OLD
DOMINION
UNIVERSITY
GRADUATE
CATALOG

CATALOG ISSUE 2006-2007
ANNOUNCEMENTS 2006-07 and 2007-2008

Hampton Boulevard
Norfolk, Virginia 23529

http://www.odu.edu/graduatestudies

Issued by the Office of Graduate Studies
# Academic Calendar

## First Semester 2006-07

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 26 (Saturday)</td>
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<td>September 4 (Monday)</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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<tr>
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<td>January 13-15 (Sat-Mon)</td>
<td>Martin Luther King, Jr. Holiday</td>
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## Summer 2007

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<td>Session 1 &amp; 3 classes begin</td>
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<td>May 14 (Monday)</td>
<td>Session 2 classes begin</td>
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<td>May 28 (Monday)</td>
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## First Semester 2007-08

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When students matriculate with Old Dominion University, they come under the academic requirements of the edition of the University Catalog at that time. Students may graduate under these academic requirements within a period of six years (master’s degree students) or eight years (doctoral students) even though subsequent Catalogs may change. Academic requirements include competency requirements, grade point average requirements, and degree program requirements. 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, graduate students must have permission of the graduate program and dean to select a 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.

IV OLD DOMINION UNIVERSITY
Letter from the Vice Provost

Old Dominion University is undergoing a transformational rise in the quality of our programs. Our vision is to train the future leaders, professionals and societal shakers for a very different and dynamic 21st century world. The demand for quality and meaningful education in higher education has reached new heights and this demand is most critical in graduate education. ODU is responding to these demands by offering certificate, licensure, masters and doctoral programs that enhance not only knowledge but the skills and real-life experiences you need to solve problems, to think creatively and critically, to work with diverse teams, and to communicate effectively to a multidisciplinary and international audience.

In the information that follows, you will see that ODU offers a wide range of dynamic graduate programs in our colleges of Arts and Letters, Business and Public Administration, Education, Engineering and Technology, Health Sciences and Sciences. Our graduate students enjoy many opportunities to work on interdisciplinary, collaborative research projects with faculty who are recognized nationally and internationally for their innovative teaching and ground breaking research. Many of our graduates have distinguished themselves in academic as well as in public and private venues. We take pride in our tradition of excellence and success in nurturing future scholars and professionals.

The Office of Graduate Studies staff and the ODU faculty welcome the opportunity to discuss with you how our programs may accommodate your interests.

Best wishes for your success!

Sincerely,

Philip J. Langlais
Vice Provost for Graduate Studies and Research
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 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 commuter 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 “Advancement of Teaching” – and 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 cutting-edge facilities that have created a campus 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 the new Engineering and Computational Sciences Building. The campus is also home to Pretlow Planetarium, the Lions Child Study Center, superior facilities for clinical work in the health sciences, a modern Oceanography and Physical Sciences Building, the Gorino 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 Conservatory, a larger Performing Arts Center and the completion of renovations to the Technology Building and the Batten Arts and Letters Conservatory and the completion of renovations to the Technology Building and the Batten Arts and Letters Conservatory and the completion of renovations to the Technology Building and the Batten Arts and Letters Conservatory and the completion of renovations to the Technology Building and the Batten Arts and Letters Conservatory and the completion of renovations to the Technology Building and the Batten Arts and Letters Conservatory 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 Recreational 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 Reidy 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.

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 state’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 constituencies with its resources. These include: current and prospective students seeking undergraduate, graduate, and continuing education programs; business and industry; government 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.

As a center of learning, 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 constituencies because they are from other locales in the United States and are looking to become, among other things, internationally capable in an international environment.

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 deems recruitment and retention of minority and women faculty members and staff to be essential.

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 of new knowledge. 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, fine 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 along with 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 both 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 gained from such efforts is utilized to ensure that 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 recognized a role in the decision-making processes 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 maritime and commerce center that is Virginia’s window to the nation and 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 importance to the region. 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 leader in the field of technology-delivered distance learning, Old Dominion University is committed to providing academic 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.

11. Quality.
Improvement of the University is a continual process. The foregoing goals provide criteria for the rigorous and regular evaluation of the quality, pertinence and effectiveness of academic and other University programs. These goals also provide criteria for the assessment of student achievement and the performance of members of the faculty, administration, and staff.

Adopted by the Board of Visitors
January 17, 1989
Revised April 15, 1999
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 bachelor and graduate 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 baccalaureate degrees in all areas of study and the master’s degree in public administration are accredited by the National 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 American Chemical Society certified.

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 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 Education for Public Health. The cytotechnology certificate program and the optometry technology certificate program are accredited by the Commission 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; Civil Engineering Technology, Electrical Engineering Technology, General Engineering Technology, Mechanical Engineering Technology; Bachelor of Science in Health Sciences; Bachelor of Science in Human Services; Bachelor of Science in Interdisciplinary Studies; Professional Writing, Teacher Preparation (Pre-K through 6)*; 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 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 professpro@wved.wa.gov to determine whether this educational 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. Lobbeck, Jr. Endowed Chair. Established in 2002 by the Lobbeck-Taylor Foundation, this funding created an endowed chair in advanced engineering environments in the Batten College of Engineering and Technology. Mr. Lobbeck 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 E. 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 endowment which supports 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 institution.

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.
Intercolllegiate Foundation

The Old Dominion University Intercolllegiate Foundation was incorporated in 1964 to provide funds for the University to compete successfully in intercolllegiate 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 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 both 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 one’s 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 Education 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-destination 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 website 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-seven week sessions per year) 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/esl.

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 to 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.

Northern Virginia Higher Education Center
21335 Signal Hill Plaza, Suite 300
Sterling, VA 20164
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/dl/nutn

Weekend College

Weekend College is part of the academic program at Old Dominion University. 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.

Students attending Weekend College at Old Dominion University must meet the University’s admission requirements and appropriate program requirements, if specified for an undergraduate or graduate program. Undergraduate degree-seeking students may also be required to take the English and Math placement examinations.

Weekend College offers courses during fall, spring and summer sessions. Students may obtain information online at http://www.odu.edu/weekendcollege.

For more information, call 683-6388 or e-mail weekend@odu.edu.

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) 683-5484 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 upper-classmen and graduate students such as one, two and four-bedroom apartments (Nusbaum Apartments, Powhatan Village, and the University Village) and single occupancy rooms in the Quad 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 exception of the Nusbaum apartments, cable TV and internet connections are provided in all residences.

Three dining centers provide meals for on-campus residents. Residence hall students are required to purchase a meal plan, while meal plans are optional in all of the apartments except for Powhatan. In Powhatan, residents are required to purchase a minimum 25 meal block 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, 4701 Powhatan Avenue, Suite G-1, Norfolk, Virginia 23508, call (757) 683-4283 or email: housing@odu.edu.

Off-Campus Housing

The University 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 housing information system can be accessed via the web at web.odu.edu/offcampushousing.

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.

II. 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 last 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 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 accommodations are not agreed upon 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.

III. 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 the 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.

IV. 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.

Code of Student Conduct

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 to an individual by a faculty or student official.

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 bound 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 of 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 library 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;

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

BB. Retaliation.

VI. Violations of Residence Hall Rules and Regulations

It is recognized that living in groups requires a certain amount of tolerance and conformity by all concerned. Rules controlling conduct within housing owned or controlled by the University are promulgated by the Office of Residence Life to enhance the freedom and comfort of everyone living in the residence halls. These rules, along with procedures for their enforcement and applicable sanctions, are published in the Residence Hall Handbook available from the Office of Student Housing.

The Old Dominion University Code of Student Conduct and disciplinary procedures apply to all students, including those who live in the residence halls. Alleged violations of the Code by residence hall students will be forwarded to the vice president for student affairs or his/her designee.

VII. Sanctions

A student who violates the Code of Student Conduct may be subject to the following sanctions. Sanctions of suspension, dismissal and any sanction resulting from an act of academic dishonesty will be recorded on the student’s official University transcript. All sanctions will be recorded in the student’s discipline file, which will be maintained by the Office of Student Judicial Affairs.

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.

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.

C. Disciplinary Suspension

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

D. Disciplinary Dismissal

Disciplinary dismissal is the permanent separation of a student from the University. In the case 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 the institution of 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; and
   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 not on disciplinary probation, the student will be placed on disciplinary probation for one calendar year.
   e. 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.
   f. 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.

1. 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 petitioning student’s academic advisor(s) for the assignment or exam during which the dishonesty occurred within three weeks of the receipt of the petition.

4. If the student denies the allegation of academic dishonesty, or if the faculty member believes the severity 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 “F” 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:

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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 summonses.

2. The accused student will be informed of the alleged violation(s) in writing. The vice president for student affairs or University hearing officer 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 available at the time of the notice 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 student 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 not 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 her/his 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 action.

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 participating in a hearing 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 rulings of the hearing officer.
   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
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 panel affixes a different sanction date.

2. An accused student or organization appealing the decision of the hearing officer should file a notice of appeal to the Student Conduct Committee via the Office of the Vice President for Student Affairs. Such an appeal must be physically received in the vice president’s office within seven business days from the date of the letter containing the findings in the case. The appeal must include the specific grounds for the appeal, and the names of witnesses that the accused student intends to call for the hearing; and it must be personally signed by the student or an organizational officer. The notice of appeal shall contain, at a minimum, a statement of grounds for appeal and a summary statement of the facts supporting such grounds. Grounds for appeal include:
   a. A claim that the decision was not made in accordance with prescribed procedures and identifying the procedures which were not followed;
   b. A claim that the sanction(s) imposed was (were) inappropriate or overly harsh; (sanctions of reprimand and disciplinary probation except in cases involving restitution, fines or academic dishonesty, are not subject to appeal);
   c. A claim that the decision was clearly erroneous;
   d. New evidence, not available in a previous hearing, which could exonerate the accused student.

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 him or her 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 date, time, and place of the hearing. This written notice will also 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 working days before the hearing date, unless the hearing officer, for good cause, shall fix a shorter time. If a student who has been properly notified fails to appear for 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, note the presence or absence of the student appealing the decision, read the notice of hearing, verify the notice of charges given to the student, report any continuances granted, establish the presence of any advisor 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 appeal. The Student Conduct Committee shall then determine whether an appeal is substantiated. Only evidence or witnesses that the chair deems relevant to the stated grounds for appeal will be heard. In certain cases the hearing officer may be assisted by an advisor.

The appeal hearing shall be limited to testimony and evidence related to the grounds for appeal as stated by the accused student. The hearing officer will brief the panel on the charges and nature of the case, introducing any evidence and witnesses relevant to the appeal. After the hearing officer has introduced and questioned a witness, the witness may then be questioned by the panel members and the accused student. The panel and 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 presence of all parties to 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. At the conclusion of the panel members’ deliberations, 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 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.

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b. The appealing student may have an advisor of the student’s choice present during the hearing. Generally, the advisor shall be present for consultation purposes only and shall not be permitted to speak on the student’s behalf. However, an advisor 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 advisor, the accused must provide a signed letter designating that person as their official representative before the University can communicate to the advisor 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 time, place, and 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 accused and the accused in these cases.

2. Upon notification of an alleged violation, the accused shall not initiate any contact, direct or indirect, 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.

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 retaliates 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;
• uninvited 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 accused member of the University community and the appropriate supervisor/administrator, with a copy of this policy and advise him or her that an investigation of charges will be conducted.

4. The supervisor/administrator, working with the EO/AA Office, shall conduct a prompt investigation of the complaint. During the investigation, the individual accused of sexual harassment must be provided with an opportunity to respond, either orally or in writing, to the complaint.

5. In determining whether the alleged conduct constitutes sexual harassment, the supervisor/administrator will look at the record as a whole and at the totality of the circumstances, such as the nature of the sexual conduct and the context in which the conduct occurred.

6. Upon the completion of the investigation of the complaint, the supervisor/administrator shall submit the findings to the EO/AA director. In conjunction with the EO/AA Office, the supervisor/administrator shall seek to secure a written agreement that satisfies all parties to the complaint. If such an agreement is reached, a copy of the agreement shall be provided to each of the parties involved and the EO/AA director.

7. A resolution by agreement of the parties may include the imposition of a sanction upon the accused individual which the accused individual agrees to accept as a sanction.

8. If the proposed resolution is not accepted by the accused individual, the supervisor/administrator may impose a sanction.

9. The EO/AA director shall approve or modify a sanction or the terms of an agreement.

10. The accuser’s right for redress under this policy shall terminate upon the imposition of a sanction.

11. If an investigation of a complaint exceeds thirty (30) days from the date of receipt by the supervisor/administrator, the EO/AA director shall notify the parties in writing of the progressive status of the investigation and the proposed extension of time needed for completion of the investigation.

12. Other related issues not specifically identified in the complaint may be brought to the attention of the appropriate administrator by the EO/AA director.

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 applicable University disciplinary and sanction procedures.

C. University Complaint Resolution Procedures
1. A complaint of sexual harassment may be pursued in accordance with the appropriate University complaint resolution procedure:
2. The complainant shall not be entitled to more than one of the procedures for complaint resolution outlined in III.C.1.
3. The sanctions that may be imposed by the appropriate tribunal shall include but not be limited to:
   a. For faculty, administrators, and staff — censure/reprimand, demotion, suspension without pay, or discharge.
   b. For students — probation, suspension or expulsion.
   c. For other members of the University community— reprimand, temporary or permanent debarment from University functions, activities and memberships.

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

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 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 the 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 complaint 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 judgement, 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. Records 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.
Academic Resources

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: Diehn Fine and Performing Arts Center, Room 109, 683-4059. 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 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. Ludwing 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 disk 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 room is available for coursework level instruction and is equipped with data connections and whiteboards for instructional activities. Data connections and electrical outlets are available for laptops throughout the area.

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 offers many services and 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 printed reserves. Electronic reserves are available at http://www.lib.odu.edu/ereserve. 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 slides; create 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, 683-4170, 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 held in the University Libraries’ collection to distance learners. 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 easy access to the collections. 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/research.

Virginia Beach Higher Education Center, Information Resource Center: Room 146, 368-4100. The Virginia Beach Higher Education Center’s Information Resource Center includes TELETECHNET program services, audio visual equipment, and the computer lab at a single, convenient point for students. Librarians work via phone, email and on site instruction sessions to assist students in learning resources needed for specific classes. Center staff assist with reserve materials and delivery of books and other materials. Lab stations provide online access to traditional library resources and services via the University Libraries home page. Library web services include email consultation and reference services, interlibrary loan services, access to the library collections through its online catalog, to scholarly databases, to electronic reserves, and to academic-level web resources for university programs. The library’s web page is accessible from both the lab and home at http://www.lib.odu.edu.

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/merges 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 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
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 and tools used 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. 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 occshelp@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 all workstations 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 OCCS web site 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.

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.

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.
Research Resources

Entrepreneurial Center

The Entrepreneurial Center specializes in providing business assistance to technology-driven start-up and existing growth companies. Examples include software and innovative products/service companies. The center also assists with raising funds for small “growth” businesses. For more information, please phone or fax 757 549-4916.

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 support 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.

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 Colleges 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 executable architectures. 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, immersive 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 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 and Enterprise Centers

The University has established a number of research and enterprise centers, please check the individual colleges for information regarding centers in their specific area.
GRADUATE STUDIES
AT OLD DOMINION UNIVERSITY

www.odu.edu/graduatestudies

212 Koch Hall
Norfolk, VA 23529
757-683-4885

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The Office of Graduate Studies

Our Role
• Articulate a Vision of Excellence for the Graduate Community
• Provide Quality Control for all Aspects of Graduate Education
• Maintain Equitable Standards Across All Academic Disciplines
• Provide an Interdisciplinary Perspective
• Enhance the Intellectual Community of Scholars Among Faculty and Students
• Serve as an Advocate for Graduate Education
• Develop Ways for Graduate Education to Contribute to and Enhance Undergraduate Education
• Emphasize the Importance of Preparing Future Professoriate and Professionals
• Support Graduate Student Services and Quality of Life
• Serve as an Advocate for Issues and Constituencies Critical to the Success of Graduate Programs.

Our Services
• Program & Curriculum Development & Approval
• Graduate Administration Oversight and Training
• Graduate Policies and Procedures
• Graduate Information Management & Reporting
• Enrollment Management
• Financial Support and Tuition Waivers
• Graduate Faculty Certification
• Training Programs for Teaching Assistants, Research Assistant, Graduate Assistant, Graduate Program Directors and Support Staff
• Student Appeals – Grievances, Probation, Suspension
• Periodic Program Assessments & Reviews
• Joint-Multi-Institutional Programs, e.g., ODU-EVMS Ph.D. in Biomed. Sci.
# Synopsis of Graduate Degree and Post-Baccalaureate Certificate Programs

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<th>Degree</th>
<th>MAJORS</th>
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<tr>
<td><strong>College of Arts &amp; Letters</strong></td>
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<tr>
<td>Doctor of Philosophy (Ph.D.)</td>
<td>Criminology/Criminal Justice</td>
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<td>Master of Arts (M.A.)</td>
<td>Applied Linguistics</td>
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<td>Master of Fine Arts (M.F.A.)</td>
<td>Creative Writing</td>
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<td>Master of Music Education (M.M.E.)</td>
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<tr>
<td>Graduate Certificate Programs</td>
<td>Literature</td>
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<td>College of Business and Public Administration</td>
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<tr>
<td>Darden College of Education</td>
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<td>Educational Leadership</td>
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<tr>
<td>Reading</td>
<td>Occupational &amp; Technical Studies</td>
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<td>Master of Science (M.S.)</td>
<td>Occupational and Technical Studies</td>
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<tr>
<td><strong>Batten College of Engineering and Technology</strong></td>
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<tr>
<td>Doctor of Philosophy (Ph.D.)</td>
<td>Aerospace Engineering</td>
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<td>Master of Engineering (M.E.)</td>
<td>Environmental Engineering</td>
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<tr>
<td>Master of Science (M.S.)</td>
<td>Aerospace Engineering</td>
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### College of Health Sciences

#### Graduate Certificate Programs
- Advanced Engineering
- Bioelectrics
- Homeland Security
- Coastal Engineering
- Professional Study in Engineering Management
- Wireless Communication

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<th>DEGREE</th>
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<tr>
<td>Doctor of Philosophy (Ph.D.)</td>
<td>Health Services Research</td>
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<td>Doctor of Physical Therapy (D.P.T.)</td>
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<td>Master of Science (M.S.)</td>
<td>Community Health, Dental Hygiene</td>
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<td>Master of Science in Nursing (M.S.N.)</td>
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<tr>
<td>Master of Public Health (M.P.H.)</td>
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<tr>
<td>Graduate Certificate Programs</td>
<td>Healthcare Management, Occupational Safety</td>
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<th>DEGREE</th>
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<tbody>
<tr>
<td>Doctor of Philosophy (Ph.D.)</td>
<td>Applied Experimental Psychology, Biomedical Sciences, Chemistry</td>
</tr>
<tr>
<td>Doctor of Psychology (Psy.D.)</td>
<td>Computer Science, Ecological Sciences, Human Factors Psychology</td>
</tr>
<tr>
<td>Master of Science (M.S.)</td>
<td>Biology, Chemistry</td>
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<tr>
<td>Graduate Certificate Programs</td>
<td>Geographic Information, Psychology</td>
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1Ph.D. in Criminology and Criminal Justice planned for 2007 pending approval of the State Council for Higher Education.
Graduate Admission

Office of Admissions

The role of the Office of Admissions is to recruit, admit and enroll local, national and international students. Admission to Old Dominion University is open to all qualified students regardless of race, gender, age, national origin, veteran status, disability, political affiliation or sexual orientation.

General Requirements for Admission

For regular admission, applicants must have earned a bachelor’s degree from an institution accredited by a regional accrediting body or an equivalent degree from a foreign institution. An applicant must have earned at least a 2.80 cumulative grade point average (4.00 scale) for admission to a master’s program and at least a 3.00 cumulative grade point average for admission to a doctoral program. Additional requirements are imposed by individual graduate programs. For specific program requirements, prospective students should consult the appropriate section of this catalog and contact the appropriate graduate program directors.

Students who apply before completion of undergraduate work may be admitted on the condition that the bachelor’s degree is received before the beginning of actual graduate studies.

Students whose backgrounds are judged to be deficient in any specific area of study or whose undergraduate grades or test scores are below the required average may be admitted provisionally and asked to make up the deficiency by taking one or more courses at the undergraduate level. Graduate credit will not be awarded for these courses.

Standardized Tests

The Graduate Record Exam (GRE) and the Graduate Management Admission Test (GMAT) are normally required for admission. Test scores are considered valid for five years. Students with test scores older than five years should contact the program director for guidance.

Required by some programs, the Miller Analogies Test (MAT) is administered by appointment through the University Testing Center. Applicants should contact that office to make arrangements for taking the MAT.

Some programs require that students take the Exit Examination of Writing Proficiency, administered by the University’s Writing Center, prior to completion of nine graduate hours of study. Graduate students in additional programs must take the Graduate Writing Proficiency Examination administered and evaluated by the College of Education.

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, DANTES, 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.

Application Procedures

Individuals interested in graduate work at Old Dominion University should apply on line at admissions.odu.edu or contact the Office of Admissions to obtain the forms and information. The applicant must first complete the Application for Admission to Graduate Study (and include the application fee), then arrange for the submission of official transcripts from each college or university previously attended. The completed application and supporting documents should be sent to the Office of Admissions by the deadlines established by the programs to ensure complete processing of an application. Transcripts are not required of the non-degree applicant for initial registration, established by the programs to ensure complete processing of an application. Transcripts are not required. Graduate credit will not be awarded for these courses.

Several programs of a highly competitive nature have early deadlines. Failure to submit a “complete” application by the program’s established deadline date will result in removal of the application from consideration for admission. Applications that remain incomplete for 6 months after the initial deadline will be purged unless the student requests deferment to a subsequent semester.

Application may be made to only one graduate program at a time. No provision is made at Old Dominion University for dual-program graduate study.

Applicants should refer to admissions.odu.edu or the paper application for program application deadlines.

The Admission Decision

A written notice from the Office of Admissions or International Admissions, not letters from departments or faculty members, is certification of admission. Admission to graduate study may be limited by the number of places available in the various programs, colleges, schools, and departments of the University. Applicants are encouraged to apply early. The application process may span six to eight weeks depending on timely receipt of documents. After supporting credentials have been received and reviewed, applicants for admission are usually notified within 30 days of the action taken on their application.

International Student Admission

All international applicants seeking or holding non-immigrant visas should request an Application for International Undergraduate Students or Application for International Graduate Students from the Office of International Admissions. Official academic records and evidence of English language proficiency (if the applicant’s native language is not English) must be submitted. All students seeking or holding F1 (student) or J1 (exchange scholar) visas must submit official verification of financial resources sufficient to cover educational expenses as well.

Photocopies, notarized copies, or faxed copies of required official documents will not be accepted. Certified translations by a licensed or professional translator must accompany academic documents not written in English. Translations of official documents completed by the student will not be accepted.

Additional information required by graduate departments is specified in the International Graduate Application. All applicants, should read the application prior to applying to insure they understand the admissions process. Following the application instructions will insure a prompt admission decision.

Applicants outside the United States are recommended to apply to Old Dominion University six to eight months prior to their desired date of enrollment. This period of time is required to allow time for the exchange of correspondence, evaluation of all necessary documents, and the settling of financial, immigration, and housing matters. Application and credential deadlines are as follows:

- 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 Rolls Hall
  Norfolk, Virginia, USA 23529
  Tel: (757) 683-3701
  Fax: (757) 683-5196
  E-mail: intladm@odu.edu
  Website: www.odu.edu/intladm

The international graduate applications are available at the website noted above.

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 from their enrollment in the program. Also, 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:

1. Graduate applicants who are non-native speakers of English must provide evidence of English language proficiency through fulfillment of one of the following:
   1. Submission of a TOEFL score of 550 or CBT of 213, a GRE verbal score of 480, an IELTS overall band of 6.5, a CPE grade of A, B, C.
   2. Possession of a bachelor’s or master’s degree from an accredited institution located in a country where English is the native language.
   3. Successful completion of the Graduate Bridge Program.

Graduate students who choose to satisfy English language proficiency requirements through the Graduate Bridge Program will be placed according to the following criteria:

1. Students with TOEFL scores below 500 or CBT scores below 173 will be placed in a full-time English language program.
2. Students with TOEFL scores below 550 but above 500 or CBT scores below 213 but above 173 will be placed in a comprehensive Graduate Bridge Program including academic course work (one graduate course) and semi-intensive English language courses (seven hours). Students will be considered as having satisfied English language requirements when they have successfully completed two semesters in this program. Attendance in the seven-week Summer Graduate Bridge Program can count as one semester. Successful completion is defined as a minimum grade of B in each graduate academic course and in English language courses. No student will receive a grade of A or B in English language courses without demonstrating 85% attendance.

Also, non-native speakers of English who anticipate holding a teaching assistantship position must provide evidence of oral English proficiency. They may take the Test of Spoken English (TSE), given by the Educational Testing Service (ETS) at sites around the world, or the ETS SPEAK Test, administered by the English Language Center at Old Dominion University. Graduate teaching assistants who fail to pass either of these tests will not be eligible to assume an instructional position.

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 require submission of 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 on-line deferment form at www.odu.edu/intladm.

Distance Learning/ TELETECHNET Admission

Students who are applying for a distance learning program are encouraged to apply on-line and include their essay and resume. Students may request letters of recommendation within the on-line application and the recommendation letters can either be mailed or sent electronically to the Office of Admissions. Paper applications are available and may be submitted to the local Distance Learning location or mailed to the Office of Admissions. All graduate applications are processed according to the University policies and procedures contained in this catalog.

Types of Admission Status

Degree Seeking Applicants

Regular. Students who have fully met the requirements for admission to a program.

Provisional. An applicant who does not fully meet the requirements for admission as a regular graduate student may, at the discretion of the graduate program director, be allowed to enroll in a graduate program as a provisional graduate student. This is normally a temporary status, which will be changed by the graduate program director to that of regular status when the student has fulfilled all the terms and conditions detailed in the offer of provisional admission. The change in status ordinarily will take place after the completion of at least 12 hours of graduate course work in which the student has earned the average grade of B (3.00) or better and upon completion of any prerequisite work. Previous non-degree credits earned may not be included for purposes of satisfying the provisional 12-hour requirement. No student with less than a 3.00 average will be granted regular status. Should a provisionally admitted graduate student not qualify for regular status at this time, the student may request non-degree status. Provisional students placed in non-degree status must reapply for admission to a degree-seeking program. The Regulations for Continuance section of this Catalog applies to both provisional and non-degree students. Credits earned as a provisional student may be applied toward the fulfillment of degree requirements. Credit earned while in non-degree status is subject to the limitations described below for non-degree admission.

Deferred Enrollment. With approval of the graduate program director, enrollment into a graduate program can be deferred for no more than 1 calendar year beyond the start of the original semester for which admission was offered. For example, students offered admission for fall may request to defer their enrollment to the next fall semester. The records of students who have not enrolled after 1 calendar year will be purged and students will have to reapply for admission.

Nondegree Seeking Applicants

Applicants who do not intend to complete a graduate degree at Old Dominion University and who possess a bachelor’s degree may upon approval of the graduate program director or the academic department, be permitted to register for graduate-level course work as non-degree graduate students.

Non-degree students may be:
1. visiting student – A student who takes course work at Old Dominion University and then transfers the course credit to the home (degree-granting) institution.
2. applying for a certificate program.
3. expanding academic background or teacher certification.
4. taking courses for personal and/or academic growth.
5. intending to apply as degree seeking for a successive term, or missed the application deadline.
6. taking prerequisites (undergraduate, second degree or graduate) for a degree-seeking program.

Official transcripts from each college or university previously attended must be on file prior to the completion of six graduate credit hours. Non-degree graduate students are required to provide proof of college graduation via official transcripts prior to registering for a second semester unofficial records or a personal interview may be requested for admission purposes.

Graduate students placed in non-degree status must reapply for admission as a regular graduate student may, at the discretion of the graduate program director, the graduate program director in the field will determine which of the courses, if any, up to 12 hours, may be applied toward the degree.

Continuing Student Admission

Continuing applicants are degree-seeking students who have left the University in good standing and would like to return. Such students are required to complete a reactivation/readmission form if the separation from the University is less than five years If the separation period is greater than five years, the applicant will be required to reapply and resubmit all official transcripts and required credentials.
Registration Requirements and Procedures

Registration

There are several registration options available to graduate students: registration via the world wide web at www.leonline.odu.edu, on campus preregistration, on-campus continuous registration, and off-campus registration.

Pre-Registration

Preregistration is reserved for currently enrolled degree-seeking students. Students are encouraged to preregister since they will have a better chance of obtaining satisfactory schedules of classes.

Open Registration

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.

Authorization to Enroll in Graduate Courses

Degree Seeking Students

All students who have been admitted in regular or provisional status to graduate degree programs must have the advisor block lifted prior to registration each semester. Registration for graduate courses in engineering and business requires departmental approval. Students should consult with their advisors to discuss their program of study and to schedule appropriate courses in advance of registration whenever possible.

Nondegree Seeking Students

Nondegree graduate students should seek advice from the department/school offering the course, or, if registering for engineering or business courses, permission of the department/school.

All nondegree graduate students who have completed six credit hours of graduate courses will receive an “advisory” notice upon attempting to register for additional graduate courses. This notice will advise the student to contact the Office of Graduate Studies to obtain counseling and recommendations. This “advisory” notice will not prevent registration.

All nondegree graduate students attempting to register for additional graduate courses and who have completed or will exceed 12 credit hours (13 credit hours for certain military programs) will be blocked from registering. To remove this registration block, a student must contact the Office of Graduate Studies for advice on gaining admission into a graduate program or to receive written permission from the vice provost of graduate studies and research to take additional hours as a nondegree student.

Students taking graduate courses for licensure, certification or professional development (e.g., Virginia Department of Education “endorsements”) will not receive the advisory notice and will be exempt from the registration block. Contact the department offering the affiliate program for specific registration information and procedures.

Students should consult the Guide to Enrollment issued by the Office of the Registrar each semester for the most current advising and registration policies.

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.

Course Numbering (Graduate Level)

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.

Topics course numbers include 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 schedule book 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 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 schedule book with the designation “TBA.”

Cooperative Education course numbers are 667 and 867.

Internship course numbers are 668, and 868.

Practicum course numbers are 669, and 869.

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 the 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.

Graduate System of Grading

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<tr>
<td>A-</td>
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<tr>
<td>B+</td>
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<tr>
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<tr>
<td>B-</td>
<td>2.70</td>
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<tr>
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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 given only in exceptional circumstances beyond the student’s control, such as illness, and only after 80% of the time allocated for the course has been completed. In these cases it is the
Dropping, Adding and Withdrawing From Classes

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.

Drop/Add Procedures

Students may drop classes within the first seven calendar days after classes have started. 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. Students may add classes up to 11 calendar days after classes have started (for full semester classes).

Once registered, all students, including TELETECHNET students, must drop or add classes via the secure website at www.leononline.odu.edu or submit a completed drop/add form to the Office of the University Registrar. The date the form is received in the Office of the University Registrar or processed via LEO, determines tuition adjustments, if applicable. Drop/add forms 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).

Students enrolled in degree programs in which sequencing is critical must consult their academic advisors regarding dropping from courses. In such programs, dropping of courses may necessitate additional time to complete University and/or departmental degree requirements.

Withdrawal Procedures

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, or program director, 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 must submit, no later than the last day of classes, a written petition for permission to withdraw to the instructor and the chair of the department 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 WF, except if the student’s performance has been an 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 F.

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 services or designee or the Health Center. If the student initiates the withdrawal, the associate vice president’s office or the Health Center will determine what verification is necessary and document the situation.
3. A request to withdraw the student from all classes will be submitted by the student advocate of the Student Success Resource Center, to the Office of the Registrar.
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 withdraw (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.

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 instructor by the student 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:

   Change of an I to a W only if the I grade was assigned unilaterally by the instructor; a research project is irretrievably 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.

   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.
Grade Appeal Procedure

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

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 (1) include a letter that states specific reasons and give examples of faculty prejudice or caprice, and (2) shows that prejudice or caprice affected the awarding of the final course grade. The appeal should be presented as a complete package and include all supporting documentation.

5. If the instructor is the dean, the student will submit the grade appeal letter to the dean.

6. If the person to whom the second-level appeal is submitted concludes that there is no cause for complaint, the student has the right to appeal to the dean. If the dean refuses to change the grade, the student may request in writing that 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.

7. If the committee finds that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs to initiate the second-level appeal.

8. 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.

9. 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.

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.

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.

