W)

350T. Technology and War. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. Studies the broad interaction of human war-making and technological advancements throughout history as well as the modern period. Examines how technology has affected the outbreak and outcome of wars, and how warfare has influenced technology race and produced countermeasures by the technologically disadvantaged. Focuses on the emergence of weapons of mass destruction (nuclear, chemical, biological) and the feasibility and consequences of measures designed to curtail advanced-weapons proliferation. Surveys high-tech warfare trends into the 21st century. Considers whether technology will make warfare irreconcilable with human life on earth.

366. Richmond Seminar. 1 credit. Prerequisite: POLS 101S. Three-day stay in Richmond, observing the institutions of government and the policy process. Final seminar and report are required.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval of the department chair and Career Management, in accordance with the policies for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship in Political Science. 1-12 credits. Prerequisite: 9 hours in political science, 3 of which must be in an upper-level course. Admission at discretion of faculty advisor. Available for pass/fail grading only. Individualized practical experience in public bureaucracies, political groups, administrative agencies or law firms. Group seminars are held periodically under the supervision of faculty. Credits are commensurate with the level of the student’s involvement. (qualifies as a CAP experience)

395. 396. Topics in Political Science. Lecture, discussion, or seminar 1-3 hours; 1-3 credits each semester. Prerequisites: junior standing and permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses and any additional prerequisites will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

400. Congress. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. An in-depth study of the institutional and behavioral factors at work in legislative decision making, especially at the national level. Emphasis are on the interrelationships among Congress, the Presidency, and the bureaucracy and on learning how to do research on specific legislation.

401. Global Environmental Policy. Lecture 3 hours; 3 credits. Prerequisite: six credits in political science. This course analyzes the causes, severity, potential consequences, and proposed solutions regarding global ecological issues with special attention to the scientific debate and the political and policy process. It examines environmental policies of national governments, regional/international organizations, and global conferences.

403S. First Amendment Freedoms. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course deals with the development and practice of conflicting judicial and legal theories concerning our First Amendment guarantees. Students are asked to act as advocates in developing and substantiating theories of their own.

407. American Presidency. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S, or permission of the instructor. The course covers the development of presidential power and activity; the contemporary operations of the Presidency, and the problems which may confront the institution in the future.

408. American Constitutional Law and Politics I. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. An examination of the vexatious line between the rights of individuals and those of the state in the American democracy, focusing on such major issues as freedom of expression and worship; freedom of the press; separation of church and state; privacy; and racial and gender discrimination.

409. American Constitutional Law and Politics II. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course examines the political development of Black people in the United States by focusing on the relationship and processes of the American political system. In addition, the political dynamics of Black political thought, the Civil Rights Movement, and Black protest politics will also be analyzed.

410/510. African American Politics. Lecture 3 hours; 3 credits. Prerequisites: 6 hours in social science and junior standing. This course will examine the political development of Black people in the United States by focusing on the relationship and processes of the American political system. In addition, the political dynamics of Black political thought, the Civil Rights Movement, and Black protest politics will also be analyzed.

41J/51J. Politics of the Civil Rights Movement. Lecture 3 hours; 3 credits. Prerequisites: six hours in social science and junior standing. Examines the political activities which resulted in the passage of the nation’s second Civil Rights policy, the 1960 and 1964 Civil Rights Acts, the 1965 Voting Rights Act and the 1968 Fair Housing Act. The course will analyze the underpinnings, leadership, and political strategies of the Civil Rights Movement.

414/514. Politics of Education. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The question of power, often ignored by education policy analysts and researchers, is a principal focus of this seminar. Issues ranging from the role of education in political socialization and the politics of affirmative action and equal opportunity are examined.

416. Women and Politics in America. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. Examines women’s place in political theory and the practice of politics in the United States. A major focus is to trace the development of women’s political rights, the impact of public policy on the lives of American women and the ways in which women influence and participate in the political process.

418. Quantitative Methods. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M with a grade of C- or better. Prerequisites: POLS 101S; POLS 308 with a grade of C- or better. A survey of and practicum in the basic techniques of quantitative research, including the logic of empirical research, the identification of data sources, and the use of appropriate statistical techniques.

419. Jurisprudence. Lecture 3 hours; 3 credits. Prerequisite: POLS 408 or 409 or permission of the instructor. An examination of the history of legal thought and developments of nations and states. The book analysis of legal positivism and realism. Particular attention is paid to American legal philosophy.

420W/520. Southern Politics. Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. This seminar focuses on the politics of the American South from the 1940s to the present. Emphasis is on introducing students to contrasting explanations and analysis about the politics of the American South.

421S/521. International Law. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in political science or permission of the instructor. POLS 325W is recommended. Surveys major areas of public international law (e.g., laws of warfare, law of the sea, conflict resolution, etc.). Emphasizes the relationship between international law and international politics.

424/524. International Organization. Lecture 3 hours; 3 credits. Prerequisite: 9 hours in international courses, including POLS 100S and 350T. Prerequisite: permission of POLS 315. Course provides a basis for understanding the role and importance of international organizations in contemporary international relations. Focuses on development and history of global organizations, with particular emphasis on the United Nations, and regional and functional organizations.

434/534. Political Participation in the United States. Lecture 3 hours; 3 credits. Prerequisite: six semester hours of political science. An examination of current theories and research on political behavior, conventional and unconventional modes of political participation, and the impact of participation on the political system.

435/535. Chinese Politics. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 102, or permission of the instructor. A study of origins of the Chinese revolution; development and functions of the Chinese Communist Party; government institutions; the defense establishment; evolution of foreign policy; and post-Mao political and economic reforms. (cross listed with ASIA 435)

436/536. Japanese Politics. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 102, or permission of the instructor. A study of Japan’s historical political development and social patterns;
government institutions; problems of the constitution; and foreign and defense policy.

437/537. International Relations in East Asia. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. An analysis of issues that have emerged in the East Asia area; the interactions of China, Japan, the United States, and the former Soviet republics in East Asia.

442/542. Twentieth Century Dictatorships. Lecture 3 hours; 3 credits. Prerequisites: six hours of social science, junior standing, or permission of the instructor. A study of the Fascist, Nazi, Stalin and Mao regimes and the forces that brought them to power and sustained them, including a study of the impact of their policies on their people and neighboring states.

445. Globalization: Dynamics and Implications. Lecture 3 hours; 3 credits. Prerequisites: 3 hours of economics and 6 hours of political science. Explores the essential characteristics of globalization and its implications for social relations and existing institutions.

447. Weapons of Mass Destruction in Global Security. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. Since the end of the Cold War, weapons of mass destruction have emerged as one of the most dangerous and contentious issues in international affairs. The course examines how they are made, how they proliferate, and how they are controlled.

451. African Americans and Foreign Affairs. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course focuses on the political behavior of African Americans in foreign affairs. It illuminates the nexus between African American international and domestic participation. Specifically, African American foreign affairs participation is explored with an emphasis on how African Americans have participated. The eras of slavery, colonialism, and the rise of European and American hegemony in the Americas, Africa, and the African Diaspora and the rest of the developing world constitute the critical time frame for the course.

458. Weapons of Mass Destruction in Global Security. Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. Since the end of the Cold War, weapons of mass destruction have emerged as one of the most dangerous and contentious issues in international affairs. The course examines how they are made, how they proliferate, and how they are controlled.