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.

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.

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.

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.

Application for Graduation

Each graduate 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.
- Graduate students who wish to apply for graduation should download the “Application for Graduation Form for Graduate Students” from the Registrar’s website, www.odu.edu/registrar; click on “forms.” Application deadlines are published in the Guide to Enrollment and on the Registrar’s website, but typically fall during the twelfth week of
Interinstitutional Agreements and Opportunities to Fulfill the Degree

Academic Common Market
Old Dominion University graduate programs participate 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.

Interinstitutional Study Program with Norfolk State University
Old Dominion University graduate 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(s) to be taken at the other institution. The exchange will be honored both in the regular session and in the summer session. 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 as resident credit at the home institution for degree purposes. (Courses taken at EVMS 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.

Student Exchange Policy Between the College of William and Mary and Old Dominion University
The registrars at Old Dominion University and the College of William and Mary will each register students in all departments in the College of Sciences (Old Dominion) and the School of Marine Science (William and Mary) for courses at the other institution. If the student presents a properly signed form listing the course(s) to be taken at the other institution, the exchange will be honored in both regular sessions and in summer sessions, and will apply to graduate students at the master’s, certificate of advanced study, and doctoral levels at both institutions. The student must have completed prerequisites for the course(s) for which he/she registers. Core curriculum requirements must be met at the home institution. Elective courses and departmental requirements may be satisfied through exchange courses, but approval is required from the student’s department. If a particular course is offered at the home institution, it may not be taken for credit at the other institution. All credits earned will be considered as resident credit at the home institution for degree purposes. The tuition and fees applicable to the courses taken will be handled according to current interinstitutional policies regulating these.

Navy Education Consortium and Educational Agreements
A consortium of higher education institutions, located near major naval facilities, has developed a means to enhance the opportunities for active duty naval officers to participate in graduate education at the master’s level. The institutions are Old Dominion University, George Washington University, Memphis State University, The University of Rhode Island, San Diego State University and the University of West Florida. The program areas which may be offered under the auspices of the consortium include international and political studies, computer information sciences, and computer science. These higher education institutions also provide a common curriculum that satisfies competency areas as set forth by the Navy for the ETMS program. Officers participating in the program are enrolled in the Master of Science in Education degree program with a major in educational administration. For current information, contact the Office of Academic Affairs.

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), Eastern Shore Community College (Melfa); Hampton University (Hampton); Norfolk State University; Paul D. Camp Community College (Franklin); Thomas Nelson Community College (Hampton); Tidewater Community College (all campuses); and Virginia Wesleyan College (Norfolk).

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

Student Exchange Policy Between Eastern Virginia Medical School and Old Dominion University
The registrars of Old Dominion University and Eastern Virginia Medical School (EVMS) will each register a student for courses at the other institution if the student presents a properly signed form listing the course(s) to be taken at the other institution. The exchange will be honored both in regular sessions and in summer sessions and will apply to graduate students at the master’s and doctoral levels at both institutions. The students must have completed all prerequisites of the courses for which they register. All credit so earned will be considered as resident credit at the home institution for degree purposes. (Courses taken at EVMS under this policy will be considered the same as Old Dominion University courses; all other courses are subject to transfer credit policy limitations.)
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>Graduate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition and Fees—per credit hour</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 Program</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>Graduate students (9 or more semester hours)—mandatory</td>
<td>$55.00</td>
<td>$55.00</td>
</tr>
<tr>
<td>Part-time 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 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 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>
<tr>
<td>Higher Education Centers (including Northern Virginia Higher Education Center) and Off-Campus Offerings within Hampton Roads:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>$285.00</td>
<td>$715.00</td>
</tr>
<tr>
<td>TELETECHNET and Off-Campus (Outside Hampton Roads):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>$285.00</td>
<td>$715.00</td>
</tr>
<tr>
<td>TELETECHNET USA (Outside Virginia):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>$327.00</td>
<td>$327.00</td>
</tr>
</tbody>
</table>

Students who are eligible to enroll in a combination of undergraduate and graduate courses in any given semester must pay tuition for the courses at the appropriate levels as prescribed. Graduate hours are available at graduate tuition rates, and undergraduate rates apply for undergraduate hours.

Housing Charges—2006-07 Academic Year*

Rogers and Gresham...............................................................$6,640.00
Powhatan I and II (room only per year).................................$4,000.00
Whitehurst (room and board per year).................................$6,720.00

Applied Music Fees—2006-07 Academic Year*

Individual Instruction (2 or 3 credits)......................................$250.00
Individual Instruction (1 credit).............................................$175.00
Group Instruction (class piano or voice).................................$75.00

Laboratory Fees—2006-07 Academic Year*

BIOL 420, 520..............................................................................$25.00
BIOL 407, 507..............................................................................$100.00
CHEM 442W, 542, 444, 544......................................................$50.00
GEOG 402, 404, 502, 504.........................................................$25.00
NURS 619, 658, 659, 660, 665, 672, 673, 674, 764, 765, 767.................................$250.00

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

*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.

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. 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 ODUEDU 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 secured access site on the World Wide Web at www.leoonline.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. Stopping payment on 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 unconditional and 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 web site.

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.leoonline.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 provisions of the 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 hours 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 shifts 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, mandatory job transfers outside of Hampton Roads or extended campus site, involuntary changes in employment schedule 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, deferments 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 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.

TUITION, FEES, AND FINANCIAL INFORMATION 33
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.
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 program 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 loans program, both of which are non-need-based federally supported sources of funding. Alternative loan options are also available.

Financial resources are available to assist Old Dominion University graduate students with their educational costs. Most stipends awarded to graduate students are insufficient for meeting all living expenses; therefore, other sources of income are necessary. Financial aid sources for graduate students typically include teaching and research assistantships, fellowships, tuition grants, Federal Direct Stafford Loan Programs, and part-time student employment. Additional information about need-based financial assistance is available from the Office of Financial Aid.

Prospective graduate students should also consider applying for national fellowships, such as those awarded by the National Science Foundation, the Woodrow Wilson National Fellowship Foundation, the Ford Foundation (minority fellowship program), and the Danforth Foundation. Applicants should check program deadlines, some of which are as early as December 1. Information on fellowships in specific fields is available from the chair or program director of each department/school.

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/financialaid.htm or Old Dominion University’s home page http://www.odu.edu.

Tuition Grants

Tuition grants may be offered to full-time regular or provisional graduate students. Part-time tuition grants may also be available for Virginia residents. Applicants should indicate their desire to apply for tuition grants when applying for admission. Students holding tuition grants who withdraw from courses will be held personally liable for repayment of funds utilized. Additional information is available from the Office of Graduate Studies. Students receiving tuition grants must be registered for nine graduate credits each semester and six in the summer.

Assistantships

Teaching and research assistantships are available to full-time graduate students who meet the requirements listed under the Graduate Assistantship Guidelines. Stipends vary by program and college. Additional information is available from office of Graduate Studies.

Fellowships

Fellowships are awards granted for scholastic achievement and promise. Their objective is to enable full-time students to pursue graduate studies and research leading to advanced degrees without requiring them to render any service. Part-time and/or nondegree students are not eligible. Fellows are responsible for payment of their tuition, in- or out-of-state, as applicable.

University fellowships graduate students are under the direct supervision of the Vice Provost for Graduate Studies and Research. Applicants should indicate their intent to apply for a fellowship when applying for admission. Letters of recommendation, current transcripts, and any additional evidence of scholastic achievement that would assist in an evaluation of the student should be on file in the Admissions Office.

Dissertation Doctoral fellowships for graduate students are available to full-time students for pursuit of graduate studies and research leading to the doctorate, with no requirements to render service. These awards currently carry a stipend of $15,000.

Prospective graduate students should also consider applying for national fellowships, such as those awarded by the National Science Foundation, the Woodrow Wilson National Fellowship Foundation, the Ford Foundation, and the Danforth Foundation. Applicants should check program deadlines, some of which are as early as December. Information on fellowships in specific fields is available from the chair or program director of each department/school.

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 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 admitted only for purposes of teacher certification may qualify for a William D. Ford Federal Direct Loan by submitting memo verifying their admission into approved licensure program by Director of Teacher Education Services in the Darden College of Education.

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.

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 will automatically be 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 in writing 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 Guide to Federal Student Aid, which describes the federal student 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 Federal Application for Federal Student Aid (FAFSA) is required of all applicants for financial aid.
Document 1: The Free Application for Federal Student Aid (FAFSA)

The Free Application for Federal Student Aid (FAFSA) is available to fill out online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). The site is known as FAFSA on the Web. Get U.S. Department of Education personal identification number called a PIN at [www.pin.ed.gov](http://www.pin.ed.gov). Fill out what documents you need at [www.studentaid.ed.gov/docs](http://www.studentaid.ed.gov/docs). Fill out the FAFSA on the Web Worksheet at [www.studentaid.ed.gov/worksheet](http://www.studentaid.ed.gov/worksheet) (this step is optional; the worksheet was designed for students who feel more comfortable filing something out on paper before going online to enter their application information). When completing the FAFSA, use Old Dominion University’s Title IV Institution Code (003728). Fill out the FAFSA at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). Keep an eye on your e-mail for a www.pin.ed.gov U.S. Department of Education personal identification number called a PIN at [www.pin.ed.gov](http://www.pin.ed.gov). The PIN can be obtained from the Office of Finance.

Reference. The SAR contains valuable information as well as a unique data keep their SARs and all other financial-aid-related documents for future reference. The SAR contains valuable information as well as a unique data release code.

Document 2: Student Aid Report (SAR)

Once the FAFSA is received and processed, you will receive your results by e-mail within a few days. This e-mail will contain a secure link so you can access your SAR online. If you have a “blocked” folder in your e-mail files, check it. Otherwise you’ll receive a paper SAR in the mail in about two weeks. Students are strongly encouraged to keep their SARs and all other financial-aid-related documents for future reference. The SAR contains valuable information as well as a unique data release code.

Document 3: Employment Eligibility Verification

All U.S. employers are responsible for completion and retention of Form I-9 for each individual they hire for employment in the United States. This includes citizens and non-citizens. On the form, the employer must verify the employment eligibility and identity documents presented by the employee and record the document information on the Form I-9. Additional information can be obtained from the Office of Finance.

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.

Graduate students must be enrolled for a minimum of nine hours during either the fall or spring 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 purpose of financial aid, courses taken as Audit course do not count toward enrolled hours.

The following quantitative and qualitative requirements apply to financial aid programs administered by Old Dominion University for satisfactory academic progress.

I. 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 C- grades, graduate
2. P – passing with 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 2005, receives financial aid, and then withdraws. Student enrolls Spring 2006, receives financial then withdraws. The student is ineligible for financial aid beginning Summer 2006 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.

II. 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.

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 Associate Director of Student Financial Aid, whose decision is final.

D. Graduate students suspended while in a degree-seeking program must receive approval from graduate program director prior to seeking reinstatement.

E. Successful appeals of academic suspension item D above do not automatically result in reinstatement of aid eligibility. Request for consideration 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.

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 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 services 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 in Webb University Center, maintains a listing of available positions on its web site at [http://www.odu.edu/asw/cmc/](http://www.odu.edu/asw/cmc/).
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:

- PLUS loans for graduate or professional students.

PLUS loans for graduate or professional students.

Graduate or professional students are eligible to borrow under the PLUS Loan Program up to their cost of attendance minus other estimated financial assistance in both the FFEL and Direct Loan programs. These requirements include a determination that the applicant does not have an adverse credit history, repayment beginning on the date of the last disbursement of the loan. Applicants for these loans are required to complete the Free Application for Federal Student Aid (FAFSA) and must have applied for their annual loan maximum eligibility under the Federal Subsidized and Unsubsidized Subsidized Loan Program before applying for a Graduate/Professional PLUS loan.

Condition 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 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.

3. 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.

4. A tentative or conditional financial aid package assumes a level of government appropriations which are frequently undetermined at the time of preparation. If legislative bodies fail to provide the anticipated funding level, it may be necessary to reduce or cancel certain types of aid, particularly grants. Students will be notified immediately if such changes become necessary.

5. The Office of Student Financial Aid reserves the right to review, modify or cancel 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.

6. Students who withdraw from ALL courses are subject to regulations regarding the RETURN OF ALL TITLE IV FUNDS. If the date of complete withdrawal precedes the date on which 60% of the academic semester has been complete, 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.

Graduate Awards

The Office of Graduate Studies coordinates the selection process for all graduate awards. The graduate program director in the student’s declared major is the key person for making the nomination to the vice provost of graduate studies for all graduate awards, unless another contact person or application is indicated below. For more information, contact the Office of Graduate Studies.

The Alumni Association Outstanding Scholarships

These 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 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. Students are nominated for the award by their graduate program director and selection is made in Office of Graduate Studies.

Awards Based on Admission to the University

Admissions Scholarships

All entering fall graduate students who submit their admission application and ALL required credentials by the early action/scholarship deadline (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 might include demonstrated financial need, field of study, state 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.

The Scholarship Form for Continuing and Graduate Students is available for students who are either (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. 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 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. 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.

College Scholarships

The College of Arts and Letters

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

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 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. Graduate students must 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, FAFSA) (757) 683-4047

The Perry Morgan Fellowship in Creative Writing 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 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 either the United States or Israel. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO, FAFSA) (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, FAFSA) (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 master in fine arts in the creative writing program.

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 Theordore 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 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)

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 Woofter Hull Scholarship is made possible by an endowment given by Marie D. Woofter in memory of her daughter. It is awarded to a full-time graduate 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 full- or part-time civil or engineering graduate student who has a minimum graduate or undergraduate grade point average of 3.25. Transfer students from other colleges or universities are also eligible for consideration.

The Rollie 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 geotechnical engineering. Must demonstrate financial need (FAFSA).
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 Frank 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 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 3.30 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 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 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 College of Sciences

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

The Virginia S. Bagley Endowed Scholarship is made possible by Mrs. Bagley’s estate and is awarded to a graduate or undergraduate student in the Department of Biological Sciences.

The Hampton Roads Maritime Scholarship is funded by an endowment from the Hampton Roads Maritime Association and is given to a graduate student in the Department of Ocean, Earth and Atmospheric Sciences with financial need. (FAFSA)

The Neil and Susan Kelley Endowed Scholarship Fund, established by Neil Kelley in 2001, provides financial support to a graduate student pursuing a Master of Science in Oceanography. The scholarship is awarded strictly on merit and may be renewed annually.

The Harold G. Marshall and Vivian J. Marshall Scholarship in Biology is funded by an endowment given by Harold G. Marshall and Vivian J. Marshall. This scholarship is provided to assist a full-time graduate student in the Department of Biological Sciences with a specific concentration in ecology.

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 of 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)

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 Lucille 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)

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 alumna/alumnus 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 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. Graduate students must have minimum grade point average of 3.50. Recipients can be full or part-time students. Students are selected by the Director of Women’s Studies and candidate selection is forwarded to the Office of Financial Aid, scholarship coordinator. Student must demonstrate financial need. (FAFSA)

The Nancy Topping Bazin Scholarship was established by the Friends of Women’s Studies to assist a graduate student in women’s studies.

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 Children’s 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 Barnett Scholarship is supported by an endowment to assist women who have received a bachelor’s degree and are full- or part-time graduate students enrolled at Old Dominion University. Selection is also based upon scholastic ability, financial need and personal character. Preference is given to those students who have lived in the Commonwealth of Virginia for at least one year. Students must also complete a separate application, which is available in the Old Dominion University Women’s Center. Delta Sigma Lambda members are eligible for the award. (FAFSA) (757) 683-4109

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 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 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 her/his chosen curriculum.

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 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 E. C. Wareheim Foundation “Returning Women’s” Scholarship has been established by an endowment to assist one or more returning women from Newport News, Virginia and/or Chesapeake, Suffolk who have demonstrated financial need. Preference is given to students who enroll part-time. (FAFSA)

The Jane L. and Robert H. Weiner International Affairs Scholarship is made possible through an endowment established by Mr. and Mrs. Weiner to

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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 Fund. The endowment recognizes the contribution of both Mr. Calvert S. Whitehurst and his son, Professor G. William Whitehurst, former member of the U.S. Congress. The scholarship is awarded to a student with financial need who demonstrates academic potential. (FAFSA)

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) (757) 683-3608

Veterans and Dependents 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/MSS+Home. Contact Military Student Services staff in the Office of the University Registrar for further assistance by phone: 757 683-3706; by FAX: 757 683-5865; or by email to mss@odu.edu.

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 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.

Graduate Assistantship Guidelines

Assistantships

Teaching, research, and administrative assistanhips are available to full-time degree-seeking students and vary by program and college.

A. Nature of the Graduate Assistantship

The graduate assistant is expected to participate directly in either instructional, research, or administrative duties in support of the ongoing activities of the University’s academic, research, and service units. The appointment is intended to be a learning experience for the graduate student and to facilitate the completion of degree requirements, help the student prepare for a professional career, and support the teaching, research, and administrative needs of the institution.

It is the University’s intention to make the assistantship an integral and valuable part of the student’s graduate education. It should be viewed as an apprenticeship in teaching, research, or administrative service.

B. Categories of Graduate Assistants

1. Graduate Teaching Assistant (GTA) - participates directly in teaching activities, such as the teaching of a course or holds responsibility for a laboratory section, or is assigned to specific instructional support or related activities. The University recognizes two levels of graduate teaching assistant responsibilities and activities, i.e., the Instructor Level GTA and the Assistant Level GTA.
   • GTA Instructors directly communicate and interact with students in ways that lead to the conveyance of knowledge or skills required to successfully complete the course. Included in this category are graduate students who serve as instructors, laboratory supervisors, recitation leaders and tutors.
   • GTA Assistants do not directly instruct students in the knowledge or skills imparted by the laboratory experience, instead, TA Assistants serve as graders, help the instructor research articles and materials to be used by the instructor in preparing lectures or handouts, or as laboratory assistants who prepare equipment solutions, etc.

2. Graduate Research Assistant (GRA) - participates directly in research or support activities conducted by faculty members or administrators. There are three sources of funding for GRAs: those funded through Commonwealth sources, those funded by local funds, and those whose stipends are paid by the Old Dominion University Research Foundation (ODURF) from grants and contracts.

3. Graduate Administrative Assistant (GAA) - participates directly in the support of the activities of a University administrative unit (e.g. student services or athletics).

C. Graduate Teaching Assistant Instructor Institute

(GTAI Institute) Requirement

1. All GTA-Instructors will be required to pass the GTA Institute in order to receive a GTA stipend. GTA Assistants are not required to pass the GTA Institute but must be approved and supervised by the appropriate faculty instructor. The Office of Graduate Studies will keep records of the students who have completed the Institute and will inform the appropriate departments of a particular student’s eligibility for a Teaching Instructor assignment.

2. The Institute is offered twice a year during the week before fall and spring classes begin. All graduate assistants, including those who have research and/or other non-instructional assignments, are encouraged to participate in the Institute in anticipation of future Teaching Instructor assignments. Departments are encouraged to develop their own programs for training graduate teaching assistants. Such programs should be tailored to the specific needs of the discipline and department policies.
D. Stipend

All stipends must meet the annual minimum amount of the source of funding established by the Office of Graduate Studies. Supplements to the minimum stipend amount can be made based upon the availability of funds and upon approval of the appropriate dean and the funding agency. The stipend is considered to be taxable income since it is payment for services.

E. Application

Application forms for graduate assistantship stipends paid by the University (GTAs, GRA’s, and GAAs) are available from the Office of Admissions or on the University’s web page. The completed form, together with a brief essay by the applicant discussing academic interests and career objectives, must be submitted to the appropriate graduate program director or office making the appointment, as soon as possible for fullest consideration. Applications for GRA positions funded through ODURF are made through the faculty member who is principal investigator, the department chair, or graduate program director.

F. Eligibility

1. Only students admitted to graduate degree programs in regular or provisional status on the basis of complete and fully evaluated credentials and in good academic standing are eligible for appointment as graduate assistants. Additional criteria apply for appointment as a graduate teaching assistant (see section on appointments).

2. All students appointed as graduate assistants are required to verify their identity and employment eligibility and complete an I-9 Form, according to University procedures, prior to commencing their duties. This requirement is established in order to comply with the Immigration Reform and Control Act of 1986. Students are also required to complete the Child Support Disclosure and Authorization Form, the Commonwealth of Virginia’s Policy on Alcohol and Other Drugs Form, ODU Use of the Internet and Electronic Communication Systems Certificate Form, and the Commonwealth of Virginia Selective Service Form, and the Employee Payroll Direct Deposit Authorization Form.

G. Enrollment and Registration Requirements

Assistantship recipients are required to be enrolled each semester of their appointment and must register for and complete a minimum of six hours of course work per semester for graduate credit or three hours in the summer; doctoral students who have successfully passed the Candidacy Examination and need only to complete the dissertation must register for at least one hour of dissertation (899) to be eligible for full tuition exemptions. Graduate Form 28 (1-Hour ABD Notification for Graduate Assistants) must be completed and sent with the E-1S payroll form to the Office of Graduate Studies. This must not be construed to mean a change in the degree requirements in order to graduate. Students are still required to complete all of the credit hours as listed in the individual department sections necessary for the degree. Undergraduate prerequisite courses and courses taken for audit are not normally counted toward the enrollment requirement, except upon the recommendation of the program director, department/school chair, and the dean of the appropriate academic college and the approval of the vice provost for graduate studies.

- Graduate assistants normally may not enroll for more than nine credit hours per semester. Enrollment for 10 to 12 credit hours requires the approval of the appropriate program director. No graduate assistant will be permitted to enroll for more than 12 credit hours in any semester an appointment is held.
- The Board of Visitors has authorized the president or his or her designee, the vice provost for graduate studies, to consider waivers related to the minimum enrollment requirements specified above.

H. Appointments

Appointments of graduate assistants require 20 hours per week of service and are generally made for a period of one academic year with a nine-month performance period. For a GTA (instructors and assistants), the work load should include no more than six hours of classroom teaching or nine contact hours of laboratory supervision per semester, plus normal preparation time.

Nominations should be submitted at least 30 days before the semester of employment in order to assure adequate time for processing. A graduate assistant funded through a grant or contract may be appointed for shorter periods if required by the conditions of the grant or contract.

Assistantship workload (20 hours per week) may be divided between teaching and research duties with the approval of the dean of the appropriate academic college. A graduate assistant appointment may be renewed upon nomination, review of qualifications, and satisfactory previous performance.

Awarding of Graduate Assistantships in Non-Departmental Units. Each non-departmental unit submits to the Office of Graduate Studies a position description for each Graduate Assistant (GA) position available within their unit. Along with the position description the unit will provide a list of those graduate programs in which students have or are proposed to have the interest and skills required. The position must require and provide an academically and programmatically appropriate level of intellectual and professional activity. The Vice Provost for Graduate Studies and Research will coordinate a review of the position descriptions by the appropriate department(s). If the position description is approved, the department chair and graduate program director will coordinate with the non-departmental unit the selection of academically qualified and highly ranked students from the applicant pool to be the recruited graduate students. The appointment of the GA is made jointly by the academic and non-departmental administrative departments.

Determination of the number and the availability of funds must be done as early as possible in order to facilitate offering these GA positions to the top ranked applicants/students in the appropriate graduate programs. As part of the Dec-Jan budget submission process, non-departmental units must submit a justified and ranked list of increased support for GAs, including tuition and fees waiver. The Office of Graduate Studies will notify the appropriate graduate program directors of the number of anticipated GA positions that can be offered to highly recruited applicants for the upcoming and FA, SP, and SU admission cycles. All GA awards funded by non-academic units will be processed by the Office of Graduate Studies.

Each semester, the GA’s immediate, non-departmental supervisor will evaluate the performance of the student and make recommendations for continuation or termination. This written evaluation will be reviewed by the graduate student and his/her GPD or academic advisor and a final set of recommendations made regarding continued awarding of the assistantship.

I. Additional Employment

Full-time (20 hours per week) graduate assistants are not permitted to accept additional on-campus employment during the period of their assistantship. In particular, graduate assistants (graduate teaching assistants, graduate research assistants, and graduate administrative assistants) may not be paid for part-time teaching or other campus employment for the University in addition to their normal responsibilities. Exceptions to this policy may only be made under unusual circumstances and only with the approval of the dean of the appropriate college or equivalent administrator upon the written recommendation of the graduate program director and the department/school chair. Any outside employment (i.e., off-campus) should be undertaken with caution and in consultation with the GPD. It should in no way adversely affect academic performance or assistantship duties and responsibilities. Information on employment guidelines that are specific to international students may be obtained in the Office of International Student and Scholar Services.

J. Appointment Process

The dean or other appropriate administrator notifies the individual departments/schools or units of their allocation of assistantships for the upcoming year. Nominations should be submitted at least 30 days before the semester of employment in order to assure adequate time for processing. A graduate assistant funded through a grant or contract may be appointed for shorter periods if required by the conditions of the grant or contract.

Assistantship workload (20 hours per week) may be divided between teaching and research duties with the approval of the dean of the appropriate academic college. A graduate assistant appointment may be renewed upon nomination, review of qualifications, and satisfactory previous performance. The Vice Provost for Graduate Studies and Research will coordinate a review of the position descriptions by the appropriate department(s). If the position description is approved, the department chair and graduate program director will coordinate with the non-departmental unit the selection of academically qualified and highly ranked students from the applicant pool to be the recruited graduate students. The appointment of the GA is made jointly by the academic and non-departmental administrative departments.

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J. Appointment Process

The dean or other appropriate administrator notifies the individual departments/schools or units of their allocation of assistantships for the coming year.

1. The department/school or administrative unit recommends candidates for the assistantships to the appropriate academic dean or administrator. Candidates should be interviewed before final recommendations are made for appointment. Particular care should be taken in the consideration of applicants to determine the adequacy of academic preparation and language skills. A completed E-1S form or ODURF Form 108 for all graduate assistant appointments will accompany the candidate’s nomination to the dean or administrator. All completed E-1S forms with award letters, acceptance forms and job descriptions are to be sent to the Office of Graduate Studies for processing. ODURF Form 108 forms are to be sent to the Old Dominion University Research Foundation. Prior to submission of a nomination, the department/school should determine whether the student has been nominated for or accepted another graduate assistantship.

2. Graduate assistant nominations are reviewed and approved by the dean of the academic college or equivalent administrator to insure that
applicants meet the eligibility criteria for appointment, such as admission to a degree program, English language proficiency requirements, good academic standing, and enrollment, and that the appointment is in compliance with applicable University and college policy.

3. Applicants for GTA appointments must demonstrate written and oral fluency in the English language. For international students, a good command of written English will be evidenced by acceptable TOEFL scores and required entrance essays. Oral proficiency in English will be determined through the SPEAK test administered by Old Dominion University’s English Language Center personnel. A passing score on the SPEAK test is 50. Students who marginally fail the SPEAK test with a score of 45 will be offered the opportunity to participate in a re-test as a part of the GTA Institute to determine if face-to-face communication is sufficient for holding a teaching assistantship.

K. Tuition Assistance

(Unfunded Scholarships, Sponsored Research Grants) Graduate students who are employed as graduate assistants may receive partial to full tuition assistance. In order to be eligible to receive tuition assistance, graduate students must be enrolled in and complete at least six hours of graduate course work each semester and three in the summer. To continue receiving tuition assistance, graduate students must be supported for at least one half of the semester and receive at least $2,500 in support per regular semester or $1,334 during the summer. A doctoral student who has successfully passed the Candidacy Examination and needs only to complete the dissertation must be registered for at least one hour of dissertation (899) to be eligible for full tuition assistance.

L. Tuition Grant

Tuition grants may be offered to full-time regular or provisional degree-seeking graduate students. Part-time tuition grants may also be available for Virginia residents. Applicants should indicate their desire to apply for tuition grants when applying for admission. Students holding tuition grants who withdraw from courses will be held personally liable for repayment of funds utilized. Additional information is available from the Office of Graduate Studies. Students receiving tuition grants must be registered for nine graduate credits each semester and six in the summer.

M. Evaluation and Monitoring

All graduate assistants shall be provided with a written job description of their responsibilities, and be evaluated at least once by their supervisor (s) during the period of the award, preferably before the end of the first semester of service is completed. The evaluation shall be discussed with the assistant and a copy forwarded to the appropriate graduate program director, chair, and vice provost of graduate studies.

N. Termination

A graduate assistantship normally ends when the period of appointment is concluded and the terms of the assistantship agreement are fulfilled. Otherwise, a graduate assistant may be terminated for the following reasons:

1. Resignation by the student. Resignation shall be in writing to the supervisor with a copy to the appropriate department chair, program director, and academic dean or equivalent administrator.

2. Failure of the student to perform his or her assigned duties adequately. Termination must be recommended by the student’s supervisor and approved by the department chair, graduate program director, and the appropriate academic dean or equivalent administrator.

3. Failure of the student to remain in good academic standing in accordance with the graduate continuance regulations.

4. Failure of the student to maintain enrollment in the requisite number of graduate credits.

5. Expiration of a grant or contract that funds the student’s stipend.
   • Any overpayment must be reimbursed to the University by the student as soon as possible after termination. Failure to repay the amount owed may result in legal action against the student for recovery.
   • If a student resigns from an assistantship or is terminated for reasons other than the completion of the appointment or expiration of the funding contract, the department chair or graduate program director should notify the appropriate academic dean or administrator as soon as possible and nominate a replacement if necessary.

   • A student who believes that he or she may have been unjustly terminated may appeal the decision. First, the student should meet with the supervisor, graduate program director, and department chair in an effort to resolve the situation. If this effort fails, the student may make an appeal in writing to the dean or administrator of the appropriate academic college. If the matter is not resolved, it will be referred to the vice provost of graduate studies who will automatically refer the matter to the Graduate Appeals Committee for review. The committee will make its recommendation to the vice provost of graduate studies who then makes the final decision.

O. Recognition of Graduate Teaching Assistant Performance.

Each academic year, two graduate teaching assistants will be recognized for their outstanding performance as a classroom or laboratory instructor. Recipients of the Outstanding Teaching Assistant Awards will receive a $1,000 financial award to be used to support their educational expenses. A request for nominations and criteria is distributed by the Office of Graduate Studies.
Graduate Policies and Procedures

Attendance

Because the class period is important and discussions cannot be reproduced, absences cannot be made up. Excessive absences can have a negative effect on the student’s learning and performance.

A student who must miss a class is expected to have the initiative necessary to cover properly the material missed. The student 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 the course and the effect, if any, of nonattendance on grades.

Procedures

The Student Health Service should be notified when a faculty member or department becomes aware that a student is going to be absent from classes more than one week because of an illness.

In the event the student is too ill to contact his or her instructors and does not have someone who can do so, Student Health Services will notify the student’s course instructors of the absence on his or her behalf.

Continuous Enrollment

Master’s, Education Specialist, and Pre-candidacy Doctoral Students.

Students who have completed all course work but are working during a given semester to complete other outstanding degree requirements (e.g. comprehensive examination, thesis, removal of an I or II grade) or wish to use University facilities and/or consult with faculty must be registered for at least one credit during that semester. In addition, graduate students must be registered for at least one credit hour in the semester in which they graduate. GRAD 999 or the program equivalent may be used to fulfill this requirement. Registration for GRAD 999 or the required program equivalent is subject to the normal fees and regulations of the University.

Doctoral Students After Passing Candidacy Examination. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit hour each term (fall, spring, and summer) until the degree is completed, including the semester in which they graduate. Failure to comply with this requirement will result in charges to the student’s account for one graduate credit hour plus required fees for each semester after passing the candidacy examination. Students are not eligible for graduation until all charges are paid.

Additional Graduate Degrees

Graduate students may pursue an additional master’s or doctoral degree in any discipline at Old Dominion University. Such a degree must be sought subsequent to, and not concurrently with, another degree.

Graduate Writing Proficiency

Each graduate department or program will develop specific policies and procedures for evaluating and, if necessary, upgrading student writing.

Graduate Pass/Fail

Master’s-level students may include pass/fail-graded experiences to fulfill a portion of their program requirements provided that they meet a University requirement of 24 credit hours of course work, of which at least 18 hours must be letter-graded course work, and any additional departmental or school requirements. The college, school and/or department administrating the program shall determine which student course work shall be considered for pass/fail credit.

Doctoral students must take dissertation credit as pass/fail and may select from among the designated pass/fail-graded experiences a portion of their program requirements, provided that they take a minimum of 24 credit hours of letter-graded course work, of which at least 18 hours must be letter-graded course work, beyond the master’s degree, or equivalent, and meet any additional departmental or school requirements. Deans may, at their discretion, designate courses as pass/fail, letter graded or both.

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.

Declaration or Change of Major or Program

A provisional or regular graduate student who wishes to change to a program other than the one of original admission must make the request in writing to the main campus Admissions Office or to their site director. The student’s graduate record will be examined to ascertain what, if any, other supporting credentials must be submitted (e.g., test scores, letters of recommendation) prior to consideration for admission to the new program. If it is determined that no other supporting credentials are necessary, the student’s record will be submitted to the graduate program director of the new program, with a request for consideration of admission. The student will be notified in writing of the decision. If not admitted to the new program, the student will be retained as a provisional or regular student in the original program.

When the new program requires other and/or additional supporting credentials, the student must submit these before consideration can be given to the change.

Credits earned toward a degree or certificate for the original program may or may not be accepted by the director of the new graduate program.

Conversion from Doctoral to Master’s Program

A student in a doctoral program may be converted to an appropriate master’s program in special situations. The doctoral student making satisfactory progress but wishing to leave the University may apply in writing to the new master’s program director, with copies to the current program director and the applicant’s committee. The new program director, in consultation with the current program director, will review the request following program policy and procedures.

In the case where a doctoral student fails to pass or complete a particular degree requirement, the student’s committee may recommend the student to a master’s degree program. The student will follow the procedure outlined in the preceding paragraph, except that this approach requires supporting documentation from the current committee.

Once the student is accepted, the new program director will send a memorandum and a Notice of Change of Status, Graduate Form #2, to the Office of the Registrar. The memo should clearly note which of the Old Dominion University credits and approved transfer credits may be applied to the master’s degree, and which, if any, should be reserved for future doctoral work.

Normal Course Load

Every graduate program of study requires prior approval of the graduate program director or the approved faculty advisor. The minimum load for a full-time graduate student is nine graduate credit hours per semester. No more than 12 credit hours may be carried, except in unusual circumstances and with the permission of the graduate program director. In summer sessions, six credit hours constitute a full load.

Unsupported graduate students registered for fewer than nine credit hours during regular semesters or fewer than six credit hours in summer sessions are classified as part-time graduate students. During regular semesters, six credit hours is considered three-fourths time, four credit hours is half-time, and three credit hours is quarter-time. During the summer term, four credit hours is considered three-fourths time, three credit hours is half-time, and one hour is quarter-time.

Graduate students who are appointed as teaching or research assistants or whose service to the University requires approximately 20 hours per week shall register for at least six hours; doctoral assistants who have not yet passed the Candidacy Examination must register for six hours (three hours in the summer), and doctoral assistants who have successfully passed the Candidacy Examination and need only to complete the dissertation must register for at least one hour of dissertation (899) to be classified as a full-time graduate student and therefore eligible for full tuition exemption (see the Financial Aid section of this catalog).

Course-Load Distribution

Graduate students should take care that the major portion of their course work is selected from 600- and 700-level offerings in pursuit of the master’s
degree and from 800-level offerings for an education specialist or doctoral degree. At least three-fifths of the course work must be completed at these levels, and some programs have instituted more stringent requirements. Reference should be made to the appropriate section herein, and individual questions concerning the course-load distribution should be directed to the advisor.

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).

Validation of Out-of-Date Graduate Credit

Academic credit granted outside the time limit established for graduate degrees (six years for master’s and education specialist degrees and eight years for doctoral degrees) must be validated by an examination before the work can be applied toward the requirements of a degree program.

To be validated, the work must have been completed at Old Dominion University or be acceptable as transfer credit in lieu of an Old Dominion University course.

The following procedure shall be used to validate out-of-date work:

The student must receive the permission of his or her graduate program director and the chair of the department/school or dean of the college in which the course is offered to validate the course credit. The form for validation of out-of-date credit shall be used to record all transactions. Graduate Form 5 must be submitted to the Registrar’s Office upon completion of validation of work.

The graduate program director, department/school chair or dean shall make appropriate referrals to faculty member(s) (an individual or a committee) teaching the course to request that an examination be prepared and evaluated. Before the examination, the faculty member(s) shall inform the student of the area of knowledge or course content on which he or she is to be examined.

After the examination has been completed, the validation form shall be filled out, signed by the examining faculty member(s), and forwarded to the dean of the academic college offering the graduate degree program for approval.

Copies of the completed form shall be sent to the student, the graduate program director, and the university registrar.

Validation for any given course can be sought only once.

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.

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 1-800-968-2638.

Probation and Suspension (Continuance)

The requirements and regulations set forth above are to be construed as the minimal requirements established by the University. Students also are obligated to meet all additional requirements established by the appropriate graduate program.

Students who believe the probation or suspension was due to an error in a grade assigned should contact the Office of the University Registrar.

Degree Seeking Students

At the end of each semester—fall, spring, and summer—the records of students who do not maintain a 3.00 cumulative grade point average (GPA) are reviewed. Students who do not have a cumulative GPA of at least 3.00 will be placed on probation.

Probation/Suspension Policy

Graduate students on probation will have 12 credit hours to raise their cumulative GPA to 3.00. If they fail to achieve a cumulative GPA of 3.00 after completing the next 12 credit hours, they will be placed on indefinite suspension and prevented from enrolling in graduate courses. This does not affect the student’s status with regard to undergraduate courses.

Reinstatement Policy

The following conditions must be satisfied before reinstatement is authorized:

1. The student is responsible for initiating each of the following aspects of the request for reinstatement to the university:
   a. Developing a plan of study in concert with and approved by the appropriate Graduate Program Director (GPD) of the program that the student is seeking to either continue enrollment or to be newly admitted. The plan of study must specify the initial 12 credit hours to be taken and the steps necessary to complete the degree requirements within the six-year (Master’s) and eight-year (doctoral) time period as required by University policy. This plan should recognize that all prior courses in which grades of B- or less were earned must be repeated or replaced, and, that a grade point average of at least 3.00 be achieved in the first 12 credit hours attempted after reinstatement or admission.
   b. Provide to the GPD and Appeals committee written explanations and documentation of the factors and circumstances that contributed to the failure to achieve the academic standards as well as evidence that these issues have been resolved. Students who wish to maintain confidentiality regarding special medical or psychological issues must obtain a letter from the Vice President for Student Affairs certifying their validity and contribution to the suspension and that these issues have been or will be satisfactorily resolved prior to reinstatement or admission.
   c. Provide a letter from the GPD indicating the program’s desire to reinstate or admit the student. The GPD must indicate the reasonableness of: i) the proposed plan of study; ii) an assessment of the potential for successful completion of the program; and, iii) the potential impact of reinstatement on departmental resources.

2. The Graduate Appeals Committee shall review these materials and the student’s formal written request and decide if there is sufficient reason to reinstate based on (1) the recommendation of the GPD and department; (2) the student’s statements regarding past grades as well as documentation that there were valid extenuating circumstances that contribute to the poor performance and that these have been satisfactorily eliminated or addressed; (3) the student’s credentials, and (4) the plan of study approved by the GPD.

3. If the Graduate Appeals Committee approves reinstatement, all courses with grades of B- (2.70) or below will be dropped from consideration in the calculation of the grade point average for continuance or graduation. These grades will remain on the student’s transcript, but the courses will not be counted toward a degree.

4. Reinstated students must achieve a GPA of at least 3.00 in the next 12 hours of credit attempted. Subsequent performance will be monitored by the GPD. A student may be reinstated only one time.
Non-degree Students

Certificate and Licensure Program Students

Probation /Suspension Policy

Students who have been permitted to pursue a certificate or licensure program must achieve a GPA of 3.00 after six or more credit hours of graduate coursework. Students who fail to do so will be placed on probation and must raise their cumulative GPA to 3.00 within the next six credit hours. Students who fail to complete a cumulative GPA after completing an additional six credit hours will be indefinitely suspended and prevented from enrolling in graduate courses. This does not affect the student’s status with regard to undergraduate courses.

Reinstatement Policy

A suspended certificate or licensure student seeking reinstatement should follow the procedures outlined earlier in this policy under Reinstatement Policy for Degree Seeking graduate students.

Life-long Learners

Probation/Suspension Policy:

Students who have not been formally admitted into a degree granting program, a certificate or licensure program but desire to take graduate courses are defined as life-long learners. Life-long learners must achieve a GPA of at least 3.00 after six credit hours. Students who fail to achieve a 3.00 after completing an additional six credit hours will be indefinitely suspended and prevented from enrolling in graduate courses. This does not affect the student’s status with regard to undergraduate courses.

Reinstatement Policy

A life-long learner who has been suspended from graduate study must formally apply and be admitted into a degree program, a certificate or a licensure program before being allowed to take additional graduate courses.
University Requirements for Graduate Degrees

Completion of Requirements

Graduate students who complete their master’s or education specialist degree requirements within six years, and doctoral students who complete degree requirements within eight years, following admission to Old Dominion University will qualify for the degree by fulfilling the requirements in the catalog in effect at the time of their first enrollment. (See military service exception under Requirements for Graduate Degrees.) Students (including part-time) who do not complete their graduate degree requirements within these time periods must project their graduation and fulfill the requirements in the catalog in effect during any of the six or eight years, respectively, preceding graduation. If a catalog other than the catalog of the year of initial enrollment is to be used, written permission of the graduate program director and dean must be obtained. Graduate students should consult their advisors to determine if any out-of-date credits may be validated by examination.

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 create their own degree requirements by selecting partial requirements from more than one catalog.

Graduate Assessment Requirement

Old Dominion University has developed an institution-wide plan to assess the quality of its graduate academic degree programs. In addition, students are asked to assess their experiences with support services, University administration, and other aspects of their University experience. Students will complete the assessment at the end of their graduate degree program.

Prior to the completion of degree requirements, all graduate students must complete their assessment. Students will receive advance notice of their eligibility to complete the measures, which may be accessed through the University’s site on the World Wide Web. Failure to complete the assessments normally precludes the student’s right to receive his or her graduate degree. Assessment results are used to improve student learning and the educational experience at Old Dominion University, and they do not become part of students’ records. Confidentiality is assured, as only aggregate data are reported and used in analyses.

The Master’s Degree

This section specifies the minimum requirements for a master’s degree from Old Dominion University. Some colleges, schools and departments have requirements in addition to the requirements described below. In seeking a master’s degree, each master’s student accepts responsibility for the following University requirements as well as any imposed by the major department.

The master’s degree is awarded in recognition of the candidate’s command of a comprehensive body of knowledge and ability to perform productively in the field of study. All master’s degrees require a minimum of 30 semester hours of graduate credit. No more than 12 credit hours taken at other institutions may be counted toward a master’s degree at Old Dominion University. All requirements for a master’s degree must be completed within a six-year period. Exceptions to these time limits must be approved by the graduate program director, the college dean, and the vice provost of graduate studies and research. Academic credits older than six years at the time of graduation must be validated by an examination before the work can be applied to a master’s degree. See the “Policy on Validation of Out-of-Date Graduate Credit.” Students whose graduate study is interrupted by military service will be granted an extension of time for the period of their military service, not to exceed five years.

Candidates for the master’s degree at Old Dominion may have the choice of two options: the thesis option or the nonthesis option. The choice will depend upon the availability of the two options within the selected discipline, the professional interests of the candidate, and the advice and approval of the appropriate graduate program director.

Thesis Option

A minimum of 30 semester credits is required, including 24 semester credits in approved course work and six semester credits in research. The candidate is required to prepare and present a thesis or equivalent creative work. A final oral examination covering the research is required. A comprehensive written and/or oral examination covering the program of study may be required.

Nonthesis Option

A minimum of 30 semester credits of approved course work is required, including one or more courses at the conclusion of study that deal directly with special topics and/or training related to current problems or research in the discipline. A comprehensive written and/or oral examination, or an approved equivalent, on the program of study is required.

Student Advising

The Master’s Degree. The graduate program director in consultation with the student, will assign a graduate advisor who must be certified for graduate instruction. An annual evaluation may include student’s performance in courses, assistantships (teaching, research), the development and re-evaluation of his/her plan of study, guidance in selecting projects and mentors, preparation and scheduling of qualifying/comprehensive or equivalent exams, time management, and obtaining employment or further education. The advisor’s annual evaluation and recommendation will be shared with the student and the graduate program director.

Program of Study

Prior to completion of 12 semester hours, the degree candidate is required to prepare a program of study with the guidance of the advisor. The purpose of the program of study is to ensure that the student organizes a coherent, individualized plan for the course work and research activities. The program of study is to be consistent with the requirements for the degree as described in the catalog and must be approved by the graduate program director. The successful completion of the program of study, along with the collaborative reading, research, practica, etc., will enable the student to demonstrate the high level of professional competence required of all graduate students in their respective fields.

Master’s Examination

A comprehensive written examination and/or oral examination, or its equivalent, is required under the nonthesis option and, depending on the program, may be required under the thesis option. The examination tests the candidate’s competence in the fields covered by the program of study. The nature of the master’s examination will depend on the degree sought and the requirements of the major department and examining committee. A program may propose, through the appropriate college graduate committee and academic dean, replacing the master’s examination with an equivalent requirement. Such equivalent requirements shall be approved by the vice provost of graduate studies and research. For further information, the student should consult the section on requirements under each degree program.

The examining committee is appointed by the graduate program director with appropriate notification to the student. The examining committee is composed of a minimum of three members who may or may not be those who serve as advisors or members of the thesis advisory committee. Members are expected to be certified for graduate instruction in the major department/school and college. This examination may not be scheduled until all major requirements have been satisfied except the final semester completion of the course work and/or the thesis.

The results of the examination must be received in the Office of the Registrar at least two weeks prior to the end of the semester. In order to pass the final examination or approved equivalent, a master’s degree candidate must have a favorable vote from a majority of the examining committee. A student who has failed the examination may repeat it once but no earlier than the next regularly scheduled examination. Students who fail the comprehensive examination twice cannot subsequently elect a thesis option. At the discretion of the graduate program director, a student who passes the examination but does not graduate within twelve months may be required to repeat the examination.
Thesis Advisory Committee

The graduate program director, in consultation with the student, appoints a thesis advisory committee of at least three graduate faculty members with the background and interests necessary to counsel, direct, and evaluate the proposed research and progress toward completion of the program of study. Nonfaculty personnel may be recommended for inclusion on a graduate thesis advisory committee. Such personnel should meet the current standards of academic training and research experience expected of faculty members serving on such committees. If the nonfaculty personnel are to be voting members of the advisory committee, approval of the inclusion of such personnel should be sought by the graduate program director through petition to the appropriate academic college dean, citing the particular advantages of such a nomination. In all cases, the committee chair must be a resident graduate faculty member.

Thesis

The candidate for the master’s degree whose program of study includes a thesis is required to prepare and defend a thesis (or equivalent creative work) acceptable to the thesis director and committee, the graduate program director, and the appropriate academic dean. The thesis must represent in content and methods the skills, disciplines and knowledge required for graduate study, including competence in written language. The character of the final work must testify to the distinction of the student and standards of the University. The thesis or equivalent creative work must be worthy as a culminating experience for graduate study. Candidates will be required to defend the thesis in an oral examination. Graduates Form 6 (Thesis/Dissertation Acceptance and Processing) must be submitted to the Office of the Registrar upon completion of Part A of this form. Graduate Form 11 (Thesis/Dissertation Delivery) must accompany Graduate Form 6.

The candidate should consult the Guide for Preparation of Theses and Dissertations available from the Office of Graduate Studies’ web site. Change From Thesis to Nonthesis Option

A student who wishes to change from the thesis option to the nonthesis option for the master’s degree must obtain the permission of the thesis advisory committee and the graduate program director. The permission must be forwarded to the Office of the Registrar prior to the last semester for the intended graduation using Graduate Form 24 (Change from Thesis to Nonthesis Option). The candidate must meet all requirements of the nonthesis option. A maximum of three credits earned in thesis research can be counted toward the degree requirements for the nonthesis option. The thesis advisory committee must indicate that the thesis research work was productive in and of itself and warrants credit as a special problem or special topics course.

Departmental Requirements

Individual colleges and/or programs may establish requirements above and beyond those set by the University as minimum. Students are obligated to follow the requirements of the appropriate graduate program section of the catalog in effect at the time of their first enrollment for this degree.

The Education Specialist Degree

The Education Specialist degree (Ed.S.) normally is granted at the end of the sixth collegiate year of study and as such falls between the master’s degree and the doctorate in time; however, it is not necessarily viewed as intermediate between the two degrees. The education specialist degrees provide advanced professional preparation for various positions in education.

For admission to an education specialist program, the University requires a master’s degree from an accredited institution and a minimum grade point average of 3.00. Some programs have additional requirements such as a minimum Graduate Record Examination (GRE) aptitude score, grade point average, and graduate courses in specific areas.

The education specialist degree requires a minimum of 30 semester hours of graduate credit beyond a master’s degree. A program may range from 30 to 39 hours, depending on the background and needs of the student. All requirements for the degree must be completed within a six-year period. Students must pass a written comprehensive examination and satisfy research requirements. Specific course requirements are found in the appropriate section of this catalog.

The Doctoral Degree

Old Dominion University offers three doctoral degrees: Doctor of Physical Therapy (D.P.T.), Doctor of Psychology (Psy.D.) through the Virginia Consortium Program in Clinical Psychology, and Doctor of Philosophy (Ph.D.).

Doctor of Physical Therapy

Old Dominion University offers a professional doctorate degree in physical therapy that provides individuals with the knowledge, skills, and clinical internship experiences required to sit for licensure in any jurisdiction in the United States. This curriculum is comprised of a series of required didactic and clinical education courses prescribed in a specific sequence that offers students the knowledge, professional skills and competencies necessary for entry into the practice of physical therapy. In the place of a dissertation, each student is required to develop a selected case study based upon the observations of a patient examined and treated during one of the clinical internships, a research proposal, and a research project with platform and poster presentations. In addition to satisfactorily completing the didactic and clinical education curriculum, students must pass both written and oral comprehensive examinations prior to graduation.

The curriculum consists of 117 credit hours over a three-year, nine-semester period of time including summers. There are five full-time clinical internships in the three years of study totaling 40 weeks. For details on admission and program requirements see the School of Physical Therapy section of this catalog.

Doctor of Psychology

The Department of Psychology participates in a program that awards the Doctor of Psychology in clinical psychology. The emphasis of the program is on the training of highly skilled clinicians who will work in those areas of society where mental health care needs are not being met by the present system. The program is fully accredited by the American Psychological Association. The program consists of a minimum of four years of post-baccalaureate training. The curriculum involves a specific sequence of required courses to ensure mastery of the knowledge and skills necessary for professional competence. The first two years (six semesters) provide for an intense program of basic behavioral science and clinical courses and practice. In the third year, course work includes technology in mental health care administration, practica, and concentration courses. The other main activity is the doctoral dissertation. The one-year full-time clinical internship is completed during the fourth year. For details on admission and program requirements, contact the Virginia Consortium Program in Clinical Psychology Office, Pembrroke Two, Suite 301, 287 Independence Blvd., Virginia Beach, Va 23462; telephone: (757) 518-2550.

Doctor of Philosophy

Programs leading to the Ph.D. are designed to help superior students develop the capability to become creative leaders in their chosen fields. The degree is awarded upon mastery of the subject area, the development of appropriate research skills, and a concentration of knowledge in the field of specialization.

It is important to recognize that the attainment of this degree is not a matter of accumulating course credits and satisfying residency and language or research skills requirements, even though minimum requirements for these categories are set forth by the University. The final basis for granting the degree shall be the candidate’s knowledge of the field of study and his or her demonstrated ability to do independent, original, scholarly research.

Each graduate program is responsible for setting out the requirements and procedures appropriate to its area of study. The requirements and regulations set forth below are to be construed as the minimal requirements established by the University. Students also are obligated to meet all additional requirements established by the appropriate graduate program.

Prerequisites for Admission

The applicant must complete the appropriate application for admission, submit official transcripts of all college- or university-level work, and supply letters of recommendation and official results of test scores as specified by the individual program. Baccalaureate and post baccalaureate work must reflect superior performance.

Minimum Requirements

Minimum degree requirements for the Doctor of Philosophy, which must be considered in preparing the preliminary plan of study, are:

- satisfactory completion of at least 48 semester hours of post-master’s course work, including the dissertation or equivalent level of performance course work;
- demonstrated competency in research skills as required by the specific
graduate program;
- the passing of written and oral candidacy examinations at the end of the program of course work;
- the completion of a dissertation representing independent, original research worthy of publication in a refereed scholarly journal; and
- the successful oral defense of the dissertation before an appropriately selected committee of faculty knowledgeable in the field of the dissertation research.

**Time Limits**

All requirements for a doctoral degree must be completed within eight calendar years from the date of beginning the initial course following admission to the doctoral program. Exceptions to these time limits must be approved by the graduate program director and the college dean. Academic credits older than eight years at the time of graduation must be validated by an examination before the work can be applied to a doctoral degree. See the “Policy on Validation of Out-of-Date Graduate Credit.” Students whose graduate study is interrupted for military service will be granted an extension of time for the period of their military service, not to exceed five years.

**Student Advising**

The **Doctoral Degree**. Before completion of nine semester hours, the graduate program director, in consultation with the student, will assign a program advisor or advisory committee. The advisor of advisory committee members must be certified for graduate instruction and will meet with the student to evaluate student’s academic progress. Among the advisor’s/committee’s responsibilities are a review of student’s performance in courses, assistantships (teaching research), budget development and reevaluation of his/her plan of study, guidance in selecting projects and mentors, preparation and scheduling of qualifying/comprehensive or equivalent exams, time management, and obtaining employment or further education. These annual evaluations are signed by the advisor/advisory committee and the student. The evaluation is filed in the student’s record and a copy given to the graduate program director.

Before completion of nine semester hours, the graduate program director, in consultation with the student, will assign a program advisor or advisory committee. The advisor or advisory committee members must be certified for graduate instruction and will meet with the student at the end of each semester to evaluate student’s academic progress. Among the advisor’s/committee’s responsibilities are a review of student’s performance in courses, assistantships (teaching research), the development and reevaluation of his/her plan of study, guidance in selecting projects and mentors, preparation and scheduling of qualifying/comprehensive or equivalent exams, time management, and obtaining employment or further education. These annual evaluations are signed by the advisor/advisory committee and the student. The evaluation is filed in the student’s record and a copy given to the graduate program director.

**Plan of Study**

Before completion of nine semester hours, the student shall prepare a plan of study with the aid and approval of the advisor or advisory committee. The plan of study also should be approved by the graduate program director to ensure that it meets established requirements. Failure to present the plan on time may prolong the period of study for the degree. Before drawing up and approving the plan the graduate program director should verify that there is on file a set of transcripts of all undergraduate and graduate work the student has taken. When appropriate, a diagnostic examination also may be used in developing a plan of study.

The successful completion of all work indicated on the approved plan of study is a fundamental prerequisite to the granting of the degree.

**Residence**

An essential feature of doctoral study is the provision of total concentration on the field of study for significant periods of time. Students who wish to pursue a part of their doctoral study on a part-time basis may do so, but all doctoral students shall spend at least two semesters engaged in full-time graduate study.

**Research Skills**

Program skill requirements reflect the University’s expectations of one or more significant skills distinct from the dissertation but fundamental to doctoral and postdoctoral research. Specific skill requirements vary with programs. Traditionally, a reading knowledge of one or more foreign languages has been required; more recently a demonstrated proficiency in computer science or quantitative methodology has been introduced.

Under University policy, each academic program leading to the Doctor of Philosophy establishes its own requirements for research skills. Responsibility for the development of competencies, the nature of validating the competencies, and the standards utilized in the evaluation rests with the department/school that offers the program. Descriptions of individual programs should be consulted for appropriate regulations and procedures. Information about schedules of examination, standards, and general procedures is available from all departments/schools and graduate program directors.

The research skills requirement must be met before taking the candidacy examination. For specific information, the student should consult the appropriate program, school or college.

**Candidacy Examination**

The written and oral examinations qualifying a student for candidacy for the degree of Doctor of Philosophy are comprehensive in nature. The graduate program director is responsible for coordinating the administration of the written and oral candidacy examinations and will appoint a committee to administer the exams. The examination committee will be made up of at least three faculty members, all of whom must be graduate certified. Before taking the qualifying examinations, the student must meet the appropriate departmental, school and college requirements and have the recommendation of the advisor or advisory committee. The examinations are taken near the end of the student’s coursework. The candidacy examinations are usually taken during the semester in which the last formal graduate courses listed in the study plan are taken.

When the student and the advisor or advisory committee have determined that the examinations should be taken, the student should obtain a Request for Permission to Take the Ph.D. Candidacy Examination (Graduate Form 15) no later than one month before the date of the first examination. The student should secure the signature of the advisor or advisory committee, and submit the form to the graduate program director, who will verify that the student meets the prerequisites for the candidacy examinations. The graduate program director should be consulted on the schedule of the examinations. Once permission has been granted, postponement of the examinations must have the approval of the graduate program director.

After successful completion of the written examination, an oral examination, which must be taken prior to the end of the next semester, is given addressing topics discussed in the written examination and possibly additional materials. The oral examination is a serious and integral part of the qualifying procedure. A student must pass both the written and oral candidacy examinations. The written examination must be passed before the oral examination may be taken. For the written or oral exam, failure may be one negative vote from the examining committee; otherwise the examination will result in a failure. A failed written examination must be retaken successfully within one year. A student who passes the written examination must not repeat the written exam in the event of failing the oral exam. A failed oral exam, which also may be attempted a second time, must be retaken prior to the end of the next semester.

Neither the written nor the oral exam can be passed conditionally. A pass cannot be made contingent upon doing extra courses, additional projects, etc.

The examination committee will report, in writing, to the graduate program director and the dean the results of the examinations.

Students must be registered in any semester in which they are scheduled to appear for the examination.

**Dissertation Committee**

After the candidacy examinations have been passed, the dissertation committee is formed to supervise the dissertation research. Faculty who agree to serve on a dissertation committee understand that they are committed to serve until the dissertation is completed. The committee must have approval of the graduate program director and the college dean using Graduate Form 16 (Ph.D. Dissertation Committee). Replacement of the dissertation committee chair or any other substantial change in the composition of the dissertation committee initiated by the student requires that the reconstituted dissertation committee re-evaluate and re-approve the dissertation prospectus. The committee should have at least three Old Dominion University faculty members; one faculty member must be from outside the major department/school. The chair must be certified for graduate instruction and be an authority in the field of specialization of the proposed dissertation. Committee membership may be extended to a non-University person with
special knowledge of the dissertation subject area. Voting privileges can be provided such specialists upon the recommendation of the chair and approval of the graduate program director and the college dean. No more than one-third of the committee’s membership can be individuals external to the University. Adjunct faculty members who are certified for graduate instruction may be appointed as voting members of the committee upon the recommendation of the director of the dissertation committee and approval of the graduate program director and the college dean. The dissertation and the final oral defense of the dissertation must have the majority approval of the dissertation committee.

Change in Dissertation Committee
Changes must be made in advance of the oral dissertation defense. Changes made in the dissertation committee are made only with the approval of the graduate program director and the college dean.

Admission to Candidacy
Admission to candidacy is a formal step that occurs after the student has (1) passed the Ph.D. written and oral candidacy examinations, (2) filed an approved dissertation proposal, and (3) completed formal course work.

Dissertation Preparation
General regulations and procedures governing the submission of a doctoral dissertation are given in the Guide for Preparation of Theses and Dissertations. Full information, including detailed procedures and qualifications for undertaking a doctoral dissertation, is available in the student’s major/school and should be obtained by the student and the dissertation advisor at the beginning of the planning for research and writing of a dissertation.

After approval of the dissertation proposal, the chair of the dissertation committee shall recommend the student’s admission to candidacy to the graduate program director and the dean.

Oral Dissertation Defense
The format of a defense is determined by the dissertation committee with the approval of the graduate program director. The defense is chaired by the chair of the dissertation committee. The chair will act as moderator, ruling on questions of procedure and protocol that may arise during the defense. The chair of the defense represents the college dean, to whom he or she makes a complete and prompt report on the defense. The chair should also promptly notify the graduate program director of the results of the defense.

The oral dissertation defense is scheduled for the time and place approved in the request for the dissertation defense. A two-week lead time is required for scheduling. This information is published in the appropriate University news media. The oral dissertation defense is open to the University community; all interested members are encouraged to attend the examination.

The aim of the defense is to explore with the candidate the methodological and substantive contributions of the already approved dissertation. Majority approval by the examiners constitutes successful completion of the defense of the dissertation. In case of failure, the dissertation committee may recommend that the candidate be dropped or be allowed re-examination no earlier than three months after the first examination.

Satisfactory performance on this examination and adherence to the regulations outlined above complete the requirements for the degree. Graduate Form 6 (Thesis/Dissertation Acceptance and Processing) and Graduate Form 11 must be submitted to the Office of the Registrar with the completed dissertation upon completion of requirements for the degree.

Dissertation Load Registration
All doctoral students who have advanced to candidacy are required to be continually registered for an appropriate number of dissertation units during each semester and summer session. (See “Graduate Student Registration Requirement”.)

A candidate who finds it necessary to be excused from registration for a semester must report formally, before the beginning of the semester, to the dissertation committee and the graduate program director and request by petition a leave of absence using Graduate Form 27 (Permission to Take a Leave of Absence from Graduate Studies). A leave of absence may not exceed one year and may not be repeated. During a leave of absence, the candidate will not be entitled to assistance from the dissertation committee or to the use of University facilities. The granting of leave of absence does not change the candidate’s responsibility for meeting the time schedule for the completion of degree requirements.

Thesis and Dissertation Procedures
Graduate students who plan to write theses or dissertations shall obtain copies of the Guide for Preparation of Theses and Dissertations from the Office of Graduate Services web site for use in conjunction with any style manual preferred or required by their respective departments/schools or colleges. Minimum University requirements for the preparation of theses and dissertations are contained in the guide; departments/schools and/or colleges may set additional requirements.

Information regarding compliance with policies regulating research involving human subjects, animals, radiation, potential biohazards (e.g. recombinant DNA), lasers, controlled substances, or hazardous materials and policies regarding intellectual property can be found on the Office of Research web site at www.odu.edu/ao/research/IP-Main.htm.

Upon completion of the research involving human subjects, animal care and use, radiation, potential biohazards, lasers, controlled substances, or hazardous materials requires the approval signature of the appropriate review committee chair or designee, or safety officer, prior to the initiation of any research activities.

Students should be aware that in most cases, the University owns intellectual property created with University resources and can claim an interest in the intellectual property. Intellectual property must be disclosed to the Office of Research using an invention disclosure form. In order to fulfill its contractual obligations, and to adhere to the Policy on Patents and Copyrights, it may be occasionally necessary for the University to temporarily delay publication of a thesis or dissertation that contains potentially patentable information in order to ensure the availability of worldwide patent protection. Such situations would arise when a faculty member directing the research, under his/her duty as a University employee, discloses potentially patentable subject matter to the Office of Research. A student’s degree requirements can still be fulfilled even though publication of the thesis or dissertation is delayed.

Presentation of a thesis or dissertation in partial fulfillment of degree requirements necessitates submission of the finished original work to the dean of the college for final approval, following oral defense and signature approval by the thesis/dissertation committee and graduate program director. Approval of the dean of the college should be obtained prior to reproduction of the original work, in the event corrections need to be made.

Upon final approval, the student must arrange for reproduction of four additional copies of the thesis or dissertation, for a total of five for submission to the Office of the Registrar for binding. Certain doctoral programs require more than five copies; students should consult appropriate graduate program directors.

A final, approved, error-free original and four copies (more are required by some programs) of the thesis or dissertation must be received by the Office of the Registrar no later than the day prior to the beginning of the final examination period; that is, the last day of classes of the semester in which the degree will be taken. The completed document, approved by the dean, and copies should be accompanied by the following forms: Binding Fee Receipt, Thesis/Dissertation Acceptance, Results of the Comprehensive Examination, and Thesis/Dissertation Delivery. The date on the title page of the thesis/dissertation should be within the same semester that the student intends to graduate.

A microfilming fee is also required of dissertation writers; a copyrighting fee in optional. The student may order additional copies of the thesis or dissertation by making payment to the Office of Finance at the same time the required copies are ordered.

Experiential Learning Credit Options at the Graduate Level
Old Dominion University offers a program for assessing college-level knowledge gained through work and life experience and self-study. Students should meet with their advisors, site directors, or distance learning representatives to determine how experiential learning credit affects their degree planning. A student may earn a maximum of six semester hours at the graduate level through the following mechanisms:

1. Knowledge-based examinations.* Upon approval of the student’s graduate program director and the appropriate chair and/or dean of the college involved, a student may take a knowledge-based examination, and with a satisfactory score, receive academic credit for the course(s).