461. Seminar in European Politics. Lecture 3 hours; 3 credits. Prerequisites: POLS 100S or 102, and 314 or 332. This course focuses on one specific European country such as France, Germany, the United Kingdom, etc. Examination of trends and events which most influenced the evolution of domestic politics and foreign relations from World War II to the present.

462. Ethnic Conflict in the New Global Order. Lecture 3 hours; 3 credits. Prerequisite: six hours in social sciences. Ethnically based conflict is presently a pervasive worldwide phenomenon. This course examines internal and external factors causing ethnic conflicts and mechanisms for resolving or mitigating such conflicts.

466/566. Politics of the Middle East. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An analysis of the political processes throughout the region and in selected nations of the Middle East. Topics to be discussed include inter-Arab relations, the Arab-Israeli conflict, the Iran-Iraq rivalry and foreign power involvement in the Middle East.

480W. Senior Seminar in International Studies. Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies.

481. Seminar in American Politics. Lecture 3 hours; 3 credits. Prerequisite: junior standing in political science. The advanced study of selected topics in American politics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

493. Great Decisions. Lecture 1 hour; 1 credit. Prerequisite: POLS 100S or 101S. An examination and discussion of critical world issues based upon the Foreign Policy Association’s Great Decision Series.

495/595, 496/596. Topics in Political Science. Lecture, discussion, or seminar 1-3 hours; 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies.

497/597. Independent Research in Political Science. 1-3 credits. Prerequisite: senior standing or permission of the instructor. Independent research in political science under the supervision of a faculty member. May be repeated up to 6 credit hours.

### Psychology — PSYC

201S. Introduction to Psychology. Lecture 3 hours; 3 credits. Introduction to the scientific study of psychology. The student is introduced to fundamental terms, facts, and concepts dealing with motivation, learning, perception, intelligence, measurement, personality structure, behavior disorders, psychological development, and social processes.

203S. Lifespan Development. Lecture 3 hours; 3 credits. A broad contemporary view of the processes of development. The influences of biological and environmental factors in the development of personality and cognitive functioning are explored.

226S. Honors: Introduction to Psychology. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PSYC 201S.

227S. Honors: Lifespan Development. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PSYC 203S.

295, 296. Topics in Psychology. Lecture and discussion 3 hours; 3 credits. A study of selected topics designed for students who are enrolled within a major.

303. Industrial/Organizational Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of instructor. An application of psychological principles and research to human behavior in work settings. Among the topics covered are personnel selection, training, and evaluation; employee motivation and job satisfaction; and organizational leadership and theory.

304. Social Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. The behavior of the individual as affected by other people and groups. Interpersonal attraction, attitude change, group dynamics, and the application of psychology to social problems are among the topics covered.

305. Motivation. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of instructor. An examination of the psychological and biological mechanisms of motivated behavior are discussed. Topics of discussion include the mechanisms of hunger, thirst, sex, aggression, competence, and the stress reaction.

306. Health Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. Course examines how psychological states (e.g., anxiety, stress) influence physical health. The course also examines how physical states (e.g., illness, pain, injury) influence psychological health. Topics include the impact of stress on health and proneness to illness; coping with illness, injury and trauma; and the role of health-enhancing behaviors in maintaining physical health.

311. Psychology and the Law. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. Students will be introduced to the interaction of law and psychology. They will develop critical and creative ways of thinking about expert psychological witnessing, the trial process, competencies, and the insanity defense and other issues. Further, students will become familiar with prominent content areas, including legal case/statutory materials and psychological research.

317. Quantitative Methods. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: PSYC 201S. Completion of STAT 130M or higher general education math requirement prior to enrollment is recommended. The application of statistical principles to psychological research problems, including an introduction to the principles of experimental design.

318W. Experimental Psychology. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: PSYC 201S or 203S. A study of the psychological development of the child with physical, emotional, social, intellectual, and educational disabilities.

321. Psychology of the Exceptional Child. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or 203S. A study of the psychological development of the child with physical, emotional, social, intellectual, and educational disabilities.

322. The Psychology of Adolescence. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or 203S. A survey of the processes of development during adolescence. Covers topics such as the influences of biological, emotional, social, and cognitive factors on personality development and adjustment of the adolescent.

323. Psychology of Women. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An examination of the major determinants of the psychology of women from theoretical, biological, interpersonal and sociocultural perspectives.

325. Drugs and Behavior. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. An examination of the effects of psychoactive drugs on behavior and the factors involved in drug use. Current research literature is discussed.

334. Social Development. Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S. This course provides students with theories and research on the development of social processes from birth to
adulthood. Major theories of social development and research are examined.

343. Personality Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 303. The application and evaluation of psychological principles and research relating human behavior to the design of tools, technology, and the work environment.

345. Organizational Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 303. This course emphasizes the study of human behavior in organizations. Topics include leadership, motivation, group behavior, communications, power and politics, and organization change.

351. Child Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S or 205S. The development of children within their diverse environments is examined. A focus is on the methods used to understand how children experience their world.

352. Cognitive Development During Childhood. Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S. The course will acquaint the student with theories and research on the development of cognitive processes from birth to adolescence. Major theories of cognitive development and research on the various cognitive processes will be reviewed.

353. The Psychology of Adulthood and Aging. Lecture 3 hours; 3 credits. Prerequisites: PSYC 201S, 203S, or 304. The study of adults with emphasis on aging. Current theories and research as well as the characteristics, life styles, and activities of adulthood and aging will be discussed.

363. Psychology of Sex. Lecture 3 hours; 3 credits. Prerequisite: PSYC 205S or permission of the instructor. A study of critical issues in human sexuality, gender and sexual identity, sexual arousal, and erotic behavior, relationship development, and sexual dysfunction and deviant disorders.

367. Cooperative Education. 3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management in accordance with the policy for granting credit for Cooperative Education Programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (Qualifies as a CAP experience.)

368. Internship in Psychology. 3 credits. For ODU psychology majors only. Prerequisites: PSYC 317, PSYC 318W (pre- or corequisite) and permission of the instructor. Students engage in academically relevant work related activities in non-clinical settings. Available for pass/fail grading only. Students should work with the Career Management Center to identify their placement in the semester prior to enrollment. A maximum of 6 credits of PSYC 368 and/or 369 can be counted towards the major in Psychology. (Qualifies as a CAP experience.)

369. Practicum in Clinical Psychology. 3 credits. For ODU psychology majors only. Prerequisites: PSYC 317, PSYC 318W (pre- or corequisite) and permission of the instructor. Corequisite: PSYC 371. Students engage in academically relevant work activities in clinical settings. Only 6 credits can be counted towards the major in Psychology. (Qualifies as a CAP experience.)

371. Clinical Supervision in Psychology. Lecture 1 hour; 1 credit. Corequisite: PSYC 369 or 368. Students doing practica at designated clinical placements must also enroll in this course taught by a clinical faculty member. This seminar addresses the special issues in the areas of safety, confidentiality, and professionalism that arise in clinical settings. Students doing non-clinical internships may also enroll in the course. A maximum of 6 credits of PSYC 371 can be counted towards the major in psychology.

395, 396. Topics in Psychology. 1-3 credits. Prerequisite: permission of the instructor. The department offers selected topics that may not be offered in regularly scheduled courses. These topics focus on particular behavioral or psychological processes and techniques, and their applications.