2. External examinations. Upon approval of the student’s graduate program director and the appropriate chair and/or dean of the college involved, a student may submit satisfactory scores of professional examinations that are evaluated and recommended for graduate-level credit by the American Council of Education, and receive academic
credit for the relevant course(s).

3. **Credit for training.** Upon approval of the student’s graduate program director and the appropriate chair and/or dean of the college involved, a student may submit documentation of completion of professional and/or military training that is evaluated and recommended for graduate-level credit by the American Council on Education, and receive academic credit for the relevant course(s).

4. **Portfolio development.** Upon approval of the student’s graduate program director and the appropriate chair and/or dean of the college involved, a student may develop a portfolio for a graduate-level course(s) offered by Old Dominion University to earn academic credit. Portfolios are submitted to the Office of Experiential Learning and assessed for credit by the appropriate department and/or college involved. For further details on the procedure and fees for portfolio development, see the section of this Catalog on Experiential Learning Credit Options at the Undergraduate Level.

The following regulations for experiential learning credit apply:

1. Experiential learning credit may be granted upon the written recommendation of the student’s graduate program director and the chair of the department/school (or designated faculty assessor) having jurisdiction over the courses involved.

2. Applicability of experiential learning credit toward a specific degree program is subject to departmental/school approval.

3. A student may not receive credit for the same course in which any grade has been previously awarded, including W (withdrawal), F (fail), or O (audit).

4. No letter grades be entered on the student’s transcript for experiential learning credit, but that this credit be treated in the same way as transfer credit with “Pass” (P) and not be counted in the student’s grade point average.

5. A student request experiential learning credit as early as possible upon admission to degree status. A student must meet with the degree program advisor and the director at the beginning of his or her academic career at Old Dominion University to determine how the experiential learning program may be applicable to the degree.

6. Satisfactory scores for knowledge-based examinations and professional examinations are determined by the appropriate department/school and/or dean of the college involved.

7. Necessary documentation for academic credit for professional training is determined by the appropriate department/school and/or dean of the college involved.

8. A maximum of six semester hours of graduate credit may be earned through experiential learning mechanisms. The six hours is included in the maximum number of graduate credits that may be transferred into a graduate program at Old Dominion University. Experiential learning credit does not count toward the University’s residency requirement. The student must meet the minimum residency requirements of Old Dominion University and program requirements of the degree. The student must be aware of individual degree program 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 graduate degree program at Old Dominion University, a graduate student who has earned six credit hours in a certificate or endorsement program that is applicable to the degree program has met the maximum number of experiential learning credit hours. No additional experiential learning credit may be applied to that graduate degree program.

**Graduate Credits by Transfer**

A combined maximum of 12 semester hours of graduate credit may be transferred into a graduate degree program from the following sources: graduate credits earned as a nondegree graduate student at Old Dominion University, graduate credits earned through experiential learning credit options and graduate credits earned at another accredited institution. Exceptions are allowed in the case of an approved interinstitutional program.

Transfer credit will be given only for those courses that are certified as being applicable toward a comparable degree or certificate at the institution that offered the courses, and that were completed with a grade of B or better. Specifically, in-service courses that are established especially for groups of teachers and are not intended by the home institution to be part of a degree program will not be acceptable for transfer at Old Dominion University. Exceptions to this regulation may be made only with the approval of the graduate program director involved, the dean of the college, and the vice provost of graduate studies and research. In case of doubt, it is the responsibility of the student to show that the course in question would be acceptable toward a comparable degree at the home institution.

No credit toward a graduate degree may be obtained by examination (except through the experiential learning options noted above) or correspondence study. A student who wishes to transfer credit earned prior to admission to a degree program at Old Dominion University must submit a special request for evaluation of transfer credits through the graduate program director to the Registrar’s Office. Following admission to the degree program, the student should obtain written permission from the graduate program director before registering for a course at another institution with the intention of transferring the credit for that course toward a graduate degree at Old Dominion University.

In no case is a transfer of credit final without the signed approval of the graduate program director and the academic dean on the Evaluation of Transfer Credits Form.

**Evaluation of Transfer Credits**

In the case of a student who has changed programs of study at Old Dominion University, the graduate program director of the new program may or may not accept any previously transferred course work or work completed in the former programs.

Credits accepted for transfer from another institution will satisfy partial hour requirements, but grades earned in such courses are not calculated in the student’s overall grade point average.

Graduate courses which have been applied to satisfy requirements for one master’s or doctoral degree may not be used as credit toward a subsequent graduate degree.

No credits will be accepted toward the degree or certificate if more than six years old (eight years for doctoral application), unless properly validated by examination.

**Course-Load Distribution**

Graduate students should take care that the major portion of their course work is selected from 600- and 700-level offerings in pursuit of the master’s degree and from 800-level offerings for an education specialist or doctoral degree. At least three-fifths of the course work must be completed at these levels, and some programs have instituted more stringent requirements. Reference should be made to the appropriate section herein, and individual questions concerning the course-load distribution should be directed to the advisor.

**Certificate of Recognition for Terminally Ill or Deceased Graduate Students**

When a student has completed all of the graduate degree requirements and dies before graduation, the University awards the degree posthumously. In those instances when a graduate student who is close to completing a degree is terminally ill or dies before completing the degree, the University may award a Certificate of Recognition. The following criteria must be met for receiving the Certificate of Recognition:

1. The student must be degree seeking.
2. The student must have completed at least 75% of the requirements for the degree (for the master’s student this will be a minimum of 24 credits, for the doctoral student this will be a minimum of 36 credits).
3. The student must be in good academic (3.00) and disciplinary standing.
4. The student must be enrolled at ODU at the time of death or diagnosis of terminal illness.
5. The dean of the appropriate college recommends to the provost the award of the certificate.
Campus Services and Student Information

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 CMC offers a range of interactive tools 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 eReRecruiting. 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 an 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 testing out possible career choices. All students are encouraged to participate in one or more practical experiences.

Professional seminars in resume writing, job search strategies, the 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. 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, created in partnership with the Alumni Association. Potential mentors in every discipline and from all over the nation and the world are available to students via eReRecruiting.

Many of the programs and services available on campus are also offered online and via video streaming through the CMC website, eReRecruiting, 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 from a career professional 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.

Career Advantage Program and Guaranteed Practicum

Old Dominion University is the only four-year, doctoral granting institution in the United States to guarantee a practical, faculty-directed, for-credit experience related to a student’s major. 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, 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 eReRecruiting, and a virtual career center. Services are available in person, on-line or from a distance through the Cyber Career Center.

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 will be asked to provide 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 waiver forms if the student declines these vaccines. A complete list of immunization requirements and health history/immunization forms are on the Student Health Services web site at http://studentsaffairs.odu.edu/studenthealth.

Health Education provides Old Dominion University students with information, education and programs to address their health concerns and needs. Health Education focuses on the whole person and seeks to engage students in educational, experiential, and service learning opportunities to illustrate the importance of a healthy lifestyle. Health Education is also responsible for campus-wide programs to prevent alcohol and substance abuse among students. Call (757) 683-5927 to speak with a health educator.

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://studentsaffairs.odu.edu/studenthealth.

Health Insurance

All full-time and part-time students are encouraged to make provision for payment of charges for health services not provided by Yon Student Health Services. Visit the following web site regarding health insurance: http://www.odu.edu/studenthealth and click on “Health Insurance.”

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 lend 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 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/isss.

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 living environment that is free of barriers to all persons. Center services seek to empower all students to achieve their personal, academic and professional potential. S.A.F.E., Sexual Assault Free Environment, provides crisis intervention, education, advocacy and ODU policy/procedure information related to issues of sexual assault, sexual abuse, sexual harassment and relationship violence experienced by women and men. W.I.L.D., Women’s Institute for Leadership Development, provides an opportunity for women students to identify and experience by women and men. W.I.L.D., Women’s Institute for Leadership Development, provides an opportunity for women students to identify and develop their leadership skills through seven modules. Additional programs are offered throughout the year that address a variety of topics related to women’s academic and personal success including programs in celebration of Women’s History Month in March. Referrals to University and community resources and a library/reading room are also available.

Services of the Center are open to women and men. For more information, please call 683-4109 or visit http://studentservices.odu.edu/wc/.

Dining Services
Monarch Dining Services is responsible for many operations across campus. Webb Center is home to a wide range of dining options including Café 1201, House of Blue & Café, and Monarch Catering. The House of Blue Café has five separate operations including Taco Bell, Grille Works, Jump, Pizza Hut, and a C3 Express store. Wednesday-Sunday night from 9:00 p.m.–2:00 a.m., House of Blue Café becomes the House of Blue featuring a live DJ and serving late night food options. Also located in Webb Center are Quizzo’s and Chicken-A. Café 1201, which opened in fall 2005, is a residential restaurant dining option that allows students to use their meal plans in Webb Center and provides a value to faculty, staff, and commuter students. Starbucks shops are also available in Webb Center and Batten Arts and Letters lobby. Hours are products available vary depending on the academic calendar. Whitehurst and Rogers Residence Hall dining facilities are available to all cash, meal plan, flex points, and Monarch Plus card customers and provide a residential restaurant within the student housing facility.

Monarch Catering offers services from coffee set-ups to extensive dinner menus and everything in between.

Old Dominion University Bookstore
The primary purpose of the Bookstore is to serve the students of the University by making available books and supplies required for course work. In addition, the store maintains wide selections of general books, college supplies, and art materials. For information and operating hours call 683-0048.

Webb Center
Webb Center is the hub of the campus activities. It houses student activities, student organizations, student government, and a wide variety of student services, health services, bookstore, dining and catering, ODU Credit Union, a travel agency, and other 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 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 before 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 information on 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.

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
Cooperating with the University community to establish policies and procedures which reflect and reinforce the institution’s multicultural diversity.

For more information about the services that the Office of Multicultural Student Services provides, visit the website at: http://www.odu.edu/mss.

**Hugo A. Owens African American Cultural Center**

In 1991, the Hugo A. Owens African American Cultural Center was established to support the Office of Multicultural Student Services with the successful matriculation of students of African American descent. The Cultural Center, which provides a supportive environment for students, is responsible for designing and sponsoring events and programs that enhance Black culture at the University.

For more information about the services and activities that the Cultural Center provides, visit the website at: http://www.odu.edu/aacc.

**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 categorized by category.

**DEPARTMENTAL INTEREST**

- Association for Psychology Students
- Association of Information Technology Professionals
- Biology Graduate Student Organization
- Communication Club
- English Graduate Student Organization
- Exercise Science Club
- Finance Club
- German Scholars
- Health & Physical Education Majors Club
- Human Services Association
- Phi Mu Alpha Sinfonia
- Physics Graduate Student Association
- Recreation & Tourism Studies Majors Club
- Society of Physics Students
- Student Ambassadors
- Tau Sigma National Honor Society

**HONOR SOCIETIES**

- Alpha Delta Omega
- Alpha Eta Society
- Beta Alpha Psi
- Beta Beta Beta
- Business Honors Student Society
- Chi Epsilon
- Golden Key International Honor Society
- Omicron Delta Kappa
- Order of Omega
- Phi Alpha Theta
- Phi Kappa Phi
- Pi Kappa Delta
- Pi Sigma Alpha
- Pre-Medical Honor Society
- Psi Chi
- Scabbard and Blade
- Sigma Tau Delta
- Tau Beta Pi
- Tau Sigma National Honor Society

**POLITICAL**

- College Democrats
- College Republicans
- Dominion Liberty
- National Association for the Advancement of Colored People
- ODU Out

**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
- 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

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Student Nurse Association
Student Virginia Education Association
Technology Education Collegiate Association
Theta Tau

REligious

Baptist Student Union
Campus Impact
Canterbury Center
Catholic Campus Ministry
Chi Alpha Christian Fellowship
Hillel
International Student Christian Fellowship
Inter_varsity Christian Fellowship
The Hampton Roads Church
Lambda Omicron Chi
Mu Omicron Gamma
Muslim Students’ Association
Sword of the Spirit
Wesley-Westminster Student Association

Service

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

Special Governing Board (SGB)

Interfraternity Council
National Pan-Hellenic Council
Panhellenic Council
Student Government Association
Student TELETECHNET Activity 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
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
Mediterrania Arabia
Model United Nations Society

Association
Monarch Dance Grooves
Monarch Dance Team
Monarch Swing Dance
Music and Arts Society
National Association of Blacks in Criminal Justice
Nichi-Be Club
ODU Chicago Connection
One Degree
Pa Kua Chang Society
Pagan Student Alliance
Paintball Club
Pre-Health Club
Pre-Law Association
Real Talk in Spanish
Residence Life Student Staff Council
Rock Climbing Club
Rhythms Tap Association
Science and Engineering Outreach Society
South Asian Cultural Association
Student Activities Council
Student Art League
Student Filmmaker’s Alliance
Student Health Advisory Committee
Student National Environmental Health Association
Student TELETECHNET Advisory Representative
Students for Life
Taiwanese Student Association
The Atlas Club
The Idiom Magazine
The Focus
The Voice of ODU Chester
Theater Arts Ensemble
Urban Street Dance Association
WODU Radio

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.
College of Arts & Letters

www.al.odu.edu/

Chandra de Silva, Dean
Janet M. Katz, Associate Dean
Robert Wojtowicz, Interim Associate Dean for Research and Graduate Studies

Ph.D. Criminology & Criminal Justice*
     English
     International Studies

M.F.A. Creative Writing
     Visual Studies

Master’s Applied Linguistics (M.A.)
     Applied Sociology (M.A.)
     English (M.A.)
     History (M.A.)
     Humanities (M.A.)
     International Studies (M.A.)
     Music Education (M.M.E.)
     Visual Studies (M.A.)

Notes:
*Ph.D. in Criminology & Criminal Justice pending approval of the State Council for Higher Education.
Department of Art

203 Visual Arts Building
(757) 683-4047
To Be Named, Chair

Master of Arts/Master of Fine Arts - Visual Studies Program

Elliott Jones, Graduate Program Director, Old Dominion University

The M.A./M.F.A. in visual studies program, offered jointly by Old Dominion University and Norfolk State University, offers concentrated individual programs utilizing the resources of both universities. The M.A. is a 33 semester hour program for students seeking advanced studies in studio or admission to a terminal degree program. The M.F.A. is a 60 semester hour program for students seeking an advanced level of professionalism that can develop only from extended study; as such, it is a terminal degree in the fine arts.

Admission

Admission to the M.A./M.F.A. visual studies program means admission to graduate study on both campuses with full access to the combined resources of both institutions. In addition to the general University admission requirements, the applicant must have completed a minimum of 36 semester hours in studio art and 12 semester hours in art history at the undergraduate level. The applicant must present a slide portfolio containing 15 to 20 examples of work. Recent work submitted on a CD or on videotape will be accepted if this is the most appropriate medium for evaluation. The portfolio must be accompanied by three letters of reference and a statement assessing the student’s background and professional goals.

The visual studies program has one admission period per year. All transcripts, recommendations, portfolios and other admission materials must be submitted by March 1 for students planning to enroll the following fall. Materials needed for review of financial aid requests must be submitted by February 15. Application for transfer credits in studio must be made at the time of admission. Students may apply for nondegree graduate status at any regular admission period to enroll in designated courses. Inquiries concerning more detailed admission information and application forms should be directed to Graduate Program Director, Department of Art, Old Dominion University, Norfolk, VA 23529-0186.

Old Dominion University - Norfolk State University Registration Procedures

The registrar of Norfolk State University will register visual studies program students for either institution upon presentation of a properly signed joint program registration form. This arrangement will be honored both in regular sessions and in summer sessions and will apply to degree graduate students at the master’s level at both institutions. Students must have completed the prerequisites for the courses for which they register. Tuition and fees applicable to the courses taken will be processed by Norfolk State University according to current interinstitutional policies under which these are regulated.

Degree Requirements

The Master of Arts degree requires a minimum of 33 semester hours including 18 hours in graduate studio, six hours in related academics, six hours in graduate seminars, and three hours in documentation (exhibition). The Master of Fine Arts degree requires a minimum of 60 semester hours, including 27 hours in graduate studio, 12 hours in related academics, nine hours in graduate seminars, six hours in directed field experience appropriate to the student’s professional goals, and six hours in documentation (including the solo exhibition).

Curriculum

Students must earn at least a B (3.00) in all courses used to fulfill the graduate studio requirement. In consultation with the advisory committee, students must also take six hours (M.A.) or nine hours (M.F.A.) of their graduate studio requirement on the alternate campus. In their first year of study, all students must take ARTS 600 Graduate Seminar: Art Criticism (NSU/FIA 610). The Graduate Seminar is offered in alternate semesters at each campus.

College of Arts and Letters

9000 Batten Arts & Letters Building
(757) 683-3925
(757) 683-5746

Mission

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 mission of the College of Arts and Letters is to prepare students for rigorous, intellectual and creative inquiry leading to their full development as human beings and to their responsible engagement with society. We accomplish this mission on the undergraduate and graduate level by: 1) Developing the essential skills of critical reading and thinking, effective oral and written communication, and proficient use of technology; 2) Providing foundational knowledge in the arts, humanities and social sciences for all undergraduates; 3) Offering excellent disciplinary and interdisciplinary programs of study and training that expose students to accumulated knowledge, scholarly debate, and innovations in the field; 4) Fostering global awareness and sensitivity to the breadth and diversity of the human condition, which includes acquiring an understanding of the roles of gender, race, ethnicity, and culture; 5) Providing an atmosphere for the free exchange of ideas among faculty and students and by vigorously defending academic and intellectual freedom; 6) Promoting challenging internship opportunities, research projects, and collaborative learning experiences that connect our students to the community and prepare them for the world of work; and, 7) Supporting a broad array of cultural experiences that enrich the lives of students, the University, and the community.

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.

The College of Arts and Letters offers graduate degrees in applied linguistics, applied sociology, English, history, humanities, international studies, music education, and visual studies.

The Ph.D. in English is the newest degree in the college. The program is designed to integrate writing, rhetoric, discourse, and textual studies, thus offering opportunities for creative reinterpretation of these fields within the discipline of English. The program also makes use of the full range of teaching media, from traditional classroom, to mediated, televised, and asynchronous forms of instruction. The Graduate Programs in International Studies offer both an M.A. and a Ph.D. and provide advanced research and graduate training in global problems and transnational issues.

The English and history Master of Arts programs were among the first graduate programs at Old Dominion University. Both programs have successfully maintained a high level of excellence and have graduated a steady flow of successful masters in their fields. The Master of Arts in humanities provides interdisciplinary graduate work for people in pursuit of broader academic and professional fulfillment.

The Master of Fine Arts in creative writing is a terminal degree and prepares students for careers as publishing writers. The Master of Arts in applied linguistics is for those who wish to teach English as a second language or to pursue further graduate work in linguistics. The M.A./M.F.A. degrees in visual studies, a joint venture with Norfolk State University, offer artists the opportunity to earn a master’s or a terminal degree in their field. The M.A. in applied sociology, also offered jointly with Norfolk State University, aims to develop high-level social-research competence for persons working in the public and private sectors.

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Upon completion of 12 hours of graduate work, each student will present a selection of work to the faculty for discussion and evaluation. In the second semester, the student selects a major advisor and two advisory committee members, one from each campus. At the end of the first year of study, a continuation and candidacy review will be conducted by the student’s advisory committee and the graduate faculty. The committee will submit a written recommendation for continuance or termination to the student and program co-directors. The committee will include appropriate explanations of its decision. In the case of continuance, the committee will indicate candidacy for the M.A. or M.F.A. degree.

M.F.A. candidates must take ARTS 700 Directed Field Experience (NSU: FIA 701). Working closely with the advisory committee, the student will select one activity that could include a teaching internship on or off campus; independent study at another institution; an internship in a museum, community center or other art program; work in a recreational program, design agency or industry; or a special project off campus.

All M.F.A. candidates are required to enroll in ARTS 701 Documentation (NSU: FIA 700) during their final semester of study. By review of a candidate’s work, the advisory committee will submit the documentation requirements in writing to the candidate and the visual studies program co-directors. All M.A. and M.F.A. candidates must register for ARTS 702 Thesis Exhibition (NSU: FIA702) during their final semester of study. Candidates are required to present a public exhibition of their work to meet this requirement. Each candidate’s advisory committee will submit the documentation requirements in writing to the candidate and to the visual studies program co-directors.

The student’s thesis committee, composed of the advisory committee and two additional graduate studio faculty members, one from each campus, will be responsible for evaluating all preparation and work done for ARTS 701-702 (NSU: FIA 701-702). The committee will submit its recommendations and grade assignments for each course to the student and the program co-directors.

Curriculum:

M.A. – 33 semester hours
M.F.A. – 60 semester hours

Graduate Studio

Students must earn at least a B (3.00) in all courses used to fulfill the graduate studio requirement. A student receiving less than a B in any studio course may not use that course to fulfill the studio requirement. The course must be repeated or another course must be taken in its place. In consultation with the advisory committee, students must also take six hours (M.A.) or nine hours (M.F.A.) of their graduate studio requirement on the alternate campus.

Related Academics

The selection and direction of these courses will be determined by the specific nature of each student’s creative interests and professional goals and must be approved by the advisory committee or the graduate program directors. Graduate-level art history courses may be used to satisfy this requirement.

Graduate Seminars

In their first year of study, all students must take ARTS 600 Graduate Seminar: Art Criticism (NSU: FIA 610). The Graduate Seminar is offered in alternate semesters at each campus. The remainder of this requirement maybe fulfilled by enrolling in ARTS or FIA 695: Special Topics.

Note: Students must maintain a B average to qualify for a degree. All course work must be completed within a six-calendar-year period. At least three-fifths of the courses taken for the program must be 600-level or above.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Master of Fine Arts</strong></td>
<td></td>
</tr>
<tr>
<td>Graduate Studio</td>
<td>27</td>
</tr>
<tr>
<td>Related Academics (includes art history courses)</td>
<td>12</td>
</tr>
<tr>
<td>Directed Field Experiences</td>
<td>6</td>
</tr>
<tr>
<td>Graduate Seminars</td>
<td>9</td>
</tr>
<tr>
<td>Documentation (including Solo Exhibition)</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>60</td>
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<tr>
<td><strong>Master of Arts</strong></td>
<td></td>
</tr>
<tr>
<td>Graduate Studio</td>
<td>18</td>
</tr>
<tr>
<td>Related Academics</td>
<td>6</td>
</tr>
<tr>
<td>Graduate Seminars</td>
<td>6</td>
</tr>
<tr>
<td>Graduate Exhibition</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>33</td>
</tr>
</tbody>
</table>

Graduation

Application for graduation must be made on the NSU campus. Contact the Fine Arts Department at NSU concerning deadlines, procedures for applying, fees, etc. The diplomas carry the seals and appropriate signatures of both institutions. M.A./M.F.A. candidates may attend ceremonies on either or both campuses. Students planning to attend graduation ceremonies at Old Dominion University should notify the Office of the Dean, College of Arts and Letters.

Department of English

201 Batten Arts and Letters
757-683-3991
David Metzger, Chair

Graduate Programs in English

There are four graduate programs in the English department: Master of Arts in Applied Linguistics; Master of Arts in English; Master of Fine Arts in Creative Writing; and Ph.D. in English. Each program has its own guidelines and admissions policy.

Master of Arts - English

Edward Jacobs
Jeffrey Richards, Graduate Program Directors

The Master of Arts program in English develops professional competency in literary and textual analysis and in writing. The program offers emphases or options in literature, the teaching of English, rhetoric and composition, and professional writing. The program prepares students for further graduate study in English; for professional writing and editing; for teaching in secondary schools and colleges; for further study in such fields as anthropology, law, psychology, and philosophy; for careers in government and industry; and for other professions requiring analytical, literary, linguistic, or writing skills.

Admission Information

The student must initially meet all general University admission requirements. Scores from the Graduate Record Examination general test are required. For regular admission, students must generally have at least 24 undergraduate hours in English, or a closely related field, with a grade point average of 3.0 or better. However, students applying to the professional writing concentration (see professional writing option) may have little or no undergraduate course work relating to English, provided that they have an average of 3.0 or better in their undergraduate major. Students applying to the professional writing concentration must also, in addition to other admissions materials, provide a writing sample, preferably of previous professional work, that demonstrates their preparation for graduate-level writing. All students in the English graduate program must demonstrate a high level of skill in written expression.

International students must submit scores from the TOEFL examination, a sample of scholarly writing, and three recommendations, at least one of which evaluates ability in English. For regular admission, students must score 230 on the computer-based TOEFL (the equivalent of 570 in the older, paper-based score scale or 80 on the TOEFL iBT). Students may be admitted provisionally with a TOEFL score of 213 (550 in the paper-based scale), but must attain the scores required for regular admission after 12 hours of graduate work.

Degree Requirements

The Master of Arts degree in English requires 30 credit hours and the passing of a comprehensive oral examination. No more than 12 credit hours on the 500 level may be counted toward a degree. An identifiable unifying principle is required for each student’s program.

Master of Arts Thesis Option

The opportunity to undertake a long research project or other appropriate project is available to students in the Master of Arts in English. Writing a thesis may be of particular benefit to those who contemplate further graduate work or who have a strong desire to pursue a single topic in great depth. Under the guidance of an advisor (a member of the graduate faculty), the student may earn six hours of credit for a completed, approved thesis.
Master of Arts Oral Comprehensive Examination

During the first three weeks of the semester in which they intend to graduate, students must contact the graduate program director in English to schedule their comprehensive examination. The oral comprehensive examination covers each student’s particular program of study. Based on the courses taken by the student, the examination tests the student’s mastery of materials and concepts, interpretive skills, and ability to make critical distinctions and connections. The examination of a thesis student will also cover the thesis and its related areas. Students who fail the oral comprehensive examination may retake the test only once in a different semester. Students who fail a second time will no longer be eligible to receive the Master of Arts in English from Old Dominion University.

Literature Option

Imtiaz Habib, Coordinator

This option requires:
Three hours in British Literature before 1800
Three hours in British Literature after 1800 or Postcolonial Literature
Three hours in American Literature
ENGL 600 Introduction to Research and Criticism
ENGL 764 Theories of Literature
ENGL 791 or 792 Graduate Seminar in English (when related to literature)
Twelve hours of electives, at least six hours of which must be in literature

Professional Writing Option

Carl Whithaus, Coordinator

Designed for those who seek an intense investigation into professional writing, rhetoric, and composition. It requires:
Nine hours from:
ENGL 539 Writing in Electronic Environments 3
ENGL 685 Writing Research 3
ENGL 760 Classical Rhetoric and Theory Building 3
ENGL 765 Modern Rhetoric and Theory Building 3

Nine hours from:
ENGL 527 Writing in the Disciplines 3
ENGL 535 Management Writing 3
ENGL 539 Writing in Electronic Environments 3
ENGL 581 Advanced Public Relations 3
ENGL 583 Advanced News Reporting 3
ENGL 584 Feature Story Writing 3
ENGL 585 Editorial and Persuasive Writing 3
ENGL 586 Media Law and Ethics 3
ENGL 664 Teaching College Composition 3
ENGL 665 Teaching Writing with Technology 3
ENGL 668 Graduate Internship and Project in Professional Writing 3
ENGL 685 Writing Research 3
ENGL 686 Introduction to Rhetorical Studies 3
ENGL 687 Colloquium for Teachers of English 3
ENGL 695 Topics (when topic related to Professional Writing) 3
ENGL 701 Texts and Technologies 3
ENGL 706 Visual Rhetoric and Document Design 3
ENGL 710 Professional Writing Theories and Practices 3
ENGL 715 Professional Writing in International Contexts 3
ENGL 720 Pedagogy and Instructional Design 3
ENGL 760 Classical Rhetoric and Theory Building 3
ENGL 765 Modern Rhetoric and Theory Building 3
ENGL 766 Rhetoric in Cyberspace 3
ENGL 795 Topics (when topic related to Professional Writing) 3
+ Twelve hours of approved electives.

Professional writing concentration students may use a portfolio to fulfill part of the M.A. examination requirement. Working with an advisor and two other faculty members, students select three projects from their graduate courses for revision and extension; they also write a reflective, critical essay relating the portfolio to their course work. Students who intend to use the portfolio option declare their intention no later than midterm of the semester prior to their graduation (i.e., March 15 for summer, July 15 for fall, and October 15 for spring graduates).

Rhetoric and Composition Option

Kevin DePew, Coordinator

Designed for those who want to integrate rhetoric and composition with literary studies.

Twelve hours from:
ENGL 527 Writing in the Disciplines 3
ENGL 539 Writing in Electronic Environments 3
ENGL 664 Teaching College Composition 3
ENGL 665 Teaching Writing with Technology 3
ENGL 668 Graduate Internship and Project (Rhetoric and Composition) 3
ENGL 685 Writing Research 3
ENGL 686 Introduction to Rhetoric 3
ENGL 687 Colloquium for Teachers of English 3
ENGL 695 Topics (when topic related to Rhetoric and Composition) 3
ENGL 701 Texts and Technologies 3
ENGL 706 Visual Rhetoric and Document Design 3
ENGL 720 Pedagogy and Instructional Design 3
ENGL 760 Classical Rhetoric and Theory Building 3
ENGL 765 Modern Rhetoric and Theory Building 3
ENGL 766 Rhetoric in Cyberspace 3
ENGL 791 Graduate Seminar (when related to Rhetoric and Composition) 3
ENGL 795 Topics (when topic related to Rhetoric and Composition) 3
+ Three hours in British Literature before 1800
+ Three hours British Literature OR New Literatures in English after 1800
+ Nine hours of approved electives.

Teaching of English Option

Edward Jacobs, Coordinator

This option requires:
Three hours in British Literature before 1800
Three hours in British Literature after 1800 or Postcolonial Literature
Three hours in American Literature
ENGL 399 Three hours of Research and Theory, ENGL 600
ENGL 555 Teaching of Composition OR 664 Teaching of College Composition
ENGL 687 Colloquium for Teachers of English
ENGL 760 Classical Rhetoric and Theory Building OR ENGL 765 Modern Rhetoric and Theory Building
Three hours of Linguistics
Six hours of electives

Graduate Certificate in Literature

Edward Jacobs, Coordinator

Graduate Certificate in Professional Writing

Kevin DePew, Coordinator

This certificate gives students who already hold at least a master’s degree in a different field the 18 hours of graduate study in literature that are the minimum requirement for teaching that subject at the post-secondary level in Virginia. Requirements are:
1. Three hours in British Literature before 1800;
2. Three hours in British Literature after 1800 or Postcolonial Literature;
3. Three hours in American Literature; and,
4. Nine hours of electives in literature (which may include ENGL 600 and 764)

NOTE: at least nine of the 18 hours must be at the 600-level.

Graduate Certificate in Professional Writing

Kevin DePew, Coordinator

This certificate is designed for professionals who want to supplement their undergraduate degrees and sharpen their writing and communication skills.

Requirements are 12 hours from:
ENGL 527 Writing in the Disciplines 3
ENGL 535 Management Writing 3
ENGL 539 Writing in Electronic Environments 3
ENGL 581 Advanced Public Relations 3
ENGL 583 Advanced News Reporting 3
ENGL 584 Feature Story Writing 3
ENGL 585 Editorial and Persuasive Writing 3
ENGL 586 Media Law and Ethics 3
ENGL 664 Teaching College Composition 3
ENGL 665 Teaching Writing with Technology 3
ENGL 685 Writing Research 3
ENGL 666 Rhetoric(s) in/of Cyberspace(s) 3
ENGL 668 Graduate Internship and Project in Professional Writing 3
ENGL 686 Introduction to Rhetorical Studies 3
ENGL 687 Colloquium for Teachers of English 3
ENGL 695 Topics (when topic related to professional writing) 3
ENGL 760 Classical Rhetoric and Theory Building 3
ENGL 765 Modern Rhetoric and Theory Building 3

Graduate Certificate in the Teaching of Writing

Easily completed in one calendar year, this certificate gives students who already hold at least a master’s degree in a different field the 18 hours of graduate study in the teaching of writing that are the minimum requirement for teaching that subject at the post-secondary level in Virginia. Requirements are: ENGL 664 Teaching of College Composition; ENGL 687 Colloquium for Teachers of English; ENGL 760 Classical Rhetoric and Theory Building OR ENGL 765 Modern Rhetoric and Theory Building; and, Nine hours of English electives in Rhetoric, Professional Writing, Journalism, Linguistics, or Creative Writing. NOTE: At least nine of the 18 hours must be at the 600-level.

Master of Arts - Applied Linguistics

Janet M. Bing, Graduate Program Director.

The Master of Arts in Applied Linguistics prepares students to pursue advanced graduate study or to teach in colleges, adult education programs, businesses, private schools, or institutions in other countries. The program’s two emphases are Teaching English to speakers of other languages (TESOL) and Sociolinguistics. Students in the program may also earn the Commonwealth of Virginia Endorsement for English as a Second Language and/or a certificate in TESOL.

Admission Information

In addition to general University admission requirements, applicants must have taken at least 9 hours of upper-level English, linguistics, or foreign language courses. The Graduate Record Examination (GRE), General Test, is required of all applicants. International students must submit scores from the TOEFL CBT (computer-based), 230 for regular admission and 213 for provisional, TOEFL PBT (paper based) 570 for regular admission 550 for provisional, or 80 on the TOEFL iBT, a sample of scholarly writing, and three recommendations, one of which evaluates proficiency in English. (For non-native speakers of English, there are also alternative ways of demonstrating English proficiency such as the University Bridge Program.) After 12 hours of graduate work, international students must meet the TOEFL requirement for regular admission.

Degree Requirements

The M.A. in applied linguistics requires 33 credit hours and the passing of an oral comprehensive examination. No more than 12 hours may be taken on the 500 level.

Curriculum - TESOL Emphasis

The following six courses are required:
ENGL 540 General Linguistics 3
ENGL 578 Language and Communication Across Cultures 3
ENGL 577 Language, Gender, and Power 3
ENGL 586 Introduction to Rhetorical Studies 3
ENGL 587 Colloquium for Teachers of English 3
ENGL 588 Rhetoric(s) in/of Cyberspace(s) 3

 NOTE: At least nine of the 18 hours must be at the 600-level.

Sociolinguistics Emphasis

The following six courses are required:
ENGL 540 General Linguistics 3
ENGL 550 American English 3
ENGL 571 Phonology 3
ENGL 572 Syntax 3
ENGL 573 Discourse Analysis 3
ENGL 574 Graduate Internship 3
ENGL 575 Semantics 3
ENGL 576 Sociolinguistics 3
ENGL 577 Language and Communication Across Cultures 3
ENGL 578 Language, Gender, and Power 3
ENGL 579 First and Second Language Acquisition 3
ENGL 585 Writing Research 3
ENGL 586 Introduction to Rhetorical Studies 3
ENGL 587 Colloquium for Teachers of English 3

Three courses must be chosen from the following:
ENGL 544 History of the English Language 3
ENGL 550 American English 3
ENGL 577 Language, Gender, and Power 3

Students must have six hours of electives approved by the graduate program director. In some cases, a 700-level course may be substituted for the corresponding 600-level course.

Master of Arts - Applied Linguistics Thesis Option

Writing a thesis may benefit those who contemplate further graduate work, as well as those who have a desire to pursue a single topic in depth. Under the guidance of a member of the graduate faculty, a student may earn six hours of credit for a completed approved thesis. Students who write a thesis will defend the thesis early in their final semester and complete their oral exam in a separate examination.

Master of Arts - Applied Linguistics Oral Comprehensive Examination

At the end of the program, all students must complete an oral comprehensive examination that covers each student’s program of study and, where applicable, the thesis. Students who fail the oral comprehensive examination may take the test one more time in a different semester. Students who fail a second time will no longer be eligible to receive the Master of Arts degree in applied linguistics from Old Dominion University. One week before the oral examination, students must submit a portfolio that will include all course syllabi, major assigned papers and a reflection about the entire M.A. experience.

Graduate Certificate in TESOL

This certificate, which partially satisfies the endorsement requirements for the Commonwealth of Virginia, includes five courses (some of which have ENGL 540 as a prerequisite): ENGL 670, 671, 672, 675, and 677). The certificate may be taken independently of the degree, but students must be admitted to the graduate program.
Master of Fine Arts - Creative Writing

Sheri Reynolds, Graduate Program Director

The Master of Fine Arts in creative writing is widely regarded as a terminal degree. It is designed to prepare students for careers as publishing writers in fiction, poetry, prose nonfiction, or playwriting. A secondary goal is to emphasize not only preparation for college-level teaching (the practical vocational goal of most M.F.A. programs in creative writing), but also includes, preparation of graduates for careers as free-lance writers in prose (magazines, newspapers, and features) and in speech, play, or scriptwriting (television, film, video, radio); for careers as translators in international communications; and for work as editors and publishers.

Admission

Applicants must have completed a bachelor’s degree from an accredited institution with at least a 3.0 G.P.A., including a minimum of 24 credit hours in English with at least a B average. The Graduate Record Examination (GRE), General Test, is required of all applicants. Candidates must also submit writing samples in each genre for which they wish to be considered; final admission will depend on faculty evaluation of those writing samples. Students who have not completed 24 undergraduate credit hours in English may be admitted provisionally and make up the required undergraduate courses.

Requirements

The M.F.A. requires 54 credit hours, with no more than 12 hours at the 500-level. To graduate, a student must complete the 54 hours (39 hours of required courses and 15 hours of approved electives), maintain a 3.00 GPA overall, satisfy a mid-program review, and complete all work within six years.

Curriculum

Required Courses: 39 hours

Course selections are as follows (students should select courses based upon their genre of study and in consultation with the director or their advisor):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 560</td>
<td>Nonfiction Workshop, Fiction Workshop, Poetry Workshop, or Dramatic Writing Workshop</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 660</td>
<td>Craft of Narrative or Craft of Poetry</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 694</td>
<td>Thesis Colloquium (should be taken in the last semester of the second year or the first semester of the third year)</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 698</td>
<td>(three to nine hours of thesis)</td>
<td>3</td>
</tr>
</tbody>
</table>

Four graduate courses in literature:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 503</td>
<td>Medieval Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 507</td>
<td>Chaucer</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 547</td>
<td>The American Novel to 1920</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 548</td>
<td>The Modern American Novel</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 656</td>
<td>American Literature to 1810</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 657</td>
<td>American Literature 1810-1870</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 658</td>
<td>American Literature 1870-1945</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 659</td>
<td>American Literature 1945 to the present</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 655</td>
<td>Topics in World Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 691</td>
<td>Graduate Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Approved Electives: 15 hours

Graduate literature courses – American, British, or World

Creative Writing Workshops

Writing-in-Community Internships

Approved graduate course electives in other fields – history, music, or science, for example.

Thesis and Examination for M.F.A. in Creative Writing

Master of Fine Arts Thesis

All candidates for the M.F.A. in creative writing must complete a thesis project of publishable quality in their chosen genre (poetry, fiction, prose nonfiction, playwriting). Each student will select an advisor from the graduate faculty and work with that advisor and a committee of readers to prepare the manuscript. At the completion of the thesis, students will schedule an oral defense with the advisor and the committee, at which point the thesis will be adjudged as to its readiness for final acceptance, printing, and binding.

Master of Science in Education - English

Refer to the Darden College of Education section of this catalog.

Doctor of Philosophy - English

Edward Jacobs, Acting Graduate Program Director

The Ph.D. in English integrates writing, rhetoric, discourse, technology, and textual studies. Offering opportunities for creative reinterpretation of these fields within the discipline of English, the program emphasizes research that examines texts in a variety of overlapping and sometimes competing language-based worlds. The focus is on how the creation and reception of texts and media are affected by form, purpose, technology of composition, audience, cultural location, and communities of discourse. Students may pursue full- or part-time study through a combination of on-campus and distance learning courses. Students focus their studies in one of two doctoral fields: 1) Rhetoric and Textual Studies, and 2) Professional Writing and New Media Studies.

The Rhetoric and Textual Studies track has been designed for those interested in applying the analytic tools provided by rhetoric, linguistics, and critical/literary theory to the study of verbal, graphic, and visual texts. Emphasis is placed on how texts are composed, constructed, produced, as well as how they function within and promote the formation of (inter)personal, social, cultural, and political sites. The program prepares students for placement and advancement in academic and nonacademic careers related to the study and teaching of rhetorical theories/practices, composition instruction and administration, as well as rhetorical approaches to composition, discourse, literature and culture.

The Professional Writing and New Media track is designed for those in education and industry who wish to study the connections between discourse and technology. Emphasis is placed on analyzing professional writing and new media from historical, theoretical, pedagogical, practical, and research perspectives. Courses examine advanced document design, usability studies, and digital literacy issues. Through theoretical exploration and experiential learning, the program prepares graduates for leadership roles in technical and professional communication, composition instruction and administration, and software development.

Distance Learning Students

Selected courses will be offered online or in hybrid learning environments to accommodate students wishing to pursue doctoral study. At present, one to two distance learning courses per semester are planned to be offered, but distance students may have the opportunity to take six to nine additional hours through the Doctoral Summer Institute program (see description under “Time Limits and Residency” below). Distance learning students will need high speed internet access (e.g. cable modems or DSL), a web cam, and specialized video conferencing software. For an updated list of technical requirements, please contact the graduate program director.

Applications

Applications for fall semester admission must be submitted no later than February 15 if applying for financial assistance, or March 15 if applying for admission only. Applications are also accepted for spring semester admission and should be submitted by October 14. Applicants residing in other countries should mail materials well in advance of those dates. All required forms and documents should be sent directly to the Graduate Admissions Office. Application packets are available online at the Office of Graduate Admissions website. The following should be submitted along with the appropriate application forms: 1) a 1000-word statement of the applicant’s academic and professional goals and a discussion of how the Ph.D. in English will contribute to the achievement of those goals; 2) three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study in English; 3) a writing sample of at least 20 double-spaced pages on a topic related to the applicant’s expertise; 4) GRE general exam (taken within the last five years).

Admission Standards

A completed master’s degree (or its equivalent) in English or in an appropriate field (such as rhetoric, composition, English education,
communication, or computer science) from a regionally accredited institution of higher education is required. Admission to the professional writing and new media studies track may be granted to especially strong candidates whose graduate work is not primarily in English—though some additional coursework may be required.

1. A minimum grade point average (GPA) of 3.5 (on a 4.0 scale) overall for the master’s degree.
2. Ph.D. students are generally expected to have scored in the 90th percentile on the verbal and writing sections of the GRE General exam.
3. If the applicant’s native language is not English, a current score for the Test of English as a Foreign Language (TOEFL) of at least 600 and/or an interview in which the applicant’s comprehension and fluency in English can be assessed.

Course Work. The Ph.D. requires 39 hours of course work, with at least nine additional hours devoted to the dissertation.

Curriculum
Core Classes (15 credit hours). Students begin their studies with a cluster of core courses that focus on texts, technology, research methods, instructional design, cross-cultural communication, and major debates in the profession.

ENGL 805 Major Debates in English Studies: Writing, Language, Literature 3
ENGL 820 Pedagogy and Instructional Design 3
ENGL 840 Empirical Research Methods and Project Design 3
ENGL 866 Discourse and Rhetoric Across Cultures 3

Fields of Specialization (12 credit hours). Students complete a field of concentration that allows for intensive specialization in one of the two tracks described above. A list of courses approved for each track is available from the graduate program director.

Electives (9 credit hours). Students are encouraged to use their electives to enhance their interdisciplinary knowledge of a field concentration and to enhance their understanding of theoretical modeling, quantitative/qualitative research methods, or history and culture.

Dissertation Seminar (3 credit hours). Taken in the semester before the student’s candidacy examination, this course supports students in preparing their dissertation proposals and generating an annotated bibliography. It sets up writing groups for cohorts of students entering the dissertation stage of their graduate studies.

Dissertation Credits (minimum of 9 credit hours). A dissertation is required of all Ph.D. students. A dissertation prospectus will be submitted after the student’s successful completion of the candidacy exam. If the student’s proposed dissertation committee approves the prospectus, the student will proceed to research and write the dissertation. An oral defense of the dissertation will be scheduled after a draft of the completed dissertation is approved by the student’s dissertation committee.

Language Requirements. Note: Credit hours needed to demonstrate foreign language competency are not included in the 48-hour requirement described above. Ph.D. students must demonstrate reading-comprehension competence in one language other than their native tongue. International students whose English language competence is part of program admission requirements are exempted from acquiring a second foreign language. Foreign language competence can be demonstrated in one of the following ways: Students may complete a third year of language instruction at Old Dominion University (where students may choose to enter the third year through a university placement test) or at other institutions. A grade of B- or above in both semesters of third-year instruction will demonstrate competency in that language. Students may take a language test administered by the Department of Foreign Languages and Literatures. Subject to the approval of the graduate project director, students in the professional writing and new media track may also choose to demonstrate competency in computer languages necessary for the student’s dissertation research.

Candidacy Exams. After students have completed all course requirements and language requirements, they must pass a written examination related to their chosen field. Exams are designed in consultation with an examination committee approved by the graduate program director of English, and they are directed toward the critical or scholarly project the student plans to pursue in the dissertation. Students who fail the written exam will not be allowed to submit their dissertation proposal or to begin work on their dissertation. The written exam may be retaken only once and no earlier than the semester following the student’s initial attempt.

Grade Requirements. All Ph.D. students will be graded on the traditional A, B, C, F scale (with pluses and minuses) in all courses. Pass/Fail evaluations will be utilized only in the case of registration for internships or for thesis or dissertation research, or when specifically approved by the director. Graduate students whose grade point averages fall below 3.00 (B) will be placed on a probationary status. After two consecutive semesters below this average or the accumulation of two grades of “C” or below, the graduate program director and the Ph.D. advisory committee may dismiss the student from the doctoral program.

Time Limit and Residency Requirements. The doctoral program must be completed within eight years of entry into Ph.D. course work. Residency requirements can be fulfilled by two semesters of full-time study on campus or by attending two Summer Doctoral Institutes.

Transfer Credit. Twelve graduate hours not used to fulfill the requirements of a degree at other institutions or at Old Dominion University may be applied toward the fulfillment of degree requirements. Transfer credit is accepted as degree credit at the discretion of the graduate program director.

Financial Aid. Full-time students are eligible to apply for university fellowships and teaching and research assistantships, which are awarded on a competitive basis.

Nondegree Students. Nondegree students must obtain the approval of the graduate program director before registering in graduate English courses.

Additional Information. Additional information is available on the English Department website.

Department of History
8000 Batten Arts and Letters Building
757-683-3949
Annette Finley-Croswithe, Chair

Master of Arts - History

Jane Merritt, Graduate Program Director

The Department of History offers courses of study leading to the Master of Arts with a major in history.

Admissions

Applicants must meet all University requirements and regulations for admission. Their applications must include a short essay of 500 words or less, addressing their academic interests and goals, and two letters of recommendation. The Graduate Record Examination (GRE), General Test, is required for all applicants.

An undergraduate major or minor in history is desirable but is not required for admission. Generally, 18 semester credit hours in history and closely related cognates are sufficient for admission on a provisional basis. These credit hours should include survey and upper level courses. The graduate program director may prescribe certain undergraduate courses to be completed before recommending admission to the program. Under certain circumstances, students can be admitted to graduate courses while simultaneously completing an undergraduate prerequisite.

The requirement for admission to full standing (regular status) is 24 semester credit hours with an average of at least 3.00 in history and a general GPA of 3.00. Provisional admission requires 18 credits (as described above) with an average of 3.00 in history and a GPA of 2.70. Students with averages below these minimums can attempt to improve their standing in undergraduate courses approved by the graduate program director. However, they cannot be admitted to graduate courses unless they have achieved acceptable averages in history. Applicants who are denied admission to the M.A. program in history are not permitted to enroll in history graduate courses as non-degree students.

Prospective applicants with questions about their admission status should contact the graduate program director in the Department of History. Those of their qualifications should apply through the Office of Admissions.

Admissions forms should reach Old Dominion University well in advance of the intended term of entry, but no later than November 1 for spring admission, March 1 for summer, and June 1 for fall. All required forms and documents should be sent directly to the Admissions Office, which creates a central file for each applicant. Only the one-page application for graduate financial assistance along with a duplicate copy of the 500-word essay should be sent directly to the graduate program director.
Graduate Financial Aid

Old Dominion University offers financial assistance to qualified graduate students. Types of aid include research and teaching assistantships, fellowships, grants, scholarships, and part-time employment. Nearly all forms of aid require that the student be engaged in full-time graduate study.

Fellowships, assistantships, tuition grants, and small research grants may be available. Departmental funds may affect fellowship and assistantship amounts. The establishment of student need and academic promise also affect some grant amounts. The application deadline is February 15. Graduate teaching and research assistants are charged tuition at the in-state rate. International students must pass the SPEAK test (or an equivalent) of spoken English to become eligible for teaching assistantships.

Degree Requirements

Two courses of study are available. One is a 30-credit program capped by written comprehensive examinations in two general fields and an oral examination. The other is a 30-credit program, comprising 24 hours of course work, a thesis for which students earn six credits (HIST 698-699) on a pass/fail basis, and an oral examination. Either alternative leads to an M.A. in history.

All candidates for the M.A. in history must meet the general graduate degree requirements established for the University. In addition, all students must complete HIST 600 during their first year in the program. No more than nine of the required 30 hours may be earned in 500-level courses. Students are permitted a maximum of six credits in other departments offering graduate courses if the work is germane to their historical studies; prior approval of the graduate program director is required. Students who have received two grades of C+ or below, or whose grade point average falls below 3.00, will be indefinitely suspended from the program.

Curriculum

Examination Option

Students pursuing the exam option must take course work as follows:

- 6 credits in the Americas
- 6 credits in Europe, including Russia
- 3 credits in Africa or Asia
- 9 credits of electives
- HIST 600, Historical Theory and Practice, 3 credits
- HIST 675, Exam Preparation, 3 credits

Students choose two fields of concentration for the Examination Option, which will conform to the expertise of two of the three committee members who constitute the student’s exam committee. The fields can be tailored to the following geographic areas: North America, Europe, Russia, Latin America, Asia, or Africa.

Students pursuing the examination option must complete HIST 675 during their last year in the program. Written comprehensive field examinations may be taken in conjunction with HIST 675. The two field exams are taken during a designated time over the course of two weeks with a two-hour oral examination following the completion of written exams. Exams are individualized by the student’s examining committee but competence in the entire field is essential. Examinations are completed no later than 30 days before the end of a semester, and thus are normally scheduled in March, July, and November. A field exam is judged in its entirety and is rated Pass or Fail by the examining committee; the same is true of the oral examination. Students who fail an exam can be re-examined in the next scheduled round of exams. Only one re-examination is permitted.

Thesis Option

Students pursuing the thesis option must take course work as follows:

- 6 credits in the Americas
- 6 credits in Europe, including Russia
- 3 credits in Africa or Asia
- 6 credits electives
- HIST 600 Historical Theory and Practice, 3 credits
- HIST 698/699 Thesis, 6 credits

The thesis option will be recommended for those students who have maintained a high GPA and have the support of a faculty advisor. A review of the thesis prospectus is required before the completion of 18 hours of course work. The master’s thesis is written under the direction of a thesis advisor selected by the candidate in consultation with the graduate program director. The thesis is reviewed and the candidate examined by a faculty committee chaired by the thesis advisor. The thesis defense—normally a two-hour oral examination—focuses on the thesis, the historical context, and related aspects of the student’s concentration. Final approval of the thesis is the responsibility of the thesis advisor, the graduate program director, and ultimately of the dean of the College of Arts and Letters, who certify the candidate for graduation.

Institute of Humanities

432 Batten Arts and Letters
757-683-3821

Master of Arts - Humanities

Dana Heller, Graduate Program Director

The Institute of Humanities administers the Master of Arts program in the humanities offered by the College of Arts and Letters. The program, which emphasizes interdisciplinary studies, cultural studies, and critical studies, allows students to pursue individualized programs of study that incorporate work from more than one humanities discipline. Students may enroll in approved graduate courses from the following fields: art history, Asian studies, linguistics, literature, foreign languages, history, music, philosophy, political science and geography, sociology and anthropology, communication and film studies, women’s/gender studies, international studies, etc.

Admission

The program is open to all qualified holders of the B.A. or B.S. degree and is designed for full-time students as well as part-time students, students who have recently completed their bachelor’s degree as well as nontraditional students who are returning to an academic environment after an absence of some years, and students who are planning to pursue the Ph.D. as well as students who wish to broaden and strengthen their understanding of the humanities through advanced work at the master’s level.

In addition to meeting general University requirements, an applicant must have an undergraduate average of 3.00 in the liberal arts and 2.80 overall, as well as 24 hours in liberal arts disciplines. All students seeking admission to the humanities program are required to submit recent GRE scores. Although admission is selective, the University recognizes that each individual possesses unique qualifications that will be taken into consideration. An essay of 500 words must be submitted with the application material. The essay should 1) propose a general program of study; 2) discuss personal, intellectual, and professional goals; and 3) explain the relationship of those goals to the intended program of study. All application inquiries should be made to the Office of Admissions.

Requirements

Students may pursue the 36-hour non-thesis option or the 33-hour thesis option. All students must take HUM 601 and 602. These courses provide an introduction to humanities research, methodology, and critical approaches, and serve as the foundation for each student’s individualized program. In selecting their courses, students may take only 12 hours at the 500 level. All students must complete their graduate work within a six-year period.

Curriculum

All students must take the following two required courses, which provide an introduction to humanities research, methodology, and critical approaches, and serve as the foundation for each student’s individualized program:

- HUM 601: The Subject of the Humanities: Intro. to Research, Methodology, and Theory 3 credits
- HUM 602: The Humanities on Trial: Postmodernity, Technology, Globalization 3 credits

Non-thesis Option

Students selecting the non-thesis option must take the capstone seminar, HUM 694. This seminar brings students together in their final semester of study in order to explore the current state of humanities disciplines and theories of interdisciplinary. All students are required to complete a final integrating paper that demonstrates effective interdisciplinary work. Students wishing to undertake special projects other than the research paper must obtain the approval of the graduate program director and appropriate faculty advisors.
Thesis Option

Students pursuing the 33-hour thesis option must take HUM 698-699 (thesis, six hours) in place of HUM 694. The thesis is to be based on original scholarly research and must reflect the interdisciplinary nature of the humanities degree. In rare cases, students may be permitted to undertake a creative project—the making of a film or video, the production of a musical or multimedia event—with the approval of the director. Each thesis student will be assigned a faculty advisor who will chair a thesis committee appointed by the director of the Institute of Humanities. The committee, consisting of faculty certified for graduate instruction in the College of Arts and Letters, will direct and evaluate the student’s work. The thesis committee must have faculty members from at least two different Arts and Letters disciplines. Upon completion of the thesis, the committee will conduct a two-hour examination and defense of the thesis and the topics related to the student’s program of study. A formal written statement explaining and justifying the project must be submitted before the oral examination.

Sample Study Program Options

The Master of Arts degree in humanities is an interdisciplinary graduate program. Choosing from more than 70 graduate-level courses offered through various departments of the College of Arts and Letters each semester, students may select their own emphasis and design a program in order to meet their own intellectual and professional objectives, or they may select a pre-approved concentration with a more structured program of study. Among the many emphases, which may be developed are the following: Medieval Studies; Ideologies: Cromwell to Marx; African American Studies; Global Perspectives; American Studies; Ethics, Politics, and Cultural Values; Women’s Studies/Gender Studies; Post-colonial Studies; Revolution and Modernity; Contemporary Art Criticism; Drama/Performance Studies; History and Theory of Film; and Religion and Public Policy.

Culture, Technology, and Social Change Concentration

This concentration was created to enhance humanities students’ professional credentials and to enrich their academic experience by providing a structured program of graduate study that reflects a growing field of interdisciplinary scholarship. This concentration will foster critical thinking about the impact of technology on culture, society, and values. Moreover, it will prepare students for a job market that places increasing value on the ability to comprehend connections between technical and humanistic forms of knowledge.

Women’s Studies Certificate

A Women’s Studies Certificate is available to graduate students through the Institute of Humanities (in association with the women’s studies program) upon completion of the following 15-hour program of course work: WMST 560, 570.

At least nine additional credits in 500 or 600-level courses approved for the Women’s studies curriculum and drawn from various disciplines (such as English, history, political science and geography, foreign languages, art history, women’s studies, etc.). No more than six of these credits may be taken in any one field.

At least one of the courses chosen must be at the 600 level.

Only students who hold a B.A. or B.S. degree with an overall GPA of 2.75 may apply for the graduate women’s studies certificate. Students must maintain a 3.00 grade point average in the 15 graduate credits needed for the certificate. The women’s studies certificate may be undertaken independently or in combination with a graduate degree in humanities (or in combination with another graduate degree). Students wishing to pursue the certificate through the Institute of Humanities must gain admission to the humanities graduate program before the completion of nine graduate hours and must satisfy all of the admission requirements for the program including the GRE.

The director of the women’s studies program or a designee will serve as advisor for students who gain admission to the humanities program only for the purpose of pursuing the graduate women’s studies certificate. Students pursuing the certificate in combination with a graduate degree in the humanities will have their progress monitored by both a women’s studies advisor and the director of the Institute of Humanities.

For additional information please contact the Institute of Humanities at: http://al.odu.edu/hum/
Required Courses, M.A. in International Studies

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IS 600</td>
<td>Research methods in international studies</td>
<td>3</td>
</tr>
<tr>
<td>IS 606</td>
<td>American foreign policy and world order</td>
<td>3</td>
</tr>
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<td>3</td>
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<td>Field of concentration</td>
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Electives, if thesis option 6 of these credits will be directed research

<table>
<thead>
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<th>Credits</th>
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Fields, Area/Region, Methodology, Language and Foreign Experience Requirements. Fields of concentration include U.S. foreign policy, conflict and cooperation, international political economy and development, interdependence and transnationalism, and comparative and regional studies.

Methodology Requirements. The M.A. requires one methodology course (IS 600). M.A. students are encouraged to take further methods courses as electives.

Language Requirements. M.A. students must demonstrate reading competence in one foreign language other than English. International students who have English as a second language fulfill this requirement.

Foreign language competence can be demonstrated in one of two ways:
1. Students may complete a third year of language instruction at Old Dominion University (students may choose to enter the third year through a University placement test) or other institutions. A grade of B- or above in both semesters of third-year instruction will demonstrate competency in that language.
2. Students may take a language test. Exams are administered (for a fee) by the Department of Foreign Languages and Literatures. GPIS requirements concern reading comprehension competence. For more information about which skills will be tested and what standards of competency are required, contact GPIS. If a student wishes to demonstrate competency in an uncommonly taught language, GPIS will endeavor, so far as practicable, to arrange an examination by Old Dominion University faculty and/or consultants. For more information about this method for demonstrating language competency, contact GPIS.

Comprehensive Examinations. In consultation with their advisors, M.A. students will select either a thesis or non-thesis option. Students selecting the non-thesis track must pass a written comprehensive examination. Thesis students must pass an oral defense of their thesis.

The M.A. comprehensive examination may not be scheduled before students have completed all core and methodology requirements, nor may the M.A. comprehensive examination be scheduled prior to the last semester in which regular course work is taken. M.A. examinations are scheduled twice a year. If M.A. students fail the written comprehensive examination the first attempt, they may retake the entire written examination only once, no earlier than one semester later.

Theses. M.A. students choosing the thesis option will submit a thesis prospectus to the chair of their thesis committee for approval after the completion of 18 credits or at the beginning of the third semester in the program. The thesis should be submitted to the thesis committee for its approval at least two weeks before a defense is scheduled. The committee will schedule the student’s oral defense of the thesis when the thesis appears to meet GPIS standards for master’s theses. The oral defense will concern questions of substance and methodology.

Graduate Requirements. All M.A. students will be graded on the traditional A, B, C, F scale (with pluses and minuses) in all courses. Pass/Fail evaluations will be utilized only in the case of registration for internships or for thesis or dissertation research, or when specifically approved by the director.

Graduate students for whom grade point averages fall below 3.00 (B) will be placed on a probationary status. After two consecutive semesters below this average or the accumulation of two grades of "C" or below, the director will take under consideration, in consultation with faculty, termination of the student’s program.

Time Limit and Residency Requirements. The master’s degree can be completed in four full-time semesters, although many M.A. candidates continue the degree over a longer period on a part-time basis. The M.A. must be completed within a six-year period.

Doctor of Philosophy-International Studies

Admission Requirements
All candidates for admission into the Ph.D. must submit:
1. Graduate Record Examination (GRE) scores;
2. Official transcripts of all undergraduate or prior graduate course work submitted directly by all universities attended;
3. Three letters of recommendation (at least two of which should be from prior professors) addressing the candidate’s capacity to undertake graduate work in international/global issues;
4. An essay of not more than 500 words describing interest in and capacity for advanced training in global/transnational issues; and,
5. One example of writing or research (a paper submitted to a seminar, a publication or report, or other comparable example).

Any prior graduate course work taken at Old Dominion University (e.g., in nondegree status) or at another institution can be counted toward the Ph.D. degree only in accordance with the provisions governing transfer of credit and the director’s approval.

Admission Standards

1. Applicants to the Ph.D. program must hold a master’s degree in a related field of study.
2. Ph.D. candidates are generally expected to attain a GRE score of 1200 (combined verbal and quantitative) and have at least a 3.00 cumulative GPA in undergraduate and graduate courses, with a somewhat higher GPA for courses related to international, global or transnational issues.
3. Individuals whose native language is not English must submit a score of 230 on the computer-based TOEFL (the equivalent of 570 in the older, paper-based score scale) or 80 on the TOEFL iBT.
4. The Admissions Committee strongly recommends prior international experience (residence, study or work) and foreign language training for all Ph.D. applicants. Evidence of substantial international and foreign language background is highly desirable for applicants.

Application Deadline, Ph.D.

Applications for fall semester admission to the Ph.D. program and for financial assistance must be submitted to the Office of Graduate Admissions no later than February 15.

Degree Requirements

Credits for the Ph.D. The Ph.D. requires 78 credits, which must include at least 48 hours at the post-master’s level (i.e., courses at the 700 or 800 level). These 48 hours include a minimum of 12 and a maximum of 18 dissertation credits. The 78 credits do not include any courses needed for demonstrating foreign language competency. Each student’s program of study is supervised by a faculty committee.

Upon completion of coursework, Ph.D. students must pass a written and an oral comprehensive examination, submit a dissertation prospectus, write a dissertation, and undergo an oral defense of the dissertation.

Required Courses. All Ph.D. students must take IS 600, Research Methods; IS 606, American Foreign Policy and World Order; ECON 650, International Economics; and IS 601, International Relations Theory. Ph.D. candidates must also take IS 620, Advanced Methods. Each required course must be completed with a grade of B (3.00) or above. Ph.D. students must take 15 credit hours in one field of concentration and nine credit hours from another field, totaling 24 credit hours.

Curriculum

Required Courses, Ph.D. in International Studies

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<td>IS 601</td>
<td>Seminar in international relations theory</td>
<td>3</td>
</tr>
<tr>
<td>IS 620</td>
<td>Advanced statistical techniques for international studies</td>
<td>3</td>
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<td>Primary field of concentration</td>
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Electives, 12-18 dissertation preparation credits

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Fields, Area/Region, Methodology, Language and Foreign Experience Requirements. Fields of concentration include U.S. foreign policy, conflict and cooperation, international political economy and development, interdependence and transnationalism, and comparative and regional studies.

Methodology Requirements. All Ph.D. students must complete a sequence of two basic methods courses beginning with IS 600. Students holding an M.A. from another institution who are entering the Ph.D. program may present transcripts showing a B (3.00) or above, plus syllabi and other documentation, from a similar introductory methods course to be exempted from IS 600.
Language Requirements. Ph.D. students must demonstrate reading competence in one foreign language other than English. International students who have English as a second language fulfill this requirement.

Foreign language competence can be demonstrated in one of two ways:
1. Students may complete a third year of language instruction at Old Dominion University (students may choose to enter the third year through a University placement test) or other institutions. A grade of B- or above in both semesters of third-year instruction will demonstrate competence in that language.
2. Students may take a language test. Exams are administered (for a fee) by the Department of Foreign Languages and Literatures. GPIS requirements concern reading comprehension competence. For more information about which skills will be tested and what standards of competence are required, contact GPIS. If a student wishes to demonstrate competence in an uncommonly taught language, GPIS will endeavor, so far as practicable, to arrange an examination by Old Dominion University faculty and/or consultants. For more information about this method for demonstrating language competency, contact GPIS.

Comprehensive Examinations. All Ph.D. students must pass a written comprehensive examination. Students who pass the written comprehensive examination must then pass an oral comprehensive examination.

The Ph.D. comprehensive examination may not be scheduled before students have completed all core and methodology requirements, nor may the Ph.D. comprehensive examination be scheduled prior to the last semester in which regular course work is taken. Ph.D. students are also required to fulfill the foreign language requirement before taking the comprehensive examination. Ph.D. examinations are scheduled twice a year. Ph.D. students failing the written comprehensive on the first attempt may retake the written comprehensive exam only once, no earlier than the following semester.