400. Senior Seminar. Discussion 1 hour; 1 credit. Prerequisites: senior standing and minimum GPA of 3.25. Discussion of current research, theoretical, and professional topics in psychology.

403. History of Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A survey of the historical development of modern psychology. The major systems and their influences on contemporary American psychology are studied.

405/405S. Abnormal Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A study of psychopathology, covering various behavior disorders, their descriptions, characteristics, and causation. Methods of therapeutic technique are reviewed.

408/408S. Theories of Personality. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A study of the structure of personality and the dimensions along which individuals differ. The contributions of classical and contemporary theorists and the implications of current research are considered.

410. Human Cognition. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An investigation of the ways in which people learn and think. Current models of human memory and cognition are considered in relation to the evidence on human thinking capabilities. The role of language in thought and knowledge acquisition is also explored.

412/512. Psychological Tests. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An examination of the history, theory and applications of psychological testing.

413. Sensation and Perception. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An analysis of the processes by which humans obtain information about the environment through the eyes, ears, and other sensory systems.

414. Principles of Learning. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. Course focuses on basic learning principles and processes; classical conditioning, instrumental conditioning, discrimination, attention, appetitive and aversive conditioning.

417. Advanced Statistics and Computer Applications. Lecture 3 hours; 3 credits. Prerequisites: PSYC 317 and 318W, or permission of the instructor. The course covers advanced statistical methods and computer applications that build on knowledge and skills acquired in PSYC 317 and 318W.

420/520. Cross-Cultural Psychology. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. A wide variety of psychological research and theory relevant to human behavior in different cultures is examined and the impact of culture on human behavior is discussed. The course examines cross-cultural research conducted by scholars around the world. In addition to factual knowledge, emphasis is placed on critical thinking and problem solving.

424. Physiological Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An investigation of the biological bases of behavior including mental illness, motivation, learning, memory, and language.

430. Animal Behavior. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. This course explores the environmental and social factors that affect the behavior of animals. Special attention is given to the mechanisms of behavior and the evolutionary context of behavior.

431/531. Community Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. This course examines the issues and perspectives related to the psychological evolution of African Americans in the United States. Particular emphasis is placed on exploring the discipline of psychology from an Afrocentric focus.

461/561. Drug Abuse and Dependence. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. This course offers an intensive review and clinical analysis of the issues and problems associated with addictive behavior with an emphasis on alcohol and drug dependence.

487, 488. Honors Program in Psychology. For ODU psychology majors only; 3 credits each semester. Prerequisites: PSYC 497; cumulative GPA of 3.25 or higher and psychology GPA of 3.50 or higher; permission of the departmental Honors Program chair. With psychology faculty supervision, student develops an honors thesis proposal (in PSYC 487) for approval by the Psychology Honors Program committee. Student conducts the supervised honors research and documents it in a thesis (in PSYC 488) for approval by the Psychology Honors Program committee. Student also participates in a required seminar that discusses and presents the research. See section on Honors Program in Psychology in this Catalog.

489, 490. Readings in Psychology. 3 hours; 3 credits. Prerequisite: approval by supervisory faculty member and department. The course may be taken only once. An individualized course in which the student does library research and writes a paper. Prerequisites: PSYC 317 and 318W, or permission of instructor. The department offers selected topics that may not be offered regularly. These special topics will appear in the Schedule of Classes booklet each semester.
497, 498. Supervised Research. For ODU psychology majors only; 3 credits each semester. Prerequisites: PSYC 317 and 318W, pre-approval by psychology faculty supervisor, and permission of seminar instructor. Students should have an overall GPA of 2.5. Student works with faculty supervisor either (a) to develop a written psychological research proposal, or (b) to carry out and document an actual psychological research project. Student also participates in the instructor’s seminar to discuss and present the research.

Public Administration — PADM

395. Selected Topics in Public Administration. 3 credits. Prerequisite: junior standing or permission of the chief departmental advisor. Designed for the study of selected topics in public administration.

Recreation and Tourism Studies — See Exercise Science, Sport, Physical Education and Recreation

Religious Studies — See Philosophy and Religious Studies

Sciences - SCI

101. Introduction to Sciences. Lecture 1 hour. Presents the relationship between majors in the College of Sciences and the student’s career goals for students planning to major in a science. Provides an orientation to the University emphasizing the learning skills needed for science majors.

302K. The Evolution of Modern Science. Lecture 3 hours; 3 credits. This course outlines the history of science from Aristotle to the present. Scientific progress has always been coupled with human progress and subject to the politics and culture of the times. Scientists, in most instances, have been in the mainstream of society. But, because of their curiosity and innovation, scientists have often clashed with the prevailing culture. (Cross-listed with HSIT 386K)

Sociology — SOC

The Department of Sociology and Criminal Justice offers courses in sociology, anthropology, criminal justice, and social welfare. Anthropology and criminal justice courses are listed separately in this catalog.

201S. Introduction to Sociology. Lecture 3 hours; 3 credits. An introduction to the discipline and methods of sociology. Major topics include socialization, social inequality, family, education, gender roles, ethnicity, and minority relations.

226S. Honors: Introduction to Sociology. Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of SOC 201S.

300. Social Problems. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An analysis of the major social problems confronting groups and individuals in a society marked by rapid change. Emphasis is given to the study of social phenomena including both historical and comparative perspectives.

303. Introduction to Marriage and the Family. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. A wide variety of topics are covered, including gender-role socialization, dating, premarital sex, power, negotiation, conflict and violence as well as satisfaction in relationships, singleness, cohabitation, commuting, and dual-career relationships, and relationship dissolution.

308. Social Welfare. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Sociological analysis of religion as a social institution, of the functions of religion and its relationship to other institutions and to social change, and of the religious behavior of individuals.

309W. Population and Society. Lecture 3 hours; 3 credits. Prerequisite: six semester hours in the social sciences or permission of the instructor. This course offers an introduction to the field of population and its interconnection to broader societal changes. It introduces students to the concepts, issues and concerns in population studies and examines the interaction between population processes and economic development, social changes and environment. Topics include theories, fertility, mortality, migration, distribution and composition, population and development, population and environment, and policy. Emphasis is given to a critical assessment of population processes as both causes and consequences of development, and changes with a focus on comparative patterns between developing countries and the more developed countries.

310. An Introduction to Social Work. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. The rise of social work as a significant segment of modern, urbanized society, with special emphasis on its evolving philosophy, professionalism, its relation to the social services, and the varied community problems to which it devotes attention.

316. Juvenile Delinquency. Lecture 3 hours; 3 credits. Prerequisite: CRJS 211S or SOC 201S or permission of instructor. A study of juvenile misbehavior in the contemporary community, its nature, extent, treatment, and control, including juvenile court procedure and philosophy. (cross-listed with CRJS 316)

320. Social Inequality. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An analysis of social differentiation, stratification, and social class. Emphasis is placed upon modern American society, with some comparison with historical and contemporary systems of other societies.

323. Sociology of Minority Families. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Examination and explanation of minority families’ lives in relationship to other societal institutions and historical developments. The course focuses on issues of minority families and places these issues in a sociological framework, e.g., stratification, poverty and gender.

325. Social Welfare. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An introduction to the broad field of social welfare. The philosophy, values, purposes, goals, and functions of social welfare are examined.