Dissertations. A dissertation is required of all Ph.D. students. A dissertation prospectus will be prepared after the successful completion of the comprehensive examination. If the student’s graduate committee approves the prospectus, the student will proceed to research and write the dissertation. An oral defense of the dissertation will be scheduled after a draft is approved by the committee.

Grade Requirements. All Ph.D. students will be graded on the traditional A, B, C, F scale (with pluses and minuses) in all courses. Pass/Fail evaluations will be utilized only in the case of registration for internships or for thesis or dissertation research, or when specifically approved by the director.

Graduate students for whom grade point averages fall below 3.00 (B) will be placed on a probationary status. After two consecutive semesters below this average or the accumulation of two grades of “C” or below, the director will take under consideration, in consultation with faculty, termination of the student’s program.

Time Limit and Residency Requirements. The doctoral program must be completed within eight years of entry into Ph.D. course work.

Transfer Credit. Twelve graduate credits earned at other institutions or at Old Dominion University may be applied toward the fulfillment of degree requirements. Transfer credit, including nondegree credit earned at Old Dominion, is accepted as degree credit at the discretion of the director.

Financial Aid. Full-time students are eligible to apply for University fellowships, teaching and research assistantships, and tuition grants which are awarded on a competitive basis.

Nondegree Students. Nondegree students must obtain the approval of the director before enrolling in graduate international studies classes.

Additional Information. Please see the GPIS Handbook and website at aod.edu/gpis. For other issues concerning GPIS, please contact the Graduate Program in International Studies (GPIS), 621 Batten Arts and Letters Building, Old Dominion University, Norfolk, VA 23529-0086, USA. Telephone: 757-683-5700. Fax: 757-683-5701. E-mail: isgd@odu.edu.

Department of Music
244 Diehn Fine and Performing Arts Center
757-683-4061
Dennis J. Ziesler, Chair

Master of Music Education, M.M.E.

Nancy K. Klein, Graduate Program Director

The College of Arts and Letters offers the Master of Music Education degree with concentrations in applied performance/conducting, research, or seminar option. The graduate degree is designed to stress the development of advanced knowledge of broad-based principles and practices in music and music education for application in the public or private school, private studio, or higher education setting. A minimum of 34-37 semester hours of course work is required to complete the degree, with the hours distributed according to the area of concentration. The degree does not provide Virginia state licensure for teaching.

Admission

In order to be admitted into the graduate program each candidate must have earned a bachelor’s degree in applied music, music education, music history or music theory and have earned an overall GPA of 3.0 with a 3.0 in the major field of study. All candidates are required to take the GRE or the MAT. Candidates seeking the concentration in applied studies are required to audition before the graduate faculty. Video and audio-taped auditions are accepted.

Degree Requirements

The three areas of concentration for the Master of Music Education degree are: (1) Applied Studies, requiring 34 hours of course work and full master’s recital in performance or conducting, (2) Research, requiring 34 hours of course work and a thesis or problems paper, (3) Seminar Option, requiring 37 semester hours of course work.

Before the completion of 12 credits, each candidate must declare an option of study. Those accepted into the applied option must pass an applied jury or performance presented before the graduate faculty for continuance review during each semester of study. Students in all areas of concentration must pass a written comprehensive examination near the completion of their studies.

The following courses are required for each concentration option:

APPLIED STUDIES CONCENTRATION

Additional required courses:
MUSA 651  Applied Studies 3
MUSA 652  Applied Studies 3

Choose one of the following literature courses:
MUSC 605  Literature of the Band 3
MUSC 606  Choral Music Literature 3
MUSC 609  Orchestral Literature 3

Choose one history class from the following:
MUSC 560  History and Aesthetics of Jazz 3
MUSC 566  Modern Music 3
MUSC 590  Music in the Renaissance Era 3
MUSC 591  Music in the Baroque Era 3
MUSC 592  Music in the Classical Era 3
MUSC 594  Music in the Romantic Era 3

RESEARCH CONCENTRATION

Additional required courses:
MUSC 698  Thesis Research 3
MUSC 699  Thesis 3

SEMINAR OPTION

Additional required courses:
Choose one of the following history courses:
MUSC 560  History and the Aesthetic of Jazz 3
MUSC 566  Modern Music 3
MUSC 590  Music in the Renaissance Era 3

COLLEGE OF ARTS AND LETTERS 65
Sociology Track

Admission

Students must hold a bachelor’s degree with at least a 2.75 average on a 4.00 scale and must have completed at least 12 hours of undergraduate work in sociology or criminal justice, including courses in theory, research methods, and statistics. The Graduate Record Examination is required for all applicants. Those who fail to meet one or more of the above requirements may be admitted as provisional students by the graduate program committee, which is composed of faculty members from Old Dominion University and faculty members from Norfolk State University.

Old Dominion University is the institution of formal record for this program.

Requirements

All students must complete 30 hours of course work including five required core courses (15 credit hours): SOC 610, 620, 630, 640, and 650. Each student must complete a thesis (six credit hours), which will be supervised by a faculty committee including members from both institutions.

Sociology Track

In addition to the requirements listed above, students choosing the sociology track must complete 15 credit hours of electives chosen from graduate sociology courses offered by the Department of Sociology and Criminal Justice, Old Dominion University, and the Department of Sociology, Norfolk State University. Selection of elective courses will be based upon individual advising.

Criminal Justice Track

In addition to the requirements listed above, students choosing the criminal justice track must complete CRJS 625 and 12 credit hours of electives chosen from graduate criminal justice courses offered by the Department of Sociology and Criminal Justice, Old Dominion University, and the Department of Sociology, Norfolk State University. Selection of elective courses will be based upon individual advising. Students will be awarded a certificate in criminal justice upon completion of the Master of Arts degree.

Women’s Studies Track

In addition to the requirements listed above, students choosing the women’s studies track must complete WMST 560 and 570 and nine credit hours of electives chosen from selected graduate women’s studies courses. No more than six hours of these credits can be taken in any one discipline (sociology and criminal justice are considered two separate disciplines). Selection of elective courses will be based upon individual advising. Students will be awarded a certificate in women’s studies upon completion of the Master of Arts degree.

Curriculum

Required Core Courses:

- SOC 610 Applied Social Research Methods
- SOC 620 Proseminar in Sociological Theory
- SOC 630 Applied Social Statistics (Prerequisite: SOC 610)
- SOC 640 Sociological Application of Computer and Data Analysis (Prerequisite: SOC 610)
- SOC 650 Research Seminar (Prerequisites: SOC 610, SOC 620, SOC 630, SOC 640)

Criminal Justice Track:

- CRJS 625 Admin. Of Criminal Justice

Women’s Studies Track:

- WMST 560 Feminist Thought
- WMST 570 Women’s Way of Knowing, Ways of Knowing Women

Electives Courses:

A variety of graduate elective courses in sociology and criminal justice are offered every semester. All courses are 3 credit hours. Recent elective courses include the following:

- Social Inequalities;
- Globalization, Justice and Human Rights;
- Violence Against Women;
- Criminological Theory and Public Policy;
- Cultural Adaptations;
- Drugs and Society;
- Diversity and the Criminal Justice System;
- American Jury;
- Community Justice;
- Crime in the Workplace;
- Life Course Perspective on Crime and Deviance;
- Criminal Justice and the Law; and,
- Restorative Justice

Doctor of Philosophy – Criminology & Criminal Justice

Graduate Program Director, To be named

NOTE: This program will begin in fall 2007 pending final approval by the State Council of Higher Education for Virginia.

The Ph.D. in Criminology & Criminal Justice is offered on the main campus of Old Dominion University. The degree is designed to produce scholars who are capable of advancing the body of knowledge in criminology & criminal justice and who can also oversee the application of these advances in both academic and professional settings.

Admission

Regular admission to the program requires: A completed master’s degree (or its equivalent) in Criminology & Criminal Justice or in an appropriate field (e.g., administration of justice, sociology, or political science) from a regionally accredited institution of higher education – a thesis is generally expected; A minimum grade point average (GPA) of 3.25 (on a 4.0 scale) overall for the master’s degree; A combined minimum score of 1,000 on the GRE general knowledge tests (verbal and quantitative) is generally expected; Successful completion of prior coursework in research methodology and statistics at least equivalent to that required by the ODU B.A. in sociology / criminal justice and M.A. degree in applied sociology; Three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study in criminology & criminal justice; A writing sample of at least 20 double-spaced pages on a topic related to the applicant’s expertise or area of interest; A typed statement of approximately 1,000 words summarizing the individual’s motivation for applying to the program as well as the professional contributions s/he intends to make assuming successful completion of the degree; If the applicant’s native language is not English, a current score for the Test of
English as a Foreign Language (TOFEL) of at least 560 and/or an interview in which the applicant’s comprehension and fluency in English can be assessed. Conditional admission may be granted when an applicant’s credentials suggest aptitude for doctoral study but do not meet the criteria outlined above. Admission under this standard requires a variable amount of preliminary coursework in addition to that which is normally required for the degree. The amount and content of additional coursework required in conjunction with conditional admission is determined by the Ph.D. graduate program director on a case-by-case basis.

Department of Women’s Studies

3041 Batten Arts and Letters Building
(757) 683-3823

Anita Clair Fellman, Chair and Chief Departmental Advisor

Women’s studies is a multi- and interdisciplinary field of study encompassing all aspects, historical and contemporary, of women’s nature, lives, and perspectives. Old Dominion University offers a graduate certificate in women’s studies, which 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; it can also prepare students for new and exciting research opportunities in graduate and doctoral programs. Graduate students desiring to obtain a certificate in women’s studies have several options: A 15-credit-hour graduate women’s studies certificate is offered through the Institute of Humanities. Students who are pursuing a graduate degree in humanities may do almost all their work in the field of women’s studies or they may combine women’s studies with emphases in other liberal arts disciplines. Students who want only the graduate certificate without a graduate degree may attain it, but must apply, nonetheless, for graduate standing in the Institute of Humanities.

Students wishing to pursue the certificate through the Institute of Humanities must gain admission to the humanities graduate program before the completion of nine graduate hours and must satisfy all of the admission requirements for the program, including the GRE. Only students who hold a B.A. or B.S. degree with an overall GPA of 2.80 may apply for the graduate women’s studies certificate. The chair of the Women’s Studies Department or a designate will serve as advisor for students who gain admission to the humanities program only for the purpose of pursuing the graduate women’s studies certificate. Students pursuing the certificate in combination with a graduate degree in the humanities will have their progress monitored by both a women’s studies advisor and the director of the Institute of Humanities.

Graduate students may earn a women’s studies certificate in addition to a graduate degree in another department or college. Students who have already earned or are pursuing graduate degrees in other fields may enhance their qualifications with a women’s studies certificate. Those admitted to a graduate program and obtaining a master’s degree in fields such as English, history, psychology, international studies or applied sociology have the option of obtaining that degree with the women’s studies certificate. For more information consult the chair of women’s studies and see the relevant sections of the Catalog.

Students seeking an M.A. who wish to teach women’s studies at a post-secondary level in Virginia should take 18 rather than 15 graduate credits in approved women’s studies courses in order to meet accreditation requirements.

Centers and Institutes

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.

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.

The Institute for Jewish Studies and Interfaith Understanding

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.

COLLEGE OF ARTS AND LETTERS 67
College of Arts and Letters
Graduate Courses

Course Prefixes

Anthropology – ANTR
Art History – ARTH
Studio Art – ARTS
Arts and Letters – AL
Asian Studies – ASIA
Communications – COMM
Criminal Justice – CRJS
Dance – DANCE
English – ENGL
Foreign Languages and Literatures — FL
Foreign Language in Eng Trans – ELET
French – FR
German – GER
Japanese – JAPN
Spanish – SPAN

Geography – GEOG
History – HIST
Humanities – HUM
International Studies – IS
Middle Eastern Studies – MIDE
Music – MUSIC
Applied Music – MUSA
Philosophy – PHIL
Political Science – POLS
Sociology – SOC
Theatre – THEA
Women’s Studies - WMST

African-American Studies–AAST

497/597. Independent Study. 1-3 credits. Prerequisite: senior standing or permission of instructor. Students are exposed to opportunities to conduct independent research and/or study in areas focused on the political, social and cultural experiences of people of African descent in the U.S. and the African Diaspora.

Anthropology–ANTR

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.

465/565. Topics in Anthropology. 1-3 credits each semester. A study of selected topics for graduate students. The courses will appear in the course schedule, and will be more fully described in information sent to all graduate advisors.

697, 698. Tutorial Work in Special Topics in Anthropology. 3 credits each semester. Independent reading and study on a topic to be selected under the direction of a member of the graduate faculty. Conferences and papers as appropriate.

Art History Courses—ARTH

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, ivories 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 Illuminated Manuscript. 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 instructor. Lectures and critical discussion of the development and configurations of the various styles emergent since 1960, both in America and Europe.

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.

600. Graduate Seminar: Art Criticism. Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or appropriate survey class from previous undergraduate institution. An examination of critical methodologies as they relate to art, with readings in the recent past and the contemporary scene. Required of all M.A. and M.F.A. students.

695. Special Topics in Art History. Lecture 1-3 credits. Topics to be specified in the class schedule. Intensive critical investigations of specialized areas in art history. May be repeated for credit as topics vary.

697. Tutorial in Art History. Lecture 1-3 credits. Individuals arranged with the appropriate professor and with the permission of the graduate program director.

Studio Art Courses—ARTS

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 and 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 visually 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.

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 363, and 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.

464/564. Figurative Sculpture. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 263. Three-dimensional studies of the human figure selected aspects of the visual arts which focus on the role of the artist in contemporary urban society. May be repeated for credit as topics vary.

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, printing, 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 coordinated to meet an overall communication 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.)

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.

481/581. Crafts III: Fibers. Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 370 or permission of the instructor. Advanced works in papermaking, weaving, and production. Laboratory sessions will include the production of a series of books by each student involving page design, paper selection, printing and binding. (Offered once every 2 years.)

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 apprentices.

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 apprentices.

700. Directed Field Experience. 3-6 credits. Permission of graduate program director required. Supervised individual inquiry in specific studio projects relating to the areas of major interest. A minimum of 30 credit hours is required.

701. Documentation. 3 credits. Permission of graduate program director required. Required of all M.F.A. candidates. Course requirements to be determined by the student’s advisory committee. Final grade to be determined by the student’s thesis review committee.

702. Thesis Exhibition. 3 credits. Permission of graduate program director required. Studio work in preparation for required graduate exhibition. Public exhibition to be approved by the student’s advisory committee and must be accompanied by final review. Documentation may be required. Required of all M.A. and M.F.A. candidates. Final grade to be determined by the student’s thesis review committee.

707, 798. Graduate Studio. 3-6 credits. Permission of graduate program director required. Supervised individual inquiry in specific studio projects relating to areas of major interest. Individual studio spaces will be assigned.

The above list does not include graduate art courses taught at Norfolk State University. Consult the NSU Catalog for a current list of course offerings.

Arts and Letters—AL

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.

797. Tutorial Work in Arts and Letters Topics. 1-3 credits. Prerequisite: advanced standing. Seminar in special interdisciplinary topics for small groups of qualified students.

Asian Studies—ASIA

495/595. Topics in Asian Studies. 1-3 credits. Prerequisites: appropriate survey source 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.
conditions for development of positive domestic outcomes.

426/526. Group Communication Theory and Research. Lecture 3 hours; 3 credits. Prerequisites: COMM 208 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 interactional and world flow of information and entertainment. 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. An examination of 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. Focus on the development of cinema from perspectives such as fascism and its legacy, film as historic critical, or 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 documents, and advertising; examining the language of the media; an examination of the function of symbols and rituals of political meaning central to how political power is built and legitimated. This course examines such symbols and rituals as news, elections, party affiliation, etc.; the role of language in the social construction of reality.

447W/547. Electronic Media Law and Policy. Lecture 3 hours; 3 credits. Prerequisite: COMM 200S 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. Prerequisites: COMM 360, or permission of the instructor. An examination of the rise of broadcast technology and world flows 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 360, junior standing, or permission of the instructor. Focuses on theories, research and applications of the social influence function of communication in a variety of organizational contexts. Emphasizes traditional and nontraditional social influence theories and research as applied to organizational change.

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. Emphasizes 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. An examination of the rise of broadcast technology and world flows of information and entertainment. Examination of the rise of broadcast technology and world flows of information and entertainment. 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, cinematic 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 200S or permission of the 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, cinematic representations, public access television, and others. Students seek to understand the power available to citizens for political engagement via mediated communication forms.

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 marketplace.

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 and tactics to be studied include scheduling, program selection and development, and promotion. Television and radio will be examined, 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. A study of American film from its inception to the present. 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, cinematic representations, public access television, and others. Students seek to understand the power available to citizens for political engagement via mediated communication forms.

480/580. The Video Documentary I. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: COMM 360. This is a production/studio course designed to complete the preparatory work developed in Theatre Video Documentary I, with the completion of a short documentary film. Students in this course, meeting on a regular, arranged basis, will report their progress 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 completing the rough footage in post production. (cross-listed with THEA 479/579)

481/581. The Documentary Tradition. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 360 or permission of instructor. An in-depth investigation of the history and theory of the documentary tradition in film,
television, and radio. Examining both American and international examples, the course will look at major schools, movements, goals, and styles of documentary production. Representative texts will be studied for their socio-political influences, persuasive techniques, and formal political processes, such as elections. (cross-listed with HUM 640)

650. Religious Communication. Lecture 3 hours; 3 credits. The seminar surveys the relationship between communication and religion with an emphasis on theory, research and applications. Topics may include the communication of religious beliefs/values via story, ritual, ceremony, worship, prayer and mediated communications.

672. New Communications Media and Social Development. Lecture 3 hours; 3 credits. Course explores the interaction between media technology deployment and social development in nations and sub-national groups. Special emphasis is placed on the paradigm of “networks” in both societies and technologies.

673. Television Histories as Collective Memory. Lecture 3 hours; 3 credits. This seminar explores the parameters and implications of “television as historian,” examines the general nature of this widespread phenomenon, and analyzes mass mediated versions of the past and how and why they were constructed.

678. Race and Television. Lecture 3 hours; 3 credits. This course examines the relationships between race, ethnicity, and television. Multiple scholarly traditions are used to examine the interactions between television tests, audiences and institution and historical and contemporary race relations.

695. Topics in Communication. Lecture 3 hours; 3 credits. The study of selected topics designed to meet specific needs of certain small groups of students. Prerequisite: consent of instructor.

795/895. Selected Topics in Communication Studies. Lecture 1-3 hours; 1-3 credits. Prerequisite: permission of instructor. Three 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.

679/698. Tutorial in Special Topics in Communication. Prerequisite: approval of department chair. Independent study of special topics: a topic to be selected under the direction of an instructor. Conference and papers as appropriate.

600. Intercultural Communication: History, Theory and Application. Lecture 3 hours; 3 credits. Students will begin with an overview and then cover (1) past intercultural communication research, (2) the philosophical underpinning and ethics behind intercultural communication research, and (3) current developments in intercultural communication theory. They will then address the application of intercultural communication theory in specific intercultural communication contexts (e.g. business, education, health and: the “Electronic Revolution,” also known as the Information Society. (cross-listed with HUM 630)

615. Construction of the Gendered Body. Lecture 3 hours; 3 credits. This course will examine: (1) the nature-nurture controversy as reflected in current theories about gender as a significant factor in the transformation of physical bodies into social bodies, (2) cultural objects and institutions that shape our gender roles and expectations, and (3) nonverbal language and power and the status of the sexes.

630. The Information Society. Lecture 3 hours; 3 credits. This course explores the theories, questions, claims and myths that have accompanied the rise of new communication technologies and electronically derived digital information. It defines the “Information Revolution,” also known as the Information Society. (cross-listed with HUM 630)

640. Television and Politics. Lecture 3 hours; 3 credits. This class closely examines television’s role in shaping and reflecting contemporary American political culture, the conduct of foreign policy, and formal political processes, such as elections. (cross-listed with HUM 640)

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 terrorism, torture, death squads and the death penalty, and hate violence. Explores the circumstances, rationalizations, patterns, explanations and effects on survivors.

410/510. Correctional Treatment. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. Methods and programs which attempt to correct the behaviors of juvenile delinquents and adult criminal offenders are explored. Treatment strategies employed in both community and institutional settings are examined. Techniques of classification and the role of the correctional worker are also discussed.

421/521. Deviant Behavior. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S 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 SOC 421/521)

423/523. Public Policy in Criminal Justice. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. A study of the development, implementation and evaluation 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/526. 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 criminology. Deals extensively with issues of crime causation.

427/527. Violence Against Women. Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or completion of social science perspective or permission of 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 SOC 427/527)

441/541. Drugs and Society. Lecture 3 hours; 3 credits. Prerequisite: SOC 210S or CRJS 215S. The study of sociological and social psychological explanations of drug-taking 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 contemporary society. (cross-listed with SOC 441/541)

445/548. 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 examines historical attitudes which have been used to justify differential treatment of women. It explores various legal approaches used to achieve equal protection under the law and examines a variety of specific topics such as: the equal protection analysis; Title VII and Title IX and their relationship to sex discrimination; affirmative action; and reproductive freedom.

450/550. 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 include African-American perspectives, the death penalty, victimization, police brutality, and justice systems in America and the Caribbean.

462/562. Substantive Criminal Law. Lecture and discussion 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. This course deals with the major substantive concepts involved in American criminal law, including development of criminal law, elements of criminal liability, defenses against criminal responsibility, and descriptions and definitions of specific offenses.

475/575. Criminal Justice Systems Around the World. Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. The study of criminal justice systems around the world in order to understand
how criminal behavior is defined and responded to in various cultures. Cultural differences will be highlighted in order to recognize that definitions of and responses to crimes closely reflect the cultures in which they exist.

497/597, 498/598. Tutorial Work in Special Topics in Criminal Justice. 1-3 credits. 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.

610. Applied Social Research Methods. Lecture 3 hours; 3 credits. The application of social science methods to practical problems. The topics of research design, measurement, scaling, sampling, data collection, and research organization will be taught with reference to issues of reliability, validity, and ethical concerns. (cross-listed with SOC 644)

650. Research Seminar. 3 credits. Prerequisites: SOC 610 or CRJS 610, SOC 620 or CRJS 620, SOC 630 or CRJS 630, and SOC 640 or CRJS 640. This seminar integrates the skills needed to complete a master’s thesis. Exercises include formulating research questions, developing a research design, and writing a publishable paper. Students practice these skills assignments in class and by completing their thesis proposal. (cross-listed with SOC 650)

660. Justice Seminar. Lecture 3 hours; 3 credits. Prerequisites: CRJS 610, 620, 630, 640, 640, 640, 640. An examination of contemporary research and policy issues in criminal justice and criminal justice. Special emphasis is placed upon recent developments in the field.

661. Policing. Lecture 3 hours; 3 credits. A study of the major issues in law enforcement agencies, personnel and strategies. Topics focus on the impact of social control on the officers and society.

662. Criminal Justice and the Law. Lecture 3 hours; 3 credits. A study of law and its interpretation as it affects the criminal justice system. Includes such issues as the substance of criminal law and the criminal court setting as a social system.

663. Corrections. Lecture 3 hours; 3 credits. A study of society’s response to crime through its use of institutional and noninstitutional corrections. Topics include inmate culture, correction officer behavior and community corrections programs.

668. Internship. 3 credits. Prerequisites: permission of the instructor. Students gain firsthand experience in professional settings which are deemed appropriate given their academic background and career objectives. Students will be required to complete a research project which corresponds to their specific internship placement.

695/696. Topics in Criminal Justice. Lecture 3 hours; 3 credits. Advanced seminars on selected topics in criminal justice. Topics will vary by semester.

697/698. Independent Study in Special Topics in Criminal Justice. 3 credits. Prerequisite: 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.

699. Thesis. 3-9 credits.

795/895. Topics in Criminal Justice. Lecture 3 hours; 3 credits. Prerequisite: 6 hours of graduate credit. Topics will vary by semester.

797/897. Independent Research in Criminal Justice. 3 credits. Prerequisites: approval of department chair and 6 hours of graduate credit. Independent reading and study on a topic to be selected under the direction of an instructor.

Dance - See Theatre and Dance

English — ENGL

SUMMARY OF COURSE DISTRIBUTION

I. Composition and Professional Writing. 527, 535, 539, 555, 664, 665, 668, 685, 686, 687.

II. Creative Writing. 551, 552, 554, 557, 650, 660, 661, 694.


IV. Journalism. 572, 580, 581, 583, 584, 585, 586.

V. Literature and Film. 503, 507, 516, 521, 523, 524, 525, 532, 533, 537, 538, 546, 547, 548, 559, 560, 561, 562, 563, 565, 566, 592, 593, 600, 605, 615, 632, 641, 645, 647, 655, 656, 657, 658, 659.

VI. Teaching. 555, 664, 665, 687.

VII. Non-Lecture Courses. 668, 674, 675, 696, 698, 699.

VIII. Topics Courses. 595, 596, 695.

403/503. Medieval 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. An introduction to the development 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.

407/507. Chaucer’s Canterbury Tales. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one three semester hours in literature. A study of The Canterbury Tales with an introduction to Middle English language and culture.

416/516. English Renaissance Drama. Lecture 3 hours; 3 credits. Prerequisites: 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.

421/521. British Literature 1660-1800. Lecture 3 hours; 3 credits. Prerequisites: 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 to the French Revolution, focusing on how cultural changes (legalized female actors, commercialized printing, colonialism, and growing market capitalism) interacted with the flowering of satire and scandalous theatrical comedy, and the emergence of modern literary forms (periodical journalism, “picturesque” poetry, and the novel).

423/523. The Romantic Movement in Britain. 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 literature written in Britain between 1770-1830, focusing on how the literary experiments and innovations of poets like Blake, Wordsworth, Coleridge, Byron, Percy Shelley, Keats, Burns, and Barbauld, and of novelists like Mary Shelley, Radcliffe, and Scott interacted with cultural changes such as the
sections of 1900-1945, 1945-present, 1900-present. Major British novels are studied.

439W/539. Writing in Electronic Environments. Lecture 3 hours; 3 credits. Prerequisites: 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 multimedia. Individual works will be considered, both for the specific ways in which they make use of the medium, and for how they fit into the larger context in which they appear. Students will engage in both creative and critical exercises, so as to see the process from both sides: creative production and critical analysis.

425S/525. World Film Directors in Context. Lecture 2 hours; 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 a variety of world 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 development. Students will become familiar, therefore, with aesthetic, literary, sociological, anthropological and historical approaches to the analysis of film.

427W/527. Writing in the Disciplines. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, 9 hours of English of the period in ENGL 110C, or 6 hours of General Education composition requirement and 3 additional hours of English. This writing intensive course emphasizes contexts and strategies of text production in and across academic disciplines and professional settings.

432/532. Origins and Early Development of the British Novel to 1800. 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 early novels and how the novel developed from other traditions such as the epic, romance, criminal biography, and travel narrative.

433/533. Victorian 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 chief writers and the cultural and philosophical backgrounds of the Victorian era, touching on the changes from the early to the later part of the period. Works analyzed include fiction, nonfiction prose, and poetry.

435W/535. Management Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six semester hours in English, to include ENGL 334W or permission of the instructor. This course focuses on writing as a means of making and presenting arguments.

437/537. The Nineteenth-Century British Novel. 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 19th-century British novels in context of the economic, social, and political issues of the period, emphasizing their formal and aesthetic concerns.

438/538. The Twentieth-Century British Novel. Lecture 3 hours; 3 credits. Prerequisites: 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.

439W/539. Writing in Electronic Environments. Lecture 3 hours; 3 credits. Prerequisites: 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 multimedia. Individual works will be considered, both for the specific ways in which they make use of the medium, and for how they fit into the larger context in which they appear. Students will engage in both creative and critical exercises, so as to see the process from both sides: creative production and critical analysis.

440/540. General Linguistics. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in English excluding ENGL 110C. A comprehensive view of the study of linguistics and an introduction to the linguist’s approach to language.

444/544. History of the English Language. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level linguistics course or permission of the instructor. The course will emphasize the development of the English language. Primary focus is on the internal history, emphasizing the continuity and change in successive stages of the language.

446/546. Studies in American Drama. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 300-level literature course, ENGL 340 preferred. With rotating topics, this course will pursue particular themes or periods in American drama and theater. Potential areas of inquiry might include melodrama, the early transatlantic stage, rise of stage realism, age of O’Neill, or the contemporary drama.

447/547. The American Novel to 1920. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course, ENGL 346 preferred. Examination of the American novel from its origins in the late eighteenth century through the writing of John Steinbeck will be the focus of this course.

448/548. The American Novel, 1920 to Present. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course, ENGL 346 preferred. Examination of the American novel from the end of World War I to the present day. The course will emphasize formal issues related to literature, how they relate to the novel and relevant literary and cultural trends during the period including modernism and postmodernism.

450/550. American English. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level linguistics course or permission of the instructor. In this course, we will study the geographical, social, and stylistic diversity of English spoken in the United States. We will also investigate how perception of dialect diversity affects access to education and socioeconomic opportunities.

451/551. Advanced Fiction Workshop. Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 351 and junior standing or permission of the instructor, based on writing samples submitted. This course, an expansion of the principles and techniques learned in ENGL 351, focuses on the writing and criticism of the short story, the novella, and the novel.

452S/552. Advanced Poetry Workshop. Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 352 and junior standing or permission of the instructor, based on writing samples submitted. This course, an expansion of the principles and techniques 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, monologues, 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 532W or junior standing. Prerequisites: passing score based on writing samples submitted. A course in the techniques of writing nonfiction 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 student’s field of interest—history, biography, science, politics, informal essay, etc. Advice is given on the marketing of promising manuscripts.

455/555. The Teaching of Composition, Grades 6-12. 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.

458/558. Craft of Dramatic Writing. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 300 or graduate standing. This course explores 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, India, 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, literature
The course introduces students to key texts in 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. An investigation of the ways in which literary movements, historical events, social transitions, and political upheavals have influenced African-American literature.

466W/566. Asian American Literature. Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 466W for students, one 300-level literature course. The course introduces students to key texts in Asian American literature, supported by critical studies (and on occasion films) to interrogate the theme of Asian American identities in their multiple forms. The course will examine sociopolitical hierarchies of culture and the contributions of Asian American writers to the breadth and scope of American as well as global literatures today.

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, 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 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 power.

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 electronic research skills essential to the practice of print and broadcast journalism. With a focus on both traditional and emerging 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, filling 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 is primarily a 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 English. 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 techniques of crafting 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. This course introduces 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. Some attention will be given to the movements, trends, and forces and nonfiction.

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 projects of mutual interest which, because of 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, 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.

499. Internship in Teaching and Criticism. Lecture 3 hours; 3 credits. Required of most graduate students in English, usually in the first semester. Survey of English as an academic discipline; issues and trends in scholarly journals; research strategies and conventions for graduate-level papers and master’s theses; critical approaches to literature.

615. Shakespeare. Lecture 3 hours; 3 credits. An application of advanced theoretical and critical approaches to Shakespeare’s works. May be repeated more than once for credit if different groups of works or themes is being studied.

632. Eighteenth-Century British Literature. Lecture 3 hours; 3 credits. A study of the literature written in the British Isles from the “Glorious Revolution” of 1688 until 1800, focusing on how the flowering of satire and the emergence of literary forms such as periodical journalism, “picturesque” poetry, and the novel interacted with the growth of distinctly modern institutions and philosophies such as a free, commercial press, market capitalism, colonialism, political radicalism, and industrialism.

641. Nineteenth-Century British Literature. Lecture 3 hours; 3 credits. A study of a selection of the literature written in Britain during the romantic and Victorian ages, focusing on the social, historical, and ideological contexts informing its production. Texts analyzed include poetry, fiction, and nonfiction.

645. Twentieth-Century British Literature. Lecture 3 hours; 3 credits. Studies of major poets, dramatists and prose writers. Some attention will be given to the movements, trends, forces, and ideas of the period.

647. Postcolonial Literature and Theory. Lecture 3 hours; 3 credits. An introduction to the discourse of anti-colonial critical theory through the literature produced in countries outside of Europe and the West.

650. Creative Writing. Lecture 3 hours; 3 credits. Prerequisites: Admission to the MFA program and permission of the instructor. Guided study and practice in writing short stories, novels, poetry, and creative nonfiction, offered in specific sections of Fiction, Poetry, and Nonfiction. This course can be repeated for credit. Students planning to write a creative thesis must take this course at least twice with their thesis director.

655. Topics in World Literature. Lecture 3 hours; 3 credits. Examination of a theme, genre, or other literary topic as it appears in the literature of several countries. All works are assigned in English translation if not originally written in English. Specific topics are listed in the schedule.
booklet, and course descriptions appear in a booklet distributed to all academic advisors.