330. Society and the Individual. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Social psychological theory and research on current topics of interest on the relationship of the individual to society.

337. Introduction to Social Research. Lecture 3 hours; 3 credits. Prerequisite: CRJS 211S or SOC 201S. An overview of the scientific approach to the study of social phenomena. Includes the application of descriptive measures, graphic techniques, survey and experimental analysis to the study of these phenomena and techniques for making qualitative judgments about such research.

340. Population of Women. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or six credits in social sciences or permission of the instructor. An exploration of the role and status of women in contemporary American society from a feminist sociological perspective.

342. Feminist Research Methods. Lecture 3 hours; 3 credits. Prerequisite: WMST 201S and an introductory social science research methods course or permission of the instructor. An introduction to feminist critiques of mainstream social science research methods and to feminist approaches to social science research as applied to current issues pertaining to women.

354. Sociology of Sexuality. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S. Study of the sociological research and theory on sexuality. Widely range of issues covered including childhood sexuality and arousal, premarital sex, adult erotic behavior, response to pornography, rape and incest.

352. War and Peace. Lecture 3 hours; 3 credits. Prerequisite: 6 hours of social science courses. Permission of the Instructor. An introduction to the nature and implications of nuclear weapons. Focus on sociological and psychological dimensions of the nuclear threat.

353. Sociology of the Middle East. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or six hours of social science or permission of the instructor. A comparative survey of population and culture and other sociological characteristics of Middle Eastern and Arab League States.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

368. Internship. 1-6 credits. Prerequisite: permission of the department. This course allows students to volunteer in an agency related to their major for pass/fail credit. Students must volunteer for 50 hours per course credit. Internships for less than 3 credits require prior approval by the Internship Faculty Director. (qualifies as a CAP experience)

369. Practicum. 3-6 credits. Prerequisite: permission of the department. This course is for students participating in the Career Advantage Program (CAP). (qualifies as a CAP experience)

395, 396. Topics in Sociology. 3 credits each semester. Prerequisite: permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

402/502. Child Welfare. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. A study of the historical and social aspects of child care. Among the problems considered are day care, guardianship, foster homes, illegitimacy, adoptions, and institutional care.

403W. Violence in the World of Children. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in

SOCIOLGY COURSES 253
the social science perspective or SOC 215S or CRJS 215S or permission of the instructor. This "child-centered" course examines the interaction of adults in violent conflict with the world of children. Children's experience of violence and its meaning in the lives of children. Topics include: valuing children, violence toward children in culture, families, and schools; child physical and sexual abuse and neglect; gangs, violent communities, and children and war. The effects of childhood experiences of violence, children's coping with violence, and alternatives to violence are also developed. (cross-listed with CRJS 403W)  
405/505. Social Change and Social Movements. Lecture and discussion 3 hours; 3 credits. Prerequisite: SOC 215S or permission of the instructor. Analysis of the nature and causes of social change, major social movements, and their impact upon contemporary society.  
409. Sociological Theory. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S. The development of sociological thought during the nineteenth and twentieth centuries. Analysis of major contributions to the development of systematic thinking in contemporary sociology.  
415. Sociology of Work and Occupations. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S or permission of the instructor. The study of the social processes involved in the production, distribution, and consumption of goods and services within various political economic systems. Includes the study of occupations and the nature of work.  
421/521. Deviant Behavior. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S or permission of the instructor. A study of various definitions and forms of deviant behavior, theoretical explanations of causes of deviant behavior and the impact of deviant behavior on society and the individual. (cross-listed with CRJS 421/521)  
423/523. Women, Health and Healing. Lecture 3 hours; 3 credits. Prerequisite: 6 hours of social science perspective courses or permission of the instructor. An examination of women's experiences with health and illness and women's roles in the health-care system as patients and care providers. Sociological perspectives of women and health.  
426/526. The Sociology of Minority Groups. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or permission of the instructor. The study of the process of and responses to the oppression of racial, religious, ethnic, and national minorities in a variety of countries within a historical and comparative perspective. Special emphasis given to American minorities and especially African Americans.  
427/527. Violence Against Women. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S or completion of social science perspective or permission of the instructor. A critical analysis of violence against women as an institution of social control. Examines violence in the context of social and political inequality and feminist critique. Issues explored include pornography, prostitution, sexual harassment, incest, battering and rape. (cross-listed with CRJS 427/527)  
436. Capstone Research Project. Lecture 3 hours; 3 credits. Prerequisites: SOC 337, STAT 130M and senior status. Students will work in groups to plan, design, and carry out a research project. Final papers which report the results of the study will be presented in a formal research seminar. The projects will reflect knowledge gained from undergraduate work and training received in STAT 130M and SOC 337.  
438. Sociology of Education. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or permission of the instructor. Sociological theory and research investigating contemporary education as a social institution.  
440W/540. Health, Illness, and Society. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in the social science perspective or permission of the instructor. The study of social and social-psychological factors related to health, illness, and treatment with a focus on social epidemiology, the medical industry, and health, illness, and sick-role behavior.  
441/541. Drugs and Society. Lecture 3 hours; 3 credits. Prerequisite: SOC 215S or CRJS 215S or permission of the instructor. The study of sociological and social psychological explanations of drug-using behaviors and of legal and medical control of drugs. Topics include changes in the legal status of drugs, cross-cultural and historical variations in the control and use of drugs, and social epidemiology of drug use in contemporary society. (cross-listed with CRJS 441/541)  
446/546. Social Issues Across the Life Cycle. Lecture and discussion 3 hours; 6 hours in sociology or permission of the instructor. This course focuses on age stratification across the life cycle. An analysis of social forces and issues affecting lives at various stages of the life cycle is offered.  
495/595, 496/596. Topics in Sociology. 3 credits each semester. Prerequisite: SOC 215S or permission of the instructor. The study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.  
497/597, 498/598. Tutorial Work in Special Topics in Sociology. 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.  
Statistics — See Mathematics and Statistics  
Theatre and Dance  
I. Dance Courses—DANC  
185A. Dance and Its Audience. Lecture and discussion 3 hours; 3 credits. Designed to acquaint students with the components of theatrical dance performance, its historical and ethnic origins, its role as a creative expression of peoples and societies and its relationship to other art forms. Through films, videos, live performances, guest speakers, readings and discussions, students consider philosophical approaches to language, communication, aesthetics and style of choreography.  
195, 196. Topics in Dance. 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.  
201. Ballet Technique 1. Studio 4 hours; 2 credits. Introduction to classical ballet technique.  
211. Modern Dance Technique 1. Studio 4 hours; 2 credits. Introduction to modern dance technique.  
231. Ballroom Dance 1. Laboratory 2 hours; 1 credit. This course is open to basic American and Latin ballroom dance. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. This class is open to single students and couples.  
232. Ballroom Dance 2. Laboratory 2 hours; 1 credit. This course is a continuation of basic American and Latin ballroom dance. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. This class is open to single students and couples.  
233. Ballroom Dance 3. Laboratory 2 hours; 1 credit. Prerequisite: DANC 231 or 232 or permission of the instructor. This course is a continuation of American and Latin ballroom dance 2. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. This class is open to single students and couples.  
235. Yoga 1. Laboratory 4 hours; 2 credits. Introduction to Hatha Yoga as a tool for reducing stress and increasing flexibility. Students will acquire a basic understanding of the practice of Hatha Yoga in its complete form including yoga postures, breathing exercises and meditation. Focus will be on spinal fitness, health, centering and breath to enhance quality of life.  
236. Yoga 2. Laboratory 4 hours; 2 credits. Prerequisite: DANC 235 or permission of the instructor. Continuation of Hatha Yoga as a tool for reducing stress and increasing flexibility. Students will acquire a basic understanding of the practice of Hatha Yoga in its complete form including yoga postures, breathing exercises and meditation. Focus will be on spinal fitness, health, centering and breath to enhance quality of life.  
241. Pilates® Mat Class 1. Laboratory 2 hours; 1 credit. The Pilates® method of body conditioning is an exercise system focused on improving flexibility and strength for the total body without building bulk. It is a series of controlled movements engaging the body and mind supervised by an extensively trained teacher. It promotes physical harmony and balance while providing a refreshing and energizing workout. Currently the Pilates® method is used internationally by individuals at all levels of fitness as well as by dance companies, sports teams, fitness enthusiasts and physical therapists.  
242. Pilates® Mat Class 2. Laboratory 2 hours; 1 credit. Prerequisite: DANC 241 or permission of the instructor. The Pilates® method of body conditioning is an exercise system focused on improving flexibility and strength for the total body without building bulk. It is a series of controlled movements engaging the body and mind supervised by an extensively trained teacher. It promotes physical harmony and balance while providing a refreshing and energizing workout. Currently the Pilates® Method is used
251. Tap Dance I. Laboratory 2.5 hours; 1 credit. Introduction to tap dance styles including classic, hoof and rhythm. Fundamental movements such as time steps, grab-offs, riffs, etc. will be incorporated using counterpoint rhythms and challenges. Students will gain an understanding of tap dance as an American art form.

252. Tap Dance II. Laboratory 2.5 hours; 1 credit. Prerequisite: DANC 251 or permission of the instructor. Continuation of tap dance styles including classic, hoof and rhythm. Fundamental movements such as time steps, grab-offs, riffs, etc. will be incorporated and developed using counterpoint rhythms and challenges. Students will gain an understanding of tap dance as an American art form.

260. Introduction to Dance Technique. Laboratory 2.5 hours; 1 credit. Introduction to Dance Technique will serve as an elective course for students interested in beginning their dance training in the spring semester. The class will focus on development of the rehearsal dance vocabulary and will prepare students both physically and mentally to enter Ballet I, Modern Dance 1 or Jazz Dance 1 in the fall semester.

295, 296. Topics in Dance. 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be fully described in a booklet distributed to all academic advisors.

302. Ballet Technique 2. Studio 4 hours; 2 credits. Prerequisite: DANC 201 or permission of the instructor. Continuation of classical ballet technique.

303. Ballet Technique 3. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 302 or permission of the instructor. Continuation of ballet technique at an intermediate level.

312. Modern Dance Technique 2. Studio 4 hours; 2 credits. Prerequisite: DANC 211 or permission of the instructor. Continuation of modern dance technique at an intermediate level.

313. Modern Dance Technique 3. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 312 or permission of the instructor. Continuation of modern dance technique at an intermediate level.

321. Jazz Dance I. Studio 2.5 hours; 1 credit. Prerequisite: DANC 201 or 211 or 260. Introduction to jazz dance technique.

322. Jazz Dance 2. Studio 2.5 hours; 1 credit. Prerequisite: DANC 321 or permission of the instructor. Continuation of jazz dance technique.

350. Dance Improvisation. Laboratory 2 hours; 1 credit. Prerequisites: DANC 201, 211 or permission of the instructor. An exploration of movement invention through structured exercises, games and problems. Emphasis will be on the creative development of the individual dancer as a performer and choreographer.

360. Rhythmic Analysis. Lecture 1 hour; 1 credit. Prerequisites: DANC 201, 211 or permission of the instructor. A study of basic music theory specifically designed for the dancer. Emphasis will be on score reading, accompaniment for dance, note values and rhythms as they directly relate to choreography in a classroom as well as in the rehearsal studio. Students will perform movement studies based on rhythmic structures.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit and academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

368. Internship. 3 credits. Prerequisite: approval of department chair and Career Management, if necessary, prior to registration. Available for pass/fail grading only. A structured work experience with or without remuneration; a paper, a log and portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

369. Practicum. 1-3 credits. (qualifies as a CAP experience)

370. Dance Composition 1. Lecture and laboratory 3 hours; 2 credits. Prerequisite: DANC 211 or equivalent (312, 313, 414, 415, 416). A study of the elements and craft of choreography through practical and written experience. Time, space, and movement will be explored through assigned movement studies. Projects are designed for the creative development of personal movement repertoire and compositional skills for the dancer, choreographer and dance educator.

387. Dance Repertory and Performance 1. 1 credit. Prerequisite: permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

388. Dance Repertory and Performance 2. 1 credit. Prerequisite: DANC 387 or permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

389W. Twentieth Century Dance History. Lecture 3 hours; 3 credits. Prerequisite: DANC 185A or permission of the instructor. This course focuses on the lives and contributions of 20th century dance artists, teachers, choreographers and performers who have most influenced the history of dance as art. The course also explores the many multifacets of dance in this century, i.e., relationship to fashion, art, and music.

391. African-American Perspectives in Dance. Lecture 3 hours; 3 credits. Prerequisite: DANC 185A or permission of the instructor. Focuses on the contributions of African-Americans to the world of American dance and concert dance. Exploration also of the dances of Africa and the Caribbean Islands.

393. Anatomy and Kinesiology for Dance. Lecture 3 hours; 3 credits. Prerequisites: DANC 201, 211 or permission of the instructor. Continuation of ballet technique at an advanced level.

405. Ballet Technique 5. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 302 or permission of the instructor. Continuation of ballet technique at an intermediate level.

406. Ballet Technique 6. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 302 or permission of the instructor. Continuation of ballet technique at an advanced level.

414. Modern Dance Technique 4. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 312 or permission of the instructor. Continuation of modern dance technique at an intermediate level.

415. Modern Dance Technique 5. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 312 or permission of the instructor. Continuation of modern dance technique at an advanced level.

416. Modern Dance Technique 6. Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 312 or permission of the instructor. Continuation of modern dance technique at an advanced level.

423. Jazz Dance 3. Studio 2.5 hours; 1 credit. Prerequisite: DANC 322 or permission of the instructor. Continuation of Jazz dance technique at an intermediate/advanced level.

424. Jazz Dance 4. Studio 2.5 hours; 1 credit. Prerequisite: DANC 423 or permission of the instructor. Continuation of Jazz dance technique at an intermediate/advanced level.

425. Dance Repertory 1. Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisite: DANC 370 and permission of the instructor.