656. American Literature to 1810. Lecture 3 hours; 3 credits. Intensive study of a variety of texts from several genres reflecting the historical forces, aesthetic movements, social trends, and representative works of the period.

657. American Literature 1810-1870. Lecture 3 hours; 3 credits. Intensive study of a variety of texts from several genres reflecting the historical forces, aesthetic movements, social trends, and representative works of the period.

659. American Literature 1870-1945. Lecture 3 hours; 3 credits. Intensive study of a variety of texts from several genres reflecting the historical forces, aesthetic movements, social trends, and representative works of the period.

660. Craft of Narrative. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. A detailed study of the techniques of fiction and nonfiction with some emphasis given to the various theories in the genre. An examination of the structure of written discourse in English: the intonation unit, the verbalization of given and new information, conversational analysis, textual cohesion, speech act theory, and scripts and schemes in narratives.

661. Craft of Poetry. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. A detailed study of the techniques of poetry with some emphasis on the various theories informing the genre.

664. Teaching College Composition. Lecture 3 hours; 3 credits. Designed to provide an overview of alternative approaches to teaching first-year and advanced composition at the college level, with special attention to current schools of composition theory and research.

665. Teaching Writing with Technology. Lecture 3 hours; 3 credits. Prerequisite: ENGL 439W/539. Students in this course will explore different writing environments and educational applications and learn how they are designed to help writers compose, collaborate, research, and think. Students will assess the values and theoretical assumptions underlying those applications and learn to articulate their own philosophies of using technologies in the writing classroom.

668. Graduate Internship and Project in Professional Writing. 3 credits. Prerequisites: 15 graduate credits in English. Structured work experience involving extensive writing and editing in a professional setting. The result of the internship is an analytic paper and a portfolio of written work.

670. Methods and Materials in TESOL. Lecture 3 hours; 3 credits. A practical introduction to methods, materials, and course organization in TESOL (Teaching English to Speakers of Other Languages). Methods discussed, demonstrated, and practiced include Total Physical Response, the Silent Way, the Silent Way Plus, the Audio-lingual Method, and the Communicative Approach.

671. Phonology. Lecture 3 hours; 3 credits. Prerequisite: ENGL 440/540 or permission of the instructor. An examination of the sound systems of natural languages, with emphasis on English and how it differs from other languages. Discussion of articulatory and acoustic phonetics with exercises in transcription and analysis. Comparison of current theories.

672. Syntax. Lecture 3 hours; 3 credits. Prerequisite: ENGL 440/540 or permission of the instructor. An examination of the syntactic structures, morphology, and semantics of natural languages, with emphasis on English. Practice in syntactic analysis and formal description. Comparison of current syntactic and semantic theories.

673. Discourse Analysis. Lecture 3 hours; 3 credits. Prerequisite: ENGL 440/540 or permission of the instructor. A survey of various concepts and issues related to analyzing the structure of spoken and written discourse in English: the intonation unit, the verbalization of given and new information, conversational analysis, textual cohesion, speech act theory, and scripts and schemes in narratives.

674. Internship in Applied Linguistics. 3 credits. Prerequisite: 12 graduate credits in linguistics. A structured work experience involving teaching or work in applied linguistics in a professional setting. To be documented by a portfolio of written work.

675. Practicum in TESOL. 3 credits. Prerequisites: ENGL 670 and permission of the instructor. Supervised practice in teaching English to speakers of other languages.

676. Semantics. Lecture 3 hours; 3 credits. Prerequisite: ENGL 440/540 or permission of the instructor. An advanced survey of meaning in language, focusing on how to characterize linguistic meaning, relationships between meaning, culture, and cognition (categorization, metaphor), word and sentence meaning, and interpretation of meaning in context (pragmatics, indexicality).

677. Language and Communication Across Cultures. Lecture 3 hours; 3 credits. An investigation of how language and cultural differences affect communication. Readings from linguistics, anthropology, and literature address problems of intercultural communication.

678. Sociolinguistics. Lecture 3 hours; 3 credits. Prerequisite: any upper-division linguistics course or permission of instructor. Study of how language affects and reflects society, with emphasis on ethnography of communication, quantitative analysis, discourse analysis, language variation, pidgins, creoles, etc.

679. First and Second Language Acquisition. Lecture 3 hours; 3 credits. An investigation of first and second language acquisition with emphasis on examining evidence regarding language learning which supports or fails to support different approaches to teaching a second language.

685. Writing Research. Lecture 3 hours; 3 credits. Prerequisites: 6 graduate credits in English. This course explores current methods and methodologies in writing research. Students will design and carry out original studies of academic, professional, or personal writing as it is practiced in classrooms, work places, and other settings.

686. Introduction to Rhetoric and Writing Studies. Lecture 3 hours; 3 credits. This course presents key concepts, principles, traditions, and conversations that define the field of rhetoric and composition studies, movement issues, and methodologies. This course is designed primarily to prepare students for advanced courses in professional writing; however, it will also benefit any student who is interested in gaining insights about language, knowledge, and power from the perspective of rhetoric.

687. Colloquium for Teachers of English. Lecture 3 hours; 3 credits. Study and discussion of recent research in and new materials for the teaching of English. May be repeated for credit when topic varies.

694. Thesis Colloquium. Lecture 3 hours; 3 credits. Prerequisite: can be taken after 24 graduate hours have been completed. All MFA students are required to take ENGL 694 before their final semester. The course brings together all genres in a collaborative focus in which students discuss specific thesis projects, format requirements, publishing opportunities and reading lists for the 10-page prefatory essay required for their defense.

695. Topics. 3 credits. The advanced study of a selected topic in English. Topics courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

696. Independent Readings. 3 credits. Designed for the advanced student (15-20 hours) who wants to study in-depth a sharply focused area of literature, linguistics, or pedagogy. Before registering for the course, the student must make out a prospectus with the instructor and submit it. No graduate student is permitted to take more than two independent readings courses.

698-699. Thesis. 3 credits each semester. (Note: Students in Creative Writing M.F.A. may enroll for thesis credit only after their written exams.)

705/805. Discourse and Rhetoric Across Cultures. Lecture 3 hours; 3 credits. Prerequisite: admission into the Applied Linguistics M.A. or the Ph.D. in English. The course is an introduction to cultural linguistics and to theories underlying some of the major strands of empirical and philosophical studies of language: structuralism, generative grammar, speech acts, cognitive linguistics, discourse, narrative, semantics, pragmatics, metaphor, and translation.

706/806. Visual Rhetoric and Document Design. Lecture 3 hours; 3 credits. This course focuses on how visual elements, whether verbal or graphic, work within different types of documents. Theory and research in visual rhetoric and technical communication will be used to develop models for how people process visual information in terms of a variety of social and cultural contexts.

710/810. Major Debates in English Studies. Lecture 3 hours; 3 credits. This course introduces students to the principal questions and concerns of the field and includes a comparison and contrast of the subspecialties in English, including how they form and address key issues.

715/815. Professional Writing Theories and Practices. Lecture 3 hours; 3 credits. This course surveys the history of professional writing, competing theories and research methodologies in the field. The tensions between workplace practices, professional writing scholarship, and professional writing pedagogy will also be explored.

716/816. Professional Writing in/for International Contexts. Lecture 3 hours; 3 credits. Prerequisite: ENGL 715/815. This course focuses on the linguistic and cultural factors that business writers and technical writers must consider when working with/for global audiences. Students will learn to approach cross-cultural communication as a process that starts with researching the target audience.

720/820. Pedagogy and Instructional Design. Lecture 3 hours; 3 credits. Prerequisite: ENGL 664 or equivalent. Students in this course will be
prepared to develop pedagogical plans, teach and assess writing in four instructional areas: advanced and professional writing courses, writing across the curriculum, workplace instruction, and distributed learning. New pedagogical tools–especially computer-based technologies–will be taught, analyzed and tested.

740/840. Empirical Research Methods and Project Design. Lecture 3 hours; 3 credits. This course focuses on the theory and design of empirical research conducted in academic and nonacademic settings. Students will examine the methodological complexities of ethnography, meta-analysis, feminist research and other approaches.


763/863. Seminar in Discourse Analysis. Lecture 3 hours; 3 credits. Prerequisite: ENGL 705/805 or permission of the instructor. This course focuses on relationships among language users, text, grammar, context, and purpose within a discourse perspective. Readings and assignments emphasize theoretical and methodological issues related to interactive discourse, registers and genres, narrative and identity, and language, ideology and power.

764/864. Theories of Literature. Lecture 3 hours; 3 credits. An in-depth study of selected theories about the form, history, and cultural significance of literature, such as narrative theory, poststructuralism, Marxism, and feminism. Specific topics may vary by semester, but all sections will engage comprehensively with a body of theoretical texts and concerns.

765/865. Modern Rhetoric and Theory Building. Lecture 3 hours; 3 credits. Prerequisite: ENGL 600 or equivalent. This course concerns the development of rhetoric as an academic discipline in the twentieth century, in particular how rhetoric has distinguished itself from literary, historical, philosophical, and linguistic modes of inquiry.

766/866. Rhetoric in Cyberspace. Lecture 3 hours; 3 credits. Prerequisite: ENGL 539 or equivalent. This course involves hands-on instruction in a variety of software packages used to create websites and multi-media projects. Students will explore the rhetorical, literary, and technical aspects of their own projects as well as other web-based and multi-media compositions/products.

770/870. Research Methods in Applied Linguistics. Lecture 3 hours; 3 credits. Prerequisite: ENGL 540 or permission of the instructor. This course introduces basic concepts, methods, and techniques used to investigate topics and problems in applied linguistics. Both quantitative and qualitative approaches are presented. Methods include surveys, ethnographies, case studies, and experimental designs. Two major goals are emphasized: to become better readers of research reports and develop research and analytical skills applicable to applied linguistics and related fields.

778/878. Seminar in Sociolinguistics. Lecture 3 hours; 3 hours. This seminar investigates socially meaningful language variation. The focus will be on everyday types of speech that people use to situate themselves in social worlds. Topics include ethnography of communication, language ideologies, social and regional variation, and quantitative analysis.

791/891 and 792/892. Graduate Seminar in English. Lecture 3 hours; 3 credits. An in-depth study of a specific author, body of texts, or topic in English Studies, such as the Historical Novel in Britain, Edgar Allan Poe and American Popular Culture, or Lacanian Psychoanalysis. Specific topics vary by section and are described in detail during course registration, but all sections offer students the opportunity for advanced, comprehensive engagement with a particular topic in English.

797/897. Independent Study in English. Hours to be arranged; 3 credits. Prerequisite: graduate standing. Provides opportunities for doctoral students to do independent research in areas of their interests.

999. English 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Foreign Languages and Literatures — FL

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, are not offered formally. These courses will appear in the schedule booklet and will be more fully described in a booklet distributed to all academic advisors.

Foreign Literatures in English Translation — FLET

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 German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary discourses 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: senior standing 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 novel 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, exemplified by the “Encyclopedie” and leading to the Revolution of 1789; and the Rousseauistic 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 wild “belle époque,” 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 of French Cinema. Lecture 3 hours; 3 credits. Prerequisite: FR 311 or 312W or permission of instructor. This course will function as a survey of French film classics from the birth of 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).

495/595, 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, group-augmented 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.

695/696. Topics in French. Lecture 1-9 hours; 1-9 credits. Prerequisite: graduate standing. Advanced study of selected topics which may not be offered regularly. These courses appear in the course schedule booklet and are more fully described in a supplement distributed to graduate program directors.

697/698. Tutorial Work in Special Topics in French. Lecture 1-9 hours; 1-9 credits. Prerequisite: graduate standing and approval of project. This course will allow an individual student to pursue a special topic or project under the guidance of a professor.

German — GER

407/507. Advanced Grammar and Syntax. Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of the department chair. This course deals with idioms and the fine points of grammar with the aim of helping students to develop a good style in written and spoken German. After a short introduction to pronunciation, special problems of non-native speakers are discussed individually. Recommended for prospective teachers.

408/508. Conversation and Composition. Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of the department chair. Designed to develop the mastery of spoken and written German. Recommended for prospective teachers.

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 German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary discourses such as film, literature, art, politics, and economics. Cross-listed with FLET 410W/510.

420/520. Masterpieces of German Poetry. Lecture 3 hours; 3 credits. Prerequisites: GER 311 or 312W or permission of instructor. This course will focus on exemplary poems of distinct cultural periods, ranging from the courtly love tradition of the Middle Ages to the political poetry surrounding the fall of the Berlin Wall.

445/545. German Cinema. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of instructor. 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 FLET 445/545 and COMM 444/544)

450/550. German Satires and Parodies. Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of instructor. This course will analyze satirical features and parodic strategies in exemplary literature and visual texts from late medieval carnival plays to contemporary cabaret. Texts include excerpts from Brant’s Ship of Fools, examples of romantic irony in Bonaventura and Heine, the graphic art of caricature movement. Reformational ideas versus today’s political cartoons, as well as literary parodies from Wagnerian opera to Viennese chanson.

455/555. Germany 1900-1945: From High Culture to Holocaust. Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W. A study of representative works from the last years of the Austro-Hungarian Empire, the Wilhelmine Empire and the Weimar Republic, including Freud, Hofmannsthal, Kafka, Brecht, Hesse, Thomas Mann et al. The course will also discuss literature illustrating the genesis and ideology of the Third Reich.

470/570. Post World War II Germany. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. The course will cover representative literary texts and cultural events of divided and united Germany, including Heinrich Böll, Günter Grass, Max Frisch, Christa Wolf, Doris Dörrie et al, as well as film, painting, popular music, the culture of memory and German Jewish relations after the Shoah.

473/573. The Enlightenment and Its Critics. Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. This course focuses on German 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 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.

448/548. 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: Garcia Marquez, Fuentes, et al.

449/549. Contemporary Spanish-American Drama. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study of contemporary Spanish-American drama through the reading of representative authors.

465/564. The Contemporary Novel in Spanish America. 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.

465/565. 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.

466/566. 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 in Spain involving writers from the 15th century to the present.

467/567. 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.

468/568. 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.

469/569. Hispanic Film. Lecture 3 hours; 3 credits. Prerequisite: 9 hours of 300-level Spanish courses. A study 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. Study of selected 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 post-colonialism.

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. Prerequisites: 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.

602. Intensive Spanish for Teachers: Language and Culture. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. This course is designed for Spanish teachers interested in keeping up with cultural developments in the Spanish-speaking world and maintaining/improving linguistic performance. Emphasis will be placed on authentic materials from newspapers, magazines, film and video, and the Internet.

695/696. Topics in Spanish. Lecture 1-9 hours; 1-9 credits. Prerequisite: graduate standing. Advanced study of selected topics which may not be offered regularly. These courses appear in the course schedule booklet and are more fully described in supplements distributed to graduate program directors.

697/698. Tutorial Work in Special Topics in Spanish. 1-3 credits. Prerequisites: graduate standing and approval of the department chair. The independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

**Geography — GEOG**

400W/500. Seminar in Geography. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S 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 manipulating 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 applications.

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 integration.

405W/505. Seminar in International Resource Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. 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 patterns and principles underlying development. Emphasis is on the application of social science principles and methods to the planning process.

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. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Europe.

413/513. Asia. Lecture and discussion 3 hours; 3 credits. Prerequisite: 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.

415/515. 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.

416/516. 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.

418/518. 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.

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.

620. Seminar in Political Geography. Lecture and discussion 3 hours; 3 credits. A study of the interrelationships of political and geographic phenomena, and theories of geopolitics; examines in a seminar format the political geography both of specific topics such as the national integration of states, refugees and resources, and of particular regions of the world.

625. Ethno-Regionalism. Lecture 3 hours; 3 credits. An examination of the geopolitics of world ethnic minorities with special reference to selected “trouble spots” on the world political map.

650. Seminar in Regional Geography. 1-3 credits. Advanced seminar on a particular country or world region.

695, 696. Topics in Geography. 1-3 credits each semester. Advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest.

697. Research in Geography. 1-3 credits. Independent research in geography under the supervision of a faculty member.

History — HIST

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 the sphere and spheres of influence around the world. Internationalist initiatives by various groups operating within the European states system are investigated.

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 war-making and social development at particular times.

420/520. 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 socio-economic 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. Political and social developments in Japan, China, and Korea since the end of World War II.

445/545.* History of Early American Thought. Lecture 3 hours; 5 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.

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, two core problems in Latin America’s modern (since c. 1880) history: political authoritarianism and economic underdevelopment. The analysis of political and social change that accompanies the management of 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.

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.

Graduate course titles, except those designated by asterisks, denote general areas of study, the content of which varies. Specific subtitles are appended when the courses are scheduled, and descriptions of forthcoming courses are mailed each semester to active students and applicants. Students may repeat a course as long as the content is not duplicated. Courses bearing asterisks do not vary and cannot be repeated.

600. Historical Theory and Practice. Lecture 3 hours; 3 credits. Analysis of the development of historical theories, principles and methods and their application to historical research and writing. Required of all graduate students in history.


622. The Atlantic Slave Trade. Lecture 3 hours; 3 credits. The course will explore the trans-Atlantic slave trade from its beginnings in the 15th century to its suppression in the 19th century. It will examine the vast body of historical literature on Africa, the Atlantic slave trade and the New World. The course will provide students with a general orientation to the broad context of the Atlantic slave trade. Locating the trade in the context of the expansion of capitalist Europe, students will examine the economic and cultural forces, as well as personal experiences of slavery from Africa, across the Atlantic Ocean, to the Americas. The course will also look at how the trade transformed Africa and how Africa and Africans in turn transformed the Atlantic World.


633. Studies in International History. Seminar; 3 credits.


637. Studies in War and the Humanities. Lecture 3 hours; 3 credits. The impact of war on society, literature and the arts.


650. Studies in Ancient History. Seminar; 3 credits.


668. Internships in History. Seminar; 3 credits. Minimum of 120 hours. Student works with professionals in areas such as museum management, archives administration, historical editing, historical preservation, electronic records management, archaeology, or oral history. Students will be supervised by a graduate faculty member, who will assign academic reading and written work, such as an historiographic essay, research paper, or final project. Individually arranged.

675. M.A. Exam Preparation and Research. Lecture 3 hours; 3 credits. Prerequisite: permission of the graduate program director. This advanced seminar integrates the skills needed to pass the M.A. exam in history. Exercises include designing examination reading lists, learning the historiography of the exam fields, preparing for orals, and writing and evaluating a practice exam. This course is not open to students pursuing the thesis option.
666. Internship. 3 credits. This course allows graduate students in Humanities to pursue a structured work experience in a field relevant to a student’s course of study. Students will work with a supervisor at the work site and a faculty advisor in Humanities. Prerequisites: HUM 601, 602. The capstone seminar for non-thesis humanities students. The seminar provides a forum in which to discuss contemporary theories and questions concerning interdisciplinary humanities research. Students will also develop and complete a research paper which reflects their own interdisciplinary programs of study.

696. Special Topics in Humanities. 1-3 credits. Prerequisite: permission of the instructor. Appropriate advanced study of small groups on special topics selected under the direction of an instructor. Conferences and papers as appropriate.

697. Tutorial Work in Humanities. 1-3 credits. Prerequisite: permission of the instructor. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

706. American Foreign Policy and World Order. Lecture 3 hours; 3 credits. This course deals with the adaptation of U.S. foreign policy to the changing conditions of the Cold War.

707/807. The Euro-Atlantic Community. Seminar 3 hours; 3 credits. This course examines the Euro-Atlantic community and the role and attitudes of the United States and leading European states to preserve and strengthen their sovereign prerogatives and influence; and the prospects for a true Euro-Atlantic community that would link the U.S. and Europe.

708/808. The Causes of War. Lecture 3 hours; 3 credits. This research seminar will explore the theoretical and empirical literature on the causes of violent conflict between states.

709/809. Chinese Foreign Policy. Seminar 3 hours; 3 credits. This seminar includes an advanced survey of theoretical approaches to the study of Chinese foreign policy and in-depth
analyses of the domestic/international environment, ideological principles, political/economic goals, military/diplomatic instruments, decision-making processes, and global/regional consequences of Chinese foreign policy.

710/810. Environmental Policy. Lecture 3 hours; 3 credits. A survey of worldwide ecological issues with references to the scientific debate concerning the severity, causes and solutions of each. Air, water and soil pollution, coupled with the economic policies of governments and their political capacities to act. How does the scientific evidence inform this debate? What can be done? In what ways do scientific disciplines play a role in shaping global environmental policy?


712/812. The New Germany in the New Europe. Seminar 3 hours; 3 credits. The unification of Germany and the end of the East-West conflict have changed the context within which policy is made in Europe. What kind of Europe will emerge? What kind of hierarchies will determine different types of external polities? The purpose of this course is to explore the role played by Germany in the development of post-Cold War European politics.

713/813. Global Political Economy. Seminar 3 hours; 3 credits. Analysis of the forces shaping national and transnational economic institutions and their changing relevance of contemporary issues, including North-South relations.

714/814. Law in the International System. Lecture 3 hours; 3 credits. An introduction to the principles of international law and to the political and institutional role of law in the relations of states.

715/815. The New France in the New Europe. Seminar 3 hours; 3 credits. Emphasis will be placed on the transformation of France—the state and its people—since the end of World War II; the global conditions that shaped French policies in and toward Europe during the Cold War; and the role played by France in the transformation of Europe into a unified political system.

716/816. Theories of Comparative Sociopolitical Studies. Lecture 3 hours; 3 credits. The fundamental goal of the course is to provide the theoretical basis for subsequent coursework and research in the comparative and regional studies track. To achieve this goal, this seminar examines major theories and debates in comparative social and political studies based on extensive and intensive literature review.

717/817. World Population and Development. Seminar 3 hours; 3 credits. This seminar discusses population processes and their connections to socioeconomic development. A nontechnical course, the goal is to introduce students to the major concerns and issues in population and current debates over the role of population in sustainable development. It will provide students with a systematic but critical review of research findings and issues in various areas of population and development.

718/818. Mao’s China. Lecture 3 hours; 3 credits. This reading seminar will focus on the changes of the Chinese society since the beginning of the 20th century. It will examine the pivotal historical events that led to the Chinese revolution, which put Mao’s Communist regime in power and has changed the Chinese society ever since. While studying the history chronologically, students will identify issues and factors that affect the Chinese political system and society, and examine the legacies of Mao’s revolution from social and individual perspectives. The course will also focus on political formation and transformation of the society and its structure and upheavals, economic reforms, and foreign policies. (cross-listed with HIST 718)

719/819. Chinese Politics. Lecture 3 hours; 3 credits. This seminar focuses on post-Mao China. It examines the fundamental rules, prominent players, and major issues in contemporary Chinese politics. The course reviews and critiques alternative theoretical approaches to the study of Chinese politics.

720/820. Research Seminar in Global Security. Seminar 3 hours; 3 credits. The research seminar investigates the profound changes in international security brought about by the end of the Cold War with a specific focus on the role of nuclear weapons. The primary purpose of the seminar is to promote research into the global aspects of the nuclear issue and to enhance understanding of the relationship between nuclear control and the New World Order.

721/821. New World Order: Chaos and Complexity. Lecture 3 hours; 3 credits. The end of the Cold War has ushered tremendous political changes and an equally broad intellectual debate on the meaning of these changes. What will be the basic rules of international politics? Will the future resemble the past or follow new rules of its own? What countries, what groups, and what issues will dominate the world politics?

722/822. Democracy and International Relations. Lecture 3 hours; 3 credits. An examination of the relationship between democratic politics, democratic ideals, and international relations. Subjects covered will include trends and processes of democratization and their implications for international relations, the distinctiveness of democratic states in their international behavior, the impact of the international environment on the internal politics of democratic states, and the problems of democracy in global governance.

725/825. Politics of the Middle East. Lecture 3 hours; 3 credits. This course will examine the international relations of the Middle East from World War I to the present. Examines the origins of the Arab-Israeli and Persian Gulf Wars and their modern dimensions. Examines the role of oil, outside powers and religion.

730/830. The Rise and Fall of the Socialist Bloc. Lecture 3 hours; 3 credits. This reading seminar will feature occasional lectures and extensive discussion about topics such as the consolidation of Soviet power in East Europe, the road to the Cold War, socialist economic practices, Soviet “imperialism” within the bloc, Soviet support for “national-liberation” movements in Asia and Africa, the building of the wall, the Sino-Soviet alliance during the events of 1989, and post-socialist nostalgia.

740/840. Political Economy of Development. Seminar 3 hours; 3 credits. Prerequisite: IS 600. The 1980s and early 1990s have witnessed considerable change especially in the Second and Third World countries. Among such changes are marketization, democratization, ethnic conflicts, regionalism, and growing protectionism. This course aims to examine these developments and their implications to the global division of labor and development process of developing countries.

741/841. Globalization and Social Change in the World System. Seminar 3 hours; 3 credits. This course is intended to first identify the distinguishing characteristics of globalization. It then attempts to examine its implications on a number of critical issues, including the future of democracy, income distribution and ethnic, class, and gender relations.

742/842. Contested Territories. Lecture 3 hours; 3 credits. Using case studies of Europe since 1918, this course examines the contours of territorial disputes. The ways in which territorial contests are presented and represented through the lenses of geopolitics, ethnicity and race, nationalism, gender, violence, international authority and diplomatic and institutional influence will be explored.

745/845. Social Movements and Revolution in Latin American History. Lecture 3 hours; 3 credits. Interpretations of the three major social revolutions in modern Latin America (Mexico 1910, Cuba 1959 and Nicaragua 1979) and of a variety of social movements (agrarian, labor, urban, religious and so on) are studied from a continental perspective. The relevant theoretical literature and the economic, cultural and political background receive special attention. A broad knowledge of modern Latin American history is assumed.

751/851. Ethnic Conflict in the Emerging Global Order. Lecture 3 hours; 3 credits. Using different case studies, this course investigates the most important internal and external factors that cause ethnic conflicts. It also examines different mechanisms that help resolve or mitigate such conflicts.

752/852. Research Seminar in International Studies: Refugees. Seminar 3 hours; 3 credits. This is a graduate-level seminar focusing on the refugee movement from a global perspective. The goals are to provide a critical and realistic understanding of the refugee phenomenon and to explain why the refugees tend to follow some identifiable paths, and why they sometimes return and sometimes do not. Discussion will be centered on the causes and consequences of refugee flow, and the role of the more developed countries can play in helping solve the problem.

755/855. Conflict and Violence in Modern Africa. Lecture 3 hours; 3 credits. This course will confront the theme of conflict and violence in Africa since the mid-20th century. It will explore the reasons behind the level of violent conflicts in the continent today, seek to understand their larger significance, and explore ideas for conflict resolution and prevention. (cross-listed with HIST 755)

794/894. Seminar in Thesis and Dissertation Preparation. 3 credits. Prerequisite: permission of the director. Prepares students to research, formulate and write thesis and dissertation prospectuses.

795/895. Topics in International Studies. 1-3 credits. The advanced study and discussion of selected (titled) topics not offered on a regular basis.

796/896. Selected Topics in International Studies. 1-3 credits. The advanced study of selected topics in an interdisciplinary manner which will permit small groups of qualified students to work on subjects of mutual interest. Due to their specialized nature, the course may not be offered regularly.

868. Internship in International Studies. 1-6 credits. Prerequisite: approval of director. Internship individually arranged at local, state, or international level.
Middle Eastern Studies—MIDE

395/495. Topics in Middle Eastern Studies. 3 credits. Prerequisite: junior standing or permission of instructor. A 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.

410/510. Islam and the Rhetoric of Science. Lecture 3 hours; 3 credits. Prerequisite: three hours of sophomore science. This 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.

Music — MUSC

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.

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. Style and harmonic analysis as it related to score study will be discussed. (offered spring, odd years)

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: 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.

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.

465/566. 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 century. (offered spring, odd years)

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. 

601. Advanced Theory Survey. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. A review of melodic, harmonic, and contrapuntal elements of music theory. The course will cover techniques of the eighteenth and nineteenth centuries, with only a brief survey of twentieth-century techniques.

602. Analytical Techniques. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. Examines techniques and concepts applied to compositions of the eighteenth, nineteenth and twentieth centuries through analysis of contrapuntal and harmonic textures, form and performance practice.

603. Principles of Music Education. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. Examines techniques and concepts applied to compositions of the eighteenth, nineteenth and twentieth centuries through analysis of contrapuntal and harmonic textures, form and performance practice.

604. Foundations of Music Education. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. Examines techniques and concepts applied to compositions of the eighteenth, nineteenth and twentieth centuries through analysis of contrapuntal and harmonic textures, form and performance practice.

605. Literature of the Wind Ensemble. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the instructor. The course centers upon the study of the performance, review and analysis of symphonic band music. Suited especially to the needs of directors of secondary school and other nonprofessional wind ensembles.

606. Choral Music Literature. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. Survey of choral literature and practical performance practices from the Renaissance to the present.

607. Orff Schulwerk Level I. Lecture 3 hours; 3 credits. Prerequisite: undergraduate degree in music or music education. This course is a study of basic Orff Schulwerk techniques. Level I pedagogy includes instruction in the use of pentatonic scale, ostinato, elemental forms, improvisation, basic body movement and basic soprano recorder skills.

608. Orff Schulwerk Level II. Lecture 3 hours; 3 credits. Prerequisite: MUSC 607 and proficiency on the soprano recorder. Introduction of Alto recorder occurs in Level II. Also included is an in-depth study of Orff Schulwerk Vol. III in which the student will be instructed in the use of I, IV, V harmony. Body movement and extensive study of folk dance are included.

609. Literature for the Singer. Lecture 2 hours; 2 credits. Prerequisite: MUSA 441 or 451 or permission of the instructor. This course is designed to familiarize the singer and teacher of voice with the varied solo vocal literature available for study. All genres of vocal literature will be studied and discussed.

610. Orff Schulwerk Level II. Lecture 3 hours; 3 credits. Prerequisites: MUSC 607 and 608. This course will build upon the skills and concepts introduced in Orff Schulwerk Levels I and II. Recorder technique will be expanded upon as well as eurythmics and special topics.

611. Current Trends in Elementary and Secondary Music. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. Designed for public school music teachers. This course involves the study of current methodology, its practice and uses in the elementary and secondary general/vocal/instrumental music program.

612. Organization and Administration of Instrumental Music. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of instructor. The course involves the study of effective organization and implementation techniques for elementary and secondary instrumental ensembles; includes particular problems in the administration of high school instrumental groups.

613. Workshop in Music Education. Lecture 1 hour; 1 credit. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. This course centers upon the development of performance and instructional skills in previous aspects of music education. May be repeated twice with different emphases.

614. Workshop in Instrumental Music. Lecture 1 hour; 1 credit. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. This course centers upon the development of performance and instructional skills in previous aspects of music education. May be repeated twice with different emphases.

615. Workshop in Choral Music. Lecture 1 hour; 1 credit. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor. This course centers upon the
620. Literature for Strings and Symphony Orchestra. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the instructor. The course centers on repertoire criteria, score analysis, pedagogical issues, and programming for elementary through high school orchestra. The focus is on string literature, Grades 1 through 6, including standard repertoire, educational arrangements, new music, fiddle tunes and jazz. Suited especially to public school string teachers.

623. Arranging for Instrumental Ensembles. Lecture 3 hours; 3 credits. Prerequisite: passing the general theory placement test. A course focused upon preparation of material for instrumental ensembles from trio, quartet, quintet, etc., to full band or orchestra. Techniques will be discussed in class and students will complete written assignments to implement these techniques. Final paper will be arranged for an ensemble of at least six parts.

630. Keyboard in Music Education. Lecture 3 hours; 3 credits. Prerequisite: ECI 650. Types of research, selection of problems, location of educational information, collection and classification of data, organization, presentation and interpretation of materials in the area of music education.

635. The Use of Computers and Midi Technology in the Classroom. Lecture 3 hours; 3 credits. An in-depth survey of software available for use in the classroom, including sequencing, notation, and theoretical applications. A basic understanding of synthesizers and MIDI technology will be emphasized. The course will focus upon a hands-on approach to the subject matter, and extensive laboratory time in the EMS will be required.

636. Techniques of Jazz Education in the Secondary School. Lecture 3 hours; 3 credits. This course will deal with rehearsal techniques for the Jazz Ensemble, including articulation, style, phrasing, literature, and improvisational techniques. In addition, Jazz history and literature will be discussed in detail.

639. Vocal/Choral Arranging. Lecture 3 hours; 3 credits. Prerequisite: passing the Theory Placement Test. Course is designed to develop the skills necessary to arrange a piece of vocal music for ensembles of various sizes and makeup. Techniques will be discussed and shown in class and students will complete written assignments to implement these techniques.