488. Advanced Repertory and Performance. 1 credit. Prerequisite: DANC 388 or permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

489. Principles of Dance Technique. 2 credits. Prerequisite: permission of the instructor. This course will cover basic methods of movement education as applied to the teaching of ballet, modern dance, jazz, and movement for children. An understanding of anatomical structure and mechanics will be utilized in the analysis of student performance in dance class. Specific objectives for dance exercises will be explored. Practical experiences in the planning, organization and structure of dance classes of various styles are designed to prepare students as dance educators. (qualifies as a CAP experience)

495/495, 496/496. Topics in Dance. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

497/497, 498/498. Tutorial Work in Special Topics in Dance. 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate. (qualifies as a CAP experience)

499. Senior Project. 1 credit. Prerequisite: senior standing as dance major and approval of the department chair. Completion of paper during a student’s senior year related to a major project in the student’s interest area. Topics to be selected under the direction of an instructor with conferences as appropriate. (qualifies as a CAP experience)

111. Theatre Arts Activity Courses—THEA (Designated for Activity Credit)

173. Theatre Activities. 1 credit. Participation in University theatre activities as assigned by the instructor. May be repeated
consecutively as THEA 174+, 273+, 274+, 373+, 374+, 473+, 474+. (qualifies as a CAP experience)

III. Theatre Courses—THEA

189. The Creative Self. Lecture 2 hours; laboratory 2 hours; 3 credits. Develops and explores creative potential through exercises, improvisations, performance games, and original performances created by the class. Emphasis is on qualities of spontaneity, concentration, ensemble awareness, imagination, and rhythmic and spatial form.

195, 196. Topics in Theatre. 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

241A. The Theatre Experience. Lecture and discussion 3 hours; 3 credits. An introductory audience-oriented examination of the elements of theatre and their historical development through study of plays and performances; emphasis will be directed to actually experiencing live theatre. Attendance at performances is required.

242. Acting I. Lecture 2 hours; laboratory 2 hours; 3 credits. Basic introduction to principles of acting, which may be applied to stage and media, and application of various techniques through exercises, improvisations, and performances of short scenes.

244. Introduction to Scenery and Lighting. Lecture 2 hours; laboratory 2 hours; 3 credits. Introduction to principles, methods, and materials used in stage lighting and in the construction of theatrical scenery.

246. Stage Combat. Lecture 1 hour; 1 credit. A workshop training performers in techniques for creating believable and safe stage combat. Techniques will involve hand-to-hand combat and various weapons.

247. Introduction to Stage Costumes. Lecture 2 hours; laboratory 1 hour; 2 credits. Focuses on the history, design and construction of costumes for the theatre.

248. Introduction to Stage Makeup. Lecture 2 hours; laboratory 1 hour; 2 credits. Develops skills and techniques for design and application of stage makeup.

270A. Film Appreciation. Lecture 3 hours; 3 credits. This class will focus on both contextual and close text analysis of masterworks as they have influenced film art and industry. Students in this course are expected to develop basic research, communication, viewing and critical thinking skills as they apply their knowledge to the analysis of the film experience. (cross-listed with COMM 270A)

295, 296. Topics in Theatre. 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

300. Auditioning Technique. Laboratory 2 hours; 1 credit. Prerequisite: THEA 242. Course will examine practical audition skills and provide an orientation to the tools of procuring professional auditions, including head shots and resumes. Emphasis will be placed on effectively selecting and preparing pieces for stage, film and television.

341. Lighting Design for Stage and Film. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 370. A production course introducing students to the world of light and shadow, and in position by surveying lighting design, its technologies for stage and camera, and such principles as basic electrical theory and stage/studio/location design aesthetics. (cross-listed with COMM 341)

342. Acting II: Intermediate Acting for Stage and Camera. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 242; and permission of the instructor. Study of and experimentation with various theories concerning the preparation of roles and special performance characteristics of different styles, types of drama, and media. Considerable attention is directed toward scene study.

343. History of Theatre: Beginnings to the Renaissance. Lecture 5 hours; 3 credits. Prerequisite: THEA 241A, junior standing, or permission of the instructor. A cultural-epoch examination of world theatre as it developed through dramatists, directors, designers, and actors from its beginning to the eighteenth century.

344. History of Theatre: Classic Baroque to the Present. Prerequisite: THEA 241A, junior standing, or permission of the instructor. A cultural-epoch examination of world theatre as it developed through dramatists, designers, and actors from the eighteenth century to the present.

345. Scenographic Design. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 244 or 247. Course will explore advanced principles of design for the stage in the areas of scenery and costumeing. The process will include the application of various artistic styles to stage production.

346. Introduction to Screenwriting. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing, ENGL 110C and 111C. A course that exposes the student to the fundamental narrative screenwriting principles taught through text reading, film viewing and analysis, class discussions, and writing assignments. (cross-listed with COMM 346)

347. Movement for the Actor. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 242 or permission of the instructor. An examination through exercises and assignments of principles for developing a disciplined, flexible body for character creation.

348. Camera Acting. Laboratory 2 hours; 1 credit. Prerequisite: THEA 241. Course will examine the process of building characters for the camera, and the ways in which the conventions of the stage are adapted for the film or video audience.

350. The Spoken Text. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 242 or permission of the instructor. An introduction to the basic structures of verbal style through performance of the works of a variety of classical and contemporary writers. Students will become comfortable with linguistic techniques suitable to a range of performance situations.

360. Voice for the Stage I. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 220. This course will explore the techniques of vocal production, speech and expression necessary for an engaging performance on stage. Through exercises and text work, the student will learn healthy vocal production, elements of clear speech and techniques for improving vocal range and expressiveness.

367. Cooperative Education. 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and the Career Management Center, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

368. Internship. 3 credits. Prerequisite: approval of departmental chair and the Career Management Center, if necessary, prior to registration. Available for pass/fail grading only. A structured work experience with or without remuneration of a paper, a log and portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

370. The Video Project. Lecture 2 hours; laboratory 2 hours; 3 credits. A studio course that presents an opportunity for the student to explore production through the “eye” of the camera. The course is organized to allow the students to experience the entire process of developing a project for the camera (from scripting through filming to editing and finishing detail). (cross-listed with COMM 370)

380. The Video Documentary I. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 241A. This course is offering the student an opportunity to explore the world of documentary filmmaking. By using the camera as a research tool in developing evidence in support of a thesis the student is better able to understand the role that documentary filmmaking plays today. Students will develop projects leading toward the completion of a short documentary film or video. (cross-listed with COMM 380)

385. Cinematography. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 370. Introduces students to the fundamentals of the videographed digital image. The course explores live-action photography, composing, filters, digital formats, motion control, and grip equipment. The concepts of the course are applied to fiction and nonfiction cinema. (cross-listed with COMM 385)

395, 396. Topics in Theatre. 1-3 credits each semester. Prerequisites: junior standing and permission of the instructor. A study of selected topics for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

441/541. American Theatre. Lecture 3 hours; 3 credits. Prerequisite: THEA 241A, junior standing, or permission of the instructor. A study of dramatic theories and theatre practices as they relate to the development and growth of theatrical art in the United States.

442/542. Principles of Directing. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: THEA 242 and 342 or permission of the instructor. An examination and application of principles of stage direction as influenced by play script, acting talent, set and lighting design, and the technical facilities of production organizations.

443/543. Acting III: Advanced Acting for Stage and Camera. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: THEA 342. An advanced scene study class exploring issues of style and period pertinent to supporting characters on both stage and film.

445/545. Experimental Theatre. Lecture 3 hours; 3 credits. Prerequisite: THEA 241A or permission of the instructor. An in-depth study of avant-garde theatre scripts and performance techniques from 1900 to the present.
Women’s Studies — WMST

Undergraduate departmental courses cross-listed with Women’s Studies include, for example, Psychology of Women’s Studies. Between the Sexes, Women in American History, Sociology of Women, Women in the Visual Arts, Sociology of Sexuality, and Violence Against Women. Courses open to both graduate and undergraduate students include Women Writers; Language, Gender and Power; and Hispanic Women Writers.

498/598. Advanced Video Project. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: COMM 348/548 and COMM/THEA 346. Students explore visual storytelling through the theories guiding character development, narrative construction, thematic layers, scene analysis, and many more. Students participate in a variety of critical and writing exercises to enhance their knowledge of the craft of screenwriting. (cross-listed with COMM 482)

483. Advanced Video Project. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 340. This course introduces students to the processes and techniques of a narrative film production. Students experience pre-production, production, and post-production phases in creating a product to be entered in regional and national competitions. (cross-listed with COMM 483)

486/586. Advanced Filmmaking. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: THEA 442, 370 and 385. Offers the advanced film/video maker an opportunity to produce a project beyond the scope of previous classroom projects. Students form production teams (typically 5 members), with each member assigned a specific duty (cinematography, editing, directing, etc.). Students are permitted into the course solely by instructor approval and only after demonstration of superior skills in subordinate courses and acceptance of a submitted screenplay. (cross-listed with COMM 486/586)

489. Methods of Teaching Theatre. Lecture 3 hours; 3 credits. Corequisite: THEA 490. Prerequisite: junior standing. Focuses on conceptual foundations of theatre education including its history, and on methods and materials for classroom instruction and theatrical rehearsals and performances.

490. Theatre Education Practicum. 1 credit. Corequisite: THEA 490. Prerequisite: junior standing and permission of the College of Education. Designed to be taken concurrently with THEA 489, this course provides students with an opportunity to further develop their understanding of the course material and participate in the classroom setting. Students will evaluate that practical experience in relation to theoretical issues and methods presented in THEA 489. (qualifies as a CAP experience)

495/595, 496/596. Topics in Theatre. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in a booklet distributed to all academic advisors.

497/597, 498/598. Tutorial Work in Special Topics in Theatre. 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

499. Senior Project. 1 credit. Prerequisite: senior standing as theatre major and approval of department chair. Completion of a paper during a student’s senior year related to a major project in the student’s interest area. Topic to be selected under the direction of an instructor with conferences as appropriate.

Women’s Studies — WMST
sexuality, maternal and other family roles, and cultural expression.

460W/560. Feminist Thought. Lecture and discussion 3 hours; 3 credits. Prerequisite: three hours in a WMST or WMST cross-listed course. A study of the renaissance in feminist thought since the 1960s through close readings of key documents and texts. The course covers a variety of feminist perspectives as expressed in both theory and practice.

470/570. Women’s Ways of Knowing/Ways of Knowing Women. Lecture 3 hours; 3 credits. Prerequisite: three semester hours in a WMST or WMST cross-listed course and any introductory social science methods course. The course explores diverse ways of conducting feminist research. Students will explore from an inter- and multi-disciplinary perspective how feminists make inquiries and develop knowledge in the social sciences and humanities.

490. Capstone Course. Lecture 3 hours; 3 credits. Prerequisites: WMST 201S or 302W, 460W, plus six semester hours of other WMST or cross-listed core courses. Seminar intended for women’s studies majors in the final semester(s) of study, consisting of an individualized or group senior project, such as a research paper, an oral history, an internship, or an action project.

495/595, 496/596. Topics in Women’s Studies. 3 credits each semester. Prerequisite: junior standing or permission of the instructor. Advanced seminars on selected topics. The subject matter will usually be interdisciplinary. These seminars will be more fully described in the women’s studies brochure and in material distributed each semester to all academic advisors.

497/597, 498/598. Independent Study. 1-6 credits. Prerequisite: at least one women’s studies course. Independent study of an interdisciplinary women’s studies topic, or a reading plus internship project to be selected under the direction of a women’s studies faculty member. Conferences and papers as appropriate. Tutorial work, either library-based or field work, must be approved by the instructor and the women’s studies chair before a student may enroll in the course. No more than three credits of tutorial work may be counted within the basic requirements for the women’s studies minor or major.
General Education Transfer Equivalents for Virginia Community College System Courses

Old Dominion University Lower-Division General Education

Written Communication Skills (6 credits)
ENGL 110C
and
ENGL 111C
ENGL 131C

Oral Communication Skills (3 credits)
COMM 101R
COMM 103R
COMM 112R
Requirement can also be met by approved course in the major.

Mathematical Skills (3 credits)
MATH 101M
MATH 102M
MATH 162M
MATH 166
STAT 130M

Foreign Language Skills (0-6 credits)
ARAB 111F
CHIN 111F and elective
FR 101F and 102F
GER 101F and 102F
HEBR 111F
ITAL 101F and 102F
JAPN 111F
LATN 101F and 102F
PRTG 111F
RUS 101F and 102F
SPAN 101F
SPAN 102F
Foreign Language Skills I and II (FLP 1REQ and 2REQ)

Computer Skills (0-3 credits)
CS 101D
CS 149D

OTS 251D
Computer Skills Perspective (CSP 1REQ)
ITE 100, ITP 100
Requirement can also be met by approved course in the major.

Literature Perspective (3 credits)
ENGL 112L
ENGL 144L
Literature Perspective (LITP 1REQ)
FLET 100L

Fine and Performing Arts Perspective (3 credits)
ARTH 121A
ARTS 122A

Virginia Community College System Courses

ENG 111
ENG 112 or 210
ENG 115 or 131

SPD 100, 105, or 110
SPD 111 or 112
SPD 126

MTH 152 or 182
MTH 158 or 160
MTH 163 or 168
MTH 166
MTH 146, 157, 240, 241, 242, 243, or 244

ARA 101
CHI 101 and 102
FRE 101 and 102
GER 101 and 102
none
ITA 101 and 102
JPN 101 and 102
none
RUS 101 and 102
SPA 101 or 105 and 106
SPA 102 or 107 and 108
TAG 101 and 102
VTN 101 and 102

ITE 115 or 215
CSC 110, 130 or 200, EGR 125, ITP 130, 132, 134, or 136
SAF 125
CSC 155 or 200, BUS 147.

none
ENG 241, 242, or 246
ENG 243, 244, 245, 251, 252, 267, or 268
none

ART 101, 102, 111, or 112
ART 113, 114, 133, or 135
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**Philosophy Perspective (3 credits)**

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**History Perspective (3 credits for Professional Degrees or 6 credits for Traditional Degrees)**

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<td>HIST 105H</td>
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<td>HIS 203</td>
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</table>

**Social Science Perspective (3 or 6 credits)**

<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>ANTR 110S</td>
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<td>SOC 210, 211, or 212</td>
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<tr>
<td>COMM 200S</td>
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<td>none</td>
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<tr>
<td>CRJS 215S</td>
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<td>ADJ 107, 201, or 202, or SOC 236</td>
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<td>ECON 200S</td>
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<td>ECO 120</td>
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<td>ECON 201S</td>
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<td>ECO 201</td>
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<td>POLS 100S</td>
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<td>PLS 241 or 242</td>
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<td>POLS 101S</td>
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<td>PLS 130, 135, 211, or 212</td>
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<td>PSYC 201S</td>
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<td>PSY 200, 201, or 202</td>
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<td>PSYC 203S</td>
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<td>PSY 231, 232, 235 or 238</td>
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<tr>
<td>SOC 201S</td>
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<td>SSC 111 or 112, SOC 200, 201 or 202</td>
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<td>WMST 201S</td>
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<td>HUM 210 or SSC 205</td>
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<td>Social Science Perspective (SSCP 1REQ)</td>
<td>SSC 201 or 202, SOC 255, PLS 120</td>
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**Natural Science and Technology Perspective (11 or 12 credits)**