680. Performing Ensembles. 1 credit. Prerequisite: permission of the instructor. Students may enroll in any of the departmental ensembles with the permission of the ensemble director. Students registered for graduate credit are expected to help with sectional rehearsals and do in-depth score study on all music being performed.

691. Tests and Measurements in Music Education. Lecture 3 hours; 3 credits. Prerequisite: Baccalaureate degree in music or permission of the department chair and instructor.

This course is designed to acquaint the student with tests and measurements used in the field of music education and the methods of designing and utilizing such tests.

695, 696. Topics in Music. 1-3 credits each semester. 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.

697. Independent Study. 1-3 credits. Prerequisite: permission of the department program director. Designed for individualized study. Independent study projects will be related to music education and done under the supervision of a certified faculty member.

698. Thesis Research. 3 credits. Prerequisite: MUSC 630 and/or permission of the instructor. Application of research procedures in music education, culminating in student study of selected topics.

699. Thesis. 3 credits. Prerequisite: MUSC 698.

Applied Music Instruction — MUSA

All students wishing to register for applied music instruction for credit must 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.

Ap. Mus. 651-652. One hour lesson per week; 3 graduate credits each semester. Prerequisites: MUSC 452 or equivalent and permission of faculty. Numbers may be repeated. Completion of this level includes successful performance of a one-hour public recital.

Philosophy — PHIL

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 each other.

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 life. 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. An intensive examination of ethical issues in a particular field or profession; an emphasis on ethical theory underlying practical decision making.

480/580. Hinduism. Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An intensive study of the basic teachings of Hinduism as manifested in its sacred writings.

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 culture.

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...
NeoConfucianism. 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. Directed 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.

603. Studies in Social and Political Philosophy. A study of intensive study of one or more figures, movements, or theoretical questions in social and political philosophy.

606. Studies in Asian Philosophy. Lecture 3 hours; 3 credits. An intensive study of one concept, movement, or thinker indigenous to the Asian philosophical tradition.

608. Studies in Ancient Philosophy. Lecture 3 hours; 3 credits. A study of certain philosophers, movements or specific philosophical issues in the ancient Greek and early Roman periods.

609. Studies in the Philosophy of Science. Lecture 3 hours; 3 credits. A consideration of some philosophical problem or problem area related to the scientific method or tradition in the philosophy of science.

610. Studies in the Philosophy of Art. Lecture 3 hours; 3 credits. An evaluation of the field of art in relation to the rest of human culture, emphasizing the various approaches that may be used.

611. Studies in the History of Philosophy. Lecture 3 hours; 3 credits. A consideration of selected themes in the history of philosophy, or the specific examination of one major philosopher or group of related philosophers.

697, 698. Tutorial Work in Special Topics in Philosophy. 1-3 credits each semester. Prerequisite: 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.

707/807. Ethics in Public Health Practice. 1-3 credits. Prerequisite: open to all graduate students in relevant fields. An investigation of ethical issues in public health policy, practice, and research. Students will develop a capacity for reasoned judgments in these matters by understanding and applying basic moral concepts, theories, and ideals.

710/810. International Rights. Lecture 3 hours; 3 credits. Prerequisite: approval of instructor. A philosophical study of rights applicable to the international arena. Theories from the early Modern European period to the present day will be treated. Coverage includes international law, the rights of nations, and human rights.

797/897. Tutorial in Philosophy. 1-3 credits each semester. Prerequisite: 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.

Political Science — POLS

403/503. 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 substantive guarantees. Students are asked to act as advocates in developing and substantiating theories of their own.

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 during different periods and process 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.

412/512. 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.

415/515. 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 to see how women influence and participate in the political process.

419/519. Jurisprudence. Lecture 3 hours; 3 credits. Prerequisite: POLS 408 or 409 or permission of the instructor. An examination of the major theories and explanations of natural law, as well as an in-depth 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. An examination of 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.

421/521. 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 325W, or permission of instructor. Corequisite: 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. POLS 100S focuses on 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. Prerequisite: 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. A study of contemporary issues (political, economic, and strategic) 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.

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.

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 small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

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.
402/502. Child Welfare. Lecture 3 hours; 3 credits. Prerequisite: SOC 205 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 the social science perspective or 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 205 or permission of the instructor. Analysis of the nature and causes of social change, major social movements, and their impact upon contemporary society.

421/521. Deviant Behavior. Lecture 3 hours; 3 credits. Prerequisite: SOC 205 or CRJS 215S or permission of the instructor. This course will study the definition and function 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 course 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 from a feminist sociological perspective.

426/526. The Sociology of Minority Groups. Lecture 3 hours; 3 credits. Prerequisite: SOC 205 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 205S 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 complete a methodology 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 205S 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. (cross-listed with CRJS 440W/541)

446/546. Social Issues Across the Life Cycle. Lecture 3 hours; 3 credits. Prerequisite: 6 hours in sociology or permission of the instructor. This course focuses on age stratification across the life cycle and the 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 205 or permission of the instructor. The advanced study and research 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 Sociological Topics. 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.

510. Applied Social Research Methods. Lecture 3 hours; 3 credits. The application of social science methods to practical problems. The topics of research design, measurement, scaling, sampling, data collection, and research organization will be taught with reference to issues of reliability, validity and ethical concerns. (cross-listed with CRJS 610)

512. Urban Society in Transition. Lecture 3 hours; 3 credits. An analysis of urban social change including the three broad change process areas of population, ecology, and social organization; complementary secondary problems and processes emanating from such basic change areas; analysis of representative views of the "future city" and the "good city.

520. Proseminar in Sociological Theory. Lecture 2 hours; 3 credits. An examination of classical and contemporary sociological theories about the relations between the individual and society; the ways theory shapes and informs the study of social issues; and the relationship between theory, research and practice.

527. Violence Against Women. Lecture 3 hours; 3 credits. This course examines the many ways in which violence against women functions as an agent of social control. Violence is viewed on a continuum in order to determine how a variety of acts contribute to the subordination of women. Specific types of violence are explored including: wife assault, rape, incest, sexual harassment and pornography. (cross-listed with CRJS 627)

530. Applied Social Statistics. Lecture 3 hours; 3 credits. Prerequisite: SOC 610. This course is a graduate-level introduction to social statistics as they may be applied to various practical problems. Students will learn the appropriate use of various statistical procedures.
Theatre and Dance

Dance Courses—DANC

495/595, 496/596. Topics in Dance. 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. An 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 Dance. 1-3 credits each semester. Prerequisite: graduate 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.

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 practical 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 portraying 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.

447/547. Women in Theatre. Lecture 3 hours; 3 credits. Prerequisite: THEA 241A or permission of the instructor. A study of the contributions women have made to the theatre as actresses, directors/managers, designers, and playwrights, and of their creative problems and methodologies.

449W/549. Script and Performance Analysis. Lecture 3 hours; 3 credits. Prerequisite: THEA 241A or permission of the instructor. An approach to the study of a script by examining the separate elements of action, character, language, music, and the “mise en scene” in order to discover play spine and style as a basis for staging the play. Also examines the method of “scoring a role” or finding character motivations in relation to overall play spine.

470W/570. Film as Communication. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of how films are made, how they communicate as a visual medium, and how they are evaluated. Emphasis on the interplay between social, aesthetic, economic, and technological factors. (cross-listed with COMM 470W/570)

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 have been screened and analyzed. (cross-listed with COMM 471W/571)

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, a business and an institution 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 COMM 479/579)

480/580. The Video Documentary II. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: THEA 380. 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 report their progress in 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 COMM 480/580)

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 come to the course in 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)

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.
Women's Studies — WMST

401W/501. Women: A Global Perspective. Lecture 3 hours; 3 credits. Prerequisites: three semester hours in a WMST or WMST cross-listed course. A study of the experiences of women worldwide, focusing largely on women in developing countries. Topics include economic issues, health, violence, political activism, 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.

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.

668. Internship. 3-6 credits. Prerequisites: graduate standing and instructor approval required. Course provides an opportunity to gain experience working in organizations and government agencies. Students’ work should engage with women’s issues at the local, regional, national, and/or global levels. Students must work for at least 50 hours per course credit.

695, 696. Topics in Women’s Studies. 3 credits each semester. Prerequisite: graduate standing. Advanced seminars on selected topics. The subject matter will be interdisciplinary. These seminars will be described on the women’s studies website.

697. Independent Study. 3 credits each semester. Prerequisite: graduate standing. Independent study of an interdisciplinary women’s studies topics to be selected under the direction of a women’s studies faculty member. Conferences and papers as appropriate.

797/897. Independent Study. 1-3 credits. Prerequisite: graduate standing; doctoral level only for 897. Independent study of an interdisciplinary women’s studies topic to be selected under the direction of a women’s studies faculty member. Conferences and papers as appropriate.
College of Business and Public Administration

www.odu.edu/~business/

Nancy A. Bagranoff, Dean
Ali Ardalan, Associate Dean

Ph.D.  Business Administration
       Public Administration and Urban Policy

Master’s  Accounting (M.S.)
         Business Administration (M.B.A.)
         Computer Science (M.S.)
         Economics (M.A.)
         Public Administration (M.P.A.)
         Urban Studies (M.U.S.)

Certificates  Homeland Security Certificate
              Maritime, Ports and Logistics Management
              Advanced Certificate in Public Administration and Policy
Old Dominion University’s College of Business and Public Administration has as its principal objective the preparation of liberally educated specialists who will enter the challenging world of business or public administration. All programs in the college are designed to promote the following: professional competence; facility in the communication arts; analytical skills; leadership abilities; an understanding of social, political, and economic forces; and, a strong sense of business ethics and public purpose. This foundation enables graduates of these programs to advance in a broad range of careers in the public and private sectors. The College of Business and Public Administration is one of approximately 467 schools in the world to have achieved accreditation on the graduate and undergraduate levels by the Association to Advance Collegiate Schools of Business - International (AACSB). The graduate accounting program has received its own accreditation through the same agency. In addition, the Master of Public Administration program is one of approximately 200 graduate programs certified as meeting the standards of the National Association of Schools of Public Affairs and Administration (NASPAA).

The college offers master’s degrees in accounting, business administration, economics, public administration, and urban studies. Also, the college offers a joint master’s degree in computer information science with the Computer Science Department. The college also offers a Ph.D. program in business administration and a Ph.D. program in public administration and urban policy. Also housed within the college is the Department of Military Science and Leadership. The mission of this department is to provide professional instruction and leadership development for selected students who desire to serve in the active or reserve components of the U.S. Army. Additional information about this program may be obtained through the Military Science and Leadership Department.

Vision Statement
The vision of the College of Business and Public Administration is to be recognized as an innovative leader in business and public administration education and to become a valued center of excellence in the mid-Atlantic coast region.

Mission Statement
The college’s mission 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.

Graduate School of Business and Public Administration
Nancy Bagranoff, Dean
Ali Ardalan, Associate Dean

The Graduate School of Business and Public Administration offers seven degree programs; Master of Arts in economics; Master of Business Administration; Master of Public Administration; Master of Science in accounting; Master of Urban Studies; Ph.D. in Business Administration—finance, management, or marketing tracks; and Ph.D. in Public Administration and Urban Policy. In addition, the school offers a master’s in computer information science option jointly with the Computer Science Department. Graduate courses are taught during the day and in the evening facilitating flexible combinations of formal learning and full- or part-time employment. The M.B.A. and a certificate program are offered through virtual system (a University distance learning program) during evenings and weekends. Students come from a variety of backgrounds with undergraduate degrees from many different colleges and universities. All graduate students are advised to check specific program requirements before enrolling in 400/500 level courses. Nondegree graduate students must satisfy the admission index for graduate study or receive special permission from the graduate program director in the College of Business and Public Administration in order to enroll for graduate credit.

Master of Business Administration
Bruce Rubin, Graduate Program Director
Rhyanne Henley, Program Manager

The Master of Business Administration (M.B.A.) program at Old Dominion University is designed to present broad but thorough insights into issues relevant to all effective managers. In an ever changing and increasingly global environment, these skills are applicable to both the private and public sectors. The Old Dominion University M.B.A. program is structured to provide students with the opportunity to design a program of study to meet their individual needs. The program provides students with a great deal of flexibility to select courses of interest. Some may choose a program with a twelve-hour concentration plus six hours of electives. Others may elect not to choose a concentration and develop a general M.B.A. program with eighteen hours of general electives. Concentrations are available in each of the following areas: Business and Economic Forecasting, Financial Analysis and Valuation, Information Technology and Enterprise Integration, International Business, Maritime and Port Management, and Public Administration.

Additional flexibility is provided by the requirement that each student select three one-hour electives from a wide series of choices. Among the topics included are: effective business writing, business plan development, leadership, business ethics, mediation, and employment law. Each student will also have to select an advanced course in international business in a discipline of his or her choice.

Students have the opportunity to interact with the business community on projects with faculty supervision. In addition, students may participate in internships. The program leading to the degree of Master of Business Administration is designed for the student whose undergraduate preparation is in non-business areas as well as for students with undergraduate training in business and is open to any qualified holder of a bachelor’s degree, regardless of the undergraduate field of study.

The program is designed to accommodate both full-time and part-time students with courses offered during the day as well as in the evening at four locations—the main campus in Norfolk, the Virginia Beach Higher Education Center, the Peninsula Higher Education Center in Hampton, and the Northern Virginia Higher Education Center in Sterling. Case studies, lectures, and independent research projects are the major components of an integrated approach to the study of business management, and the M.B.A. program at Old Dominion University is fully accredited by the AACSB - International.

Admission
Prospective students may apply for entrance into the program for the fall, spring, and summer semesters. The Graduate School of Business and Public Administration welcomes applications who have earned bachelor’s degrees from accredited institutions. Admission to the program is competitive and is granted only to those who show high ability and likely success in graduate business study. Evidence of ability means that successful applicants will stand well above average in most criteria used to measure graduate promise. Criteria used for admission include the candidate’s score on the Graduate Management Admission Test (GMAT), undergraduate grade averages and the trend of the grades during undergraduate work, letters of reference, a goals statement, and work experience.

The application procedure is as follows: submit to the Admissions Office (1) application forms for graduate study in business, (2) official transcripts of all previous college work, (3) one letter of recommendation, (4) an essay on personal and professional goals, and (5) scores on the Graduate Management Admission Test. Applicants whose native language is not English are also required to submit an acceptable score on the Test of English as a Foreign Language (TOEFL).

Application deadlines are June 1 for fall admission, November 1 for spring admission, and March 1 for summer admission. International student deadlines are April 1 (fall semester), October 1 (spring semester), and February 1 (summer semester).
Requirements

College-level calculus is required of all applicants. Students admitted without calculus will have provisional status until the completion of MATH 200 (Calculus for Business Economics) which must be taken during the first semester of course work. All students will be required to take an international course, either as part of their concentration or as the general elective.

Program of Study

Core Course Waiver Policies

Core courses may be waived for students who have at least a 3.0 average in 9 or more designated undergraduate credit hours coursework (designated by each of the respective departments) and who are within 5 years of graduation. Please contact the MBA Program Office for the list of undergraduate courses required for an MBA core class waiver. Course waivers must be approved by the MBA Program Office and are based on departmental recommendations.

Additionally, for those who feel they have the appropriate knowledge but not the coursework, written waiver exams may be taken to demonstrate knowledge equivalent to the core courses. Waiver exams will be offered and graded by the respective departments. Exceptions to waiver by examination can be made if the student has the appropriate undergraduate coursework as described above. Students must complete all waiver exams prior to the start of the second semester of course work. A course may be challenged only one time. Students may complete waiver exams prior to beginning their course work if they choose to do so. Students who waive core courses may waive both the courses and the hours. Students are permitted to waive a maximum of 18 credit hours of the core.

Students may also refer to the Policy on Experiential Learning Credit Options at the Graduate Level found in a previous section of this Catalog.

MBA Electives and Concentrations

Each student must select 15 credit hours of electives from the wide range of electives offered in each of the functional areas in the College of Business and Public Administration: accounting, decision science, economics, finance, information technology, management, marketing, operations management, and public administration. Students have the flexibility to choose among the electives those that provide them with the educational background they desire. Alternatively, students may choose a concentration from those offered. A concentration consists of, not more or less than, 12 hours of course work beyond the core. All students must select at least one international elective.

M.B.A. Concentrations:

Business and Economic Forecasting:

- ECON 625 Mathematical Economics 3
- ECON 706 Econometrics I 3
- ECON 707 Econometrics II 3
- ECON 708 Econometrics III 3

Financial Analysis and Valuation:

- FIN 735 Portfolio Analysis 3
- FIN 737 International Financial Management 3
- FIN 740 Options and Futures Markets 3
- FIN 741 Corporation Financial Policy 3
- FIN 668 Internship or FIN 697 Selected Topics in Finance 3

Information Technology and Enterprise Integration:

- IT 620 Systems Analysis & Design 3
- IT 635 Telecommunication and E-Commerce 3
- IT 650 Database Management Systems 3

- IT 664 Information Systems Project Management 3
- IT 665 Network and Information Systems Administration 3
- IT 672 Information Architectures 3
- IT 668 Internship or 3
- IT 750 Selected Topics in Information Systems 3

International Business Concentration

ECON 752 International Trade 3
ECON 753 International Finance 3
FIN 737 International Financial Management 3
MGMT 721 Strategic Management for Multinational Enterprises 3
MKTG 640 Global Marketing Management 3
PORT 610 International Shipping and Supply Chain Management 3

Maritime and Ports Management Concentration

PORT 610 International Shipping and Supply Chain Management 3
PORT 611 International Maritime Transport 3
PORT 612 Port Operations and Management 3
PORT 613 International Maritime and Admiralty Law 3
PORT 614 Port Planning and Economics 3

Public Administration Concentration

PADM 603 The Environment of Public Administration 3
PADM 651 Introduction to Public Administration 3
PADM 695 Advanced Topics 3
PADM 711 Urban Services Administration 3
PADM 714 Privatization 3
PADM 715 Management of Nonprofit Organizations 3
PADM 718 Contract Management 3
PADM 725 Business, Government and Society 3
PADM 730 Theories of Conflict Resolution and Problem Solving 3
PADM 734 Negotiation and Dispute Resolution 3
PADM 738 Conflict Mediation and Arbitration 3

B.A./M.B.A. Program

A five-year B.A./M.B.A. program is available for selected undergraduate students pursuing a Bachelor of Arts degree. For specific information please refer to the undergraduate catalog.

Doctor of Philosophy in Business Administration (Ph.D.)

Sylvia C. Hudgins, Graduate Program Director

The Doctor of Philosophy degree in business administration (Ph.D.) is a scholarly, research-based program with a professional orientation. The objective of the program is to prepare individuals of superior promise and potential for careers in higher education as faculty members engaged in teaching and research and for high level administrative and research careers in the private and public sectors. Persons completing the degree program must have demonstrated an in-depth knowledge of international business, economics, research methods, and high potential for making significant contributions to their field of specialization in business.

The Ph.D. degree requires competence in basic disciplines of international business, research tools, and in one of the following functional areas of business: finance, strategic management or marketing.

Requirements for Admission

Work for the doctoral degree is usually preceded by the successful completion of the M.B.A. degree, or its equivalent, from a recognized AACSB-accredited college or university. The applicant must submit an application, official transcripts of all college or university-level work, provide scores on the Graduate Management Admission Test taken within the last five years, and provide three letters of recommendation, two from academic references, which attest to the individual’s academic potential and ability for achievement. The applicant must also submit a personal statement of goals, approximately two to three pages, on how the completion of the doctoral program will assist in achieving personal and professional career goals.

The completed application materials will be reviewed by the graduate program director and faculty in the major area of study. They will evaluate the individual’s abilities and motivation to succeed in the doctoral program. A personal interview may be required before the admission decision can be reached. A recommendation is made by the faculty and a final decision on admission is made by the graduate program director.
Requirements of the Ph.D. Degree

The following are the minimum requirements for the Ph.D. degree and must be considered in preparing the student’s plan of study:

1. Satisfactory completion of at least 57 semester hours of course work including the dissertation for finance curriculum and at least 58 semester hours of course work including the dissertation for management or marketing curriculums. (At least 48 hours of post-master’s course work (including dissertation) is a University requirement);
2. Demonstrated competency in the following areas: international business, research methods and techniques, and the chosen functional field of business.
3. Acceptable performance on a written and oral candidacy examination in the major field of study at the end of the program of course work. A student may retake the candidacy examinations only one time;
4. Completion of a dissertation representing the candidate’s ability to conduct scholarly, original research. The quality of this research should be such that it would be worthy of publication in a refereed, scholarly journal; and,
5. Successful oral defense of the dissertation.

Retention Standards

To remain in good standing after admission to the program, students must maintain a minimum, cumulative grade point average of 3.20 in all course work completed at the University. Students who fail below this minimum standard will have one semester to remedy this deficiency. Further, students may earn no more than three credit hours with the grade of C. Any students receiving a grade lower than C– in course work will be removed from the program.

Time Limitation and Residency

The Ph.D. program assumes that a well qualified and highly motivated student can complete all degree requirements in four years of full-time work. If a student is unable to pursue the degree on a full-time basis, or if the major field is different from previous academic training, more time to complete the degree is usually required. The maximum time allowed to complete all degree requirements is eight calendar years from the date of initial enrollment in the program. Each student is required to complete at least two regular semesters in full-time residency. These need not be consecutive. Full-time residency is defined as a minimum of nine credit hours per semester.

Transfer Credit

A maximum of 12 semester-hour credits (or equivalent) may be transferred from another university (including six hours earned through experiential learning credit options) and applied toward the Ph.D. course requirements. Transfer credit is approved at the discretion of the program director in consultation with the faculty in the student’s major field of study.

Waivers Using Previous Graduate Work

A maximum of nine semester hours of master’s-level graduate work may be applied toward completion of the requirements for the doctoral degree. The previous course work must have been of B letter-grade quality or better, and must have been completed within the five years immediately preceding entry into the doctoral program.

Candidacy Examination

The examination qualifying the doctoral student for candidacy for the Ph.D. in business administration is comprehensive in nature and designed to test the student’s knowledge of subject matter in the major field, international business, and the ability to engage in independent research. These examinations are given in two parts: 1) international business and 2) field of study. The International Business Exam is a written exam scheduled for the third week of May and may be taken by a student in good standing after the student has completed BUSN 800, MGMT 821, MKTG 826, and FIN 862. The candidacy examination in the field of study is scheduled for the week prior to the start of fall semester classes. Students in good standing may take the Field of Study Examination after completing all courses in their field which are to be taken during the first two years of the program. See Curriculum. The Field examination contains both a written and oral component. The written portion is administered first. After successful completion of the written examination, the student sits for an oral examination, which includes topics discussed in the written examination and any additional materials that the advisory committee feels are appropriate. The student will be expected to perform well on both the written and oral components of the examination. Rather than being merely pro forma, the oral examination is a serious and integral part of the qualifying procedure for candidacy. A student must pass both the written and oral sections. The candidacy examinations are prepared and evaluated by the examination committees composed of the graduate faculty who are primarily responsible for teaching doctoral courses in international business and the field of study. The results of all examinations are reported to the student and program director.

Dissertation

The dissertation represents the final stage in obtaining the doctoral degree and provides evidence of the student’s ability to conduct independent scholarly research. To effectively initiate, conduct, and conclude the dissertation phase of the program, the candidate must: 1) form a dissertation committee; 2) develop and defend a dissertation proposal; 3) complete the dissertation research and report the results in writing; and 4) orally defend the dissertation.

Dissertation Committee

The dissertation committee is formed by the student with the approval of the program director. The committee’s purpose is to supervise the selection of the dissertation topic, constructively critique the research methodology, and serve as a guidance body until its completion. The committee should have at least three members, one of whom is from outside the department of the major field of study. The chair of the committee will be from the candidate’s major field and be an authority in the field of specialization chosen for the dissertation research. The proposal, dissertation, and the final oral defense of the dissertation must have the majority approval of the members of the dissertation committee and subsequent approval by the program director and dean of the college.

Dissertation Proposal Defense

A candidate will select a topic for dissertation research under the guidance of his/her committee. The candidate will defend a proposal for the dissertation demonstrating the originality of the research, requisite literature review, and the methodology that will be used in conducting the research. The committee will judge the merits of the proposal, making any suggestions and/or additions as deemed necessary, and approve the proposal in writing, providing copies to the program director.

Dissertation Research and Preparation

Progress on the dissertation should be reported on a periodic basis to the chair of the dissertation committee and the appropriate members. In most instances, research results, drafts of the manuscript, and guidance will be forthcoming between the committee and the candidate during the research phase. While preparing the dissertation, candidates must be continuously enrolled for a minimum of one credit hour per semester. The total number of credit hours for the dissertation shall be no less than 18 and no more than 24 credit hours. Advice or assistance from committee members should not be expected unless the candidate is officially enrolled. General regulations and procedures governing the submission of the doctoral dissertation are provided in the University Guide for Preparation of Theses and Dissertations available from the Office of the University Registrar.

Oral Dissertation Defense

The objective of the oral defense of the dissertation is to explore with the candidate the methodological and substantive contributions of the dissertation. Through this process, the examiners and the candidate reach a common understanding of the research area and can mutually agree upon its merits for publication. Majority approval by the examiners constitutes successful completion of the defense of the dissertation. The Doctor of Philosophy in business administration will be awarded upon successful completion of this examination and all other program requirements within the eight-year time limit.

Finance Curriculum

<table>
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<tr>
<th>First Year - Fall</th>
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<tbody>
<tr>
<td>BUSN 800 International Business Seminar 3</td>
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<tr>
<td>ECON 801 Micro-Economic Theory 3</td>
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<tr>
<td>ECON 806 Econometric Theory &amp; Modeling 3</td>
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COLLEGE OF BUSINESS AND PUBLIC ADMINISTRATION 91
Work on dissertation research

*Advanced doctoral level statistical/research methods course (3 hrs) can substitute for BUSN 801 series.

**Spring**
- **ECON 807** Econometrics II 3
- **MKTG 826** Seminar in International Marketing Strategy 3
- **MKTG 826** Seminar in International Marketing Strategy 3
- **BUSN 801** Doctoral Research/Teaching Colloquium 1

**Second Year**
- **ECON 807** Econometrics III 3
- **FIN 860** Seminar in Financial Theory 3
- **FIN 862** Seminar in International Finance 3
- **BUSN 801** Doctoral Research/Teaching Colloquium 1

**Spring**
- **FIN 863** Seminar in Investments 3
- **FIN 863** Seminar in Current Financial Topics 3
- **ECON 852** International Trade 3
- **BUSN 801** Research Teaching Colloquium 1

**Third Year**
Work on dissertation research

**Spring**
- **ECON 852** International Trade 3
- **FIN 863** Seminar in Current Financial Topics 3
- **MKTG 814** Seminar in Advanced Marketing 3
- **MKTG 827** Seminar in Marketing Strategy 3
- **BUSN 801** Research Teaching Colloquium 1

*Advanced doctoral level statistical/research methods course (3 hrs) can substitute for BUSN 801 series.

**Homeland Security Certificate**

The need to address problems related to Homeland Security is increasing in numerous government and private organizations. This certificate program in Homeland Security is designed to provide knowledge useful in the development and improvement of organizational processes related to avoiding, preparing for, dealing with and recovering from major security-related problems. The certificate allows students to draw courses from several colleges of the University to tailor a program particularly suited for their needs.

**Admission Requirements**

Admission to the certificate program will require a bachelor’s degree (or equivalent).

**Program requirements:**

The Homeland Security Certificate Program consists of 12 credit hours of graduate level course work that can be taken across colleges. The four courses comprising the certificate program will be offered on a regular schedule to enable the completion of the program in two years. The program will provide the opportunity for students to further their knowledge and become more competent in their profession.

The program consists of three tracks. Courses are taught in Business, Engineering and Arts and Letters. An overall grade point average of 3.0 or better is required to earn the certificate.

Required courses are ENMA 724 Risk Analysis and PADM 695 Disaster Management.

Students may elect to take ENMA 714 Crisis Project Management in place of ENMA 724 with approval.

**Track One:** CEE 513 Geographic Information Systems, ENGN 622 Remote Sensing

**Track Two:** PORT 612 Port Operations and Management, PORT 614 Port Planning and Economics

**Track Three:** Students may choose any two courses from the following list: IS 701/801 Global Change and American Foreign Policy, IS 702/802 Collective Security, IS 706/806 Causes of War, IS 707/807 Interdependence, Power and Transnationalism, IS 720/820 Global Security, IS 740/840 The Political Economy of Development, IS 795/895 Politics of Middle East, IS 795/895 Islam, War and National Question on the Russian Frontier, CRJS 575 Comparative Justice (from Sociology and Criminal Justice)

**Maritime, Ports and Logistics Management Certificate**

This certificate program is designed to help working maritime and port professionals develop and sharpen their maritime and port management skills. The program consists of four graduate courses that expose students to international shipping, port management, maritime law, port operations and planning and port economics.

**Admission Requirements**

Admission to the certificate program will require a bachelor’s degree (or equivalent).

**Program Requirements**

The certificate is awarded based upon the student’s successful completion of 12 credit hours of graduate level courses in Ports and Maritime Management: PORT 611: International Maritime Transport; PORT 612: Port Operations and Management; PORT 613: International Maritime and Admiralty Law; and, PORT 614: Port Planning and Economics.
Admission Requirements

Prospective students must apply for admission to the program for the fall, spring, and summer semesters. The Department of Accounting welcomes applicants who have earned bachelor’s degrees from accredited institutions. Admission to the program is competitive and is granted only to those who show high ability and likely success in graduate business study. Evidence of ability means that successful applicants will stand well above average in most criteria used to measure graduate promise.

Criteria used for admission include the candidate’s score on the Graduate Management Admission Test (GMAT); undergraduate grade point averages and the trend of the grades during undergraduate work; one letter of reference; a goals statement; and previous work experience. Students must earn a grade of C or better in each undergraduate course used to satisfy the program’s prerequisite courses.

The application process is as follows: submit to the Graduate Admissions Office (1) application forms (may be done on-line) for graduate study in business; (2) official transcripts of all previous college work; (3) one letter of recommendation; (4) one-page essay setting forth the applicant’s work experience and goals and objectives for the program; and (5) scores on the Graduate Management Admission Test (GMAT). Applicants whose native language is not English are also required to submit an acceptable score on the Test of English as a Foreign Language (TOEFL) Exam.

Prior to admission, each candidate must have completed six hours of financial accounting and three hours of management accounting courses. In addition, each candidate must have completed 18 credit hours in economics, statistics, marketing, management, finance, and commercial law.

Application deadlines are July 1 for fall admission, November 1 for spring admission, and April 1 for summer admission. International student deadlines are April 15 (fall semester), October 1 (spring semester), and February 15 (summer semester).

Applicants who have not obtained an acceptable GMAT, and for those applicants whose native language is not English, an acceptable TOEFL score, will not be permitted to enroll in graduate courses.

Fast-Track Undergraduate Admission

Undergraduate students majoring in accounting at Old Dominion University may apply for conditional status in the M.S. in accounting program after completing ACCT 301 with a minimum overall and accounting GPA of 3.00. These students can then achieve regular admission status by completing their undergraduate degree with a minimum overall and accounting GPA of 3.00, and obtaining an acceptable GMAT score.

Degree Requirements

A minimum of 30 semester hours of graduate courses are required to complete the Master of Science in accounting. Students must maintain a cumulative grade point average of at least 3.00 in all graduate work taken.

Business Assurance Services Track

This track is designed for the student interested in a career as an assurance services provider either working for an organization as an internal auditor or for a public accounting firm. The curriculum meets the requirements of the Institute of Internal Auditors for an Endorsed Internal Auditing Program. In addition, the track prepares students to successfully complete the Certified Internal Auditor (CIA), Certified Information Systems Auditor (CISA), the Certified Fraud Examiner (CFE) and the (CPA) Exams.

Required Courses—Accounting

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 623</td>
<td>Operational Assurance Services</td>
<td>3</td>
</tr>
<tr>
<td>ACCT/IT 624</td>
<td>Information Technology Assurance Services</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 625</td>
<td>Fraud Examination and Forensic Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 626</td>
<td>Global Accounting Theory and Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 631</td>
<td>Advanced Financial Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 640</td>
<td>Professional Ethics and Legal Issues in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 727</td>
<td>Strategic Costing and Consulting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 747</td>
<td>Seminar in Controllership</td>
<td>3</td>
</tr>
<tr>
<td>TAX 650</td>
<td>Tax Strategies for Business Decisions</td>
<td>3</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>Three