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<tr>
<td>BIOL 108N</td>
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<td>BIO 106 (BIOL 108N only)</td>
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<td>BIOL 115N</td>
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<td>BIO 101 and 102</td>
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<tr>
<td>BIOL 116N</td>
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<td>BIO 161 and 162, NAS 111 and 112, MAR 121-122</td>
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<tr>
<td>Natural Science Perspective (NSCP 1REQ and 2REQ)</td>
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<td>BIO 270, CHM 126, or GOL 225, PHY 130, BIO 107, CHM 110, NAS 120, 125, CHM 101 or 121 and 122, CHEM 111 or 113 and 112 or 114, GOL 110 (required for teacher ed), GOL 111 and 112, MAR 101 and 102, GOL 105 and 106, PHY 100, 101, 104, 116, or 131, PHY 102, 115, 122 or 132, NAS 130 or 131, NAS 132, PHY 111 or 201, PHY 112 or 202, PHY 221, 231, or 241, PHYS 222, 232, or 242</td>
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<tr>
<td>CHEM 101N</td>
<td>and 102N</td>
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<tr>
<td>CHEM 115N</td>
<td>and 116N</td>
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<tr>
<td>NSCP 1REQ</td>
<td>or GEOL 210</td>
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<tr>
<td>OEAS 106N</td>
<td>and 107N</td>
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<tr>
<td>OEAS 111N</td>
<td>and 112N</td>
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<tr>
<td>PHYS 101N</td>
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<td>PHYS 102N</td>
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<td>PHYS 112N</td>
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<td>PHYS 231N</td>
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<tr>
<td>PHYS 232N</td>
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</tbody>
</table>

The Technology requirement may be satisfied by a major course.

The complete transfer course database is available on MONARCH TRANSFORMATION found at www.odu.edu/advising under For Students.
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To Be Named ..................................................................................................Executive Director, International Programs
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Marena Hill-Bartos, M.A. .........................................................................TELETECHNET Site Director, J. Sargeant Reynolds Community College
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To Be Named........................................................................................................ Director, Corporate and Foundation Relations
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Renee E. Olander, M.A .................................................................................................. Director, Virginia Beach Higher Education Center
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Nancy A. Rudolph, M.S. ...................................................................................... Associate Dean, College of Sciences
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Barry D. Smith, M.S.Ed. ..................................................................................... Director, Tri-Cities Center and TELETECHNET Site Director, Tidewater Community College
Christy P. Spencer, M.A.Ed. ................................................................................ TELETECHNET Site Director, Patrick Henry Community College
Don Stansberry, M.Ed. .............................................................................................. Interim Dean of Student Affairs
To Be Named........................................................................................................ Director, Student Activities and Leadership Programs
To Be Named........................................................................................................ Director, Major Gifts
Araceli Suzara, Ph.D. ............................................................................................. Director, Filipino American Center
Mary M. Swartz, M.Ed. ............................................................................................ University Registrar
Deborah L. Swieciński, M.B.A. ........................................................................ Assistant Vice President for Financial Planning, Budget and Finance Operations/University Budget Officer
Elizabeth Taraski, Ph.D. .......................................................................................... Associate Vice President for Development and Alumni Relations/Director of Development
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Lenora Thompson, Ph.D. ........................................................................................ Director, Counseling Services
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Elaine Ward, M.S.Ed. ............................................................................................. TELETECHNET Site Director, Southwest Virginia/Mountain Empire Community Colleges
To Be Named........................................................................................................ Acting Assistant Vice President for Computing and Communication Services
James R. Waterfield, B.S. ..........................................................................................
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COLIN P. BRITCHER, Ph.D. ................................................................. Aerospace Engineering
TO BE NAMED ..................................................................................... Art
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MOHAMMED NAJAND, Ph.D. ......................................................... Business Administration
KENNETH G. BROWN, Ph.D. ............................................................... Chemistry and Biochemistry
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RESIT UNAL, Ph.D. ........................................................................ Engineering Management and Systems Engineering
GARY CROSMAN, M.E. ...................................................................... Engineering Technology
DAVID METZGER, Ph.D. ................................................................. English
ROBERT J. SPINA, Ph.D. ................................................................. Exercise Science, Sport, Physical Education and Recreation
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J. MARK DORREPAAL, Ph.D. ............................................................. Mathematics and Statistics
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R. Baine Harris, Eminent Professor Emeritus of Philosophy and Religious Studies
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Alex Hawryluk, Professor Emeritus of Management
John Heinbockel, Professor Emeritus of Mathematics and Statistics
Paul L. Heine, Associate Professor Emeritus of Exercise Science, Sport, Physical Education and Recreation and Associate Dean Emeritus of The Darden College of Education
Carl O. Helvie, Professor Emeritus of Nursing
Carl N. Helwig, Associate Professor Emeritus of Educational Foundations and Special Programs
James D. Hendry, Associate Professor Emeritus of Electrical Engineering Technology
Elizabeth S. Henry, Associate Professor Emeritus of Psychology
Carol F. Hines, Associate Professor Emeritus of Art
Carole P. Hines, Associate Professor Emeritus of English
Philip Hines, Associate Professor Emeritus of English
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Beverley B. Johnson, Associate Professor Emeritus of Health, Physical Education and Recreation
Dorothy E. Johnson, Associate Professor Emeritus of History
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David I. Joyner, Professor Emeritus of Educational Curriculum and Instruction
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Robert L. Kernell, Professor Emeritus of Physics
Lewis S. Keys, Associate Professor Emeritus of Chemistry and Biochemistry
Govind S. Khandeawal, Professor Emeritus of Physics
Earl C. Kindle, Professor Emeritus of Oceanography and Geophysical Sciences
Raymond H. Kirby, Professor Emeritus of Psychology
Paul W. Kirk, Professor Emeritus of Biological Sciences
Carl F. Koch, Professor Emeritus of Geological Sciences
Edgar A. Kovner, Professor Emeritus of Mechanical Engineering Technology
Harry S. Kuper, Associate Professor Emeritus of Chemistry and Biochemistry
Ralph V. LaHaie, Professor Emeritus of Speech Communication and Theatre Arts
J. Hirst Lederle, Associate Professor Emeritus of Engineering Technology
Mark Lesley, Associate Professor Emeritus of Mathematics and Statistics
Gerald Levy, Professor Emeritus of Biological Sciences
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Cameron A. Lowe, Associate Professor Emeritus of Dental Hygiene and Dental Assisting
James G. Luton, Professor Emeritus of Dental Hygiene
Robert H. MacDonald, Professor Emeritus of Educational Curriculum and Instruction
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Vernon McCarty, Fine and Performing Arts Reference Librarian and Librarian
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Lindsay Rettie, Professor Emeritus of Dental Hygiene and Dental Assisting and Dean Emeritus of the College of Health Sciences
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Alfred B. Rollins, President Emeritus and Professor Emeritus of History
Robert K. Rose, Professor Emeritus of Biological Sciences
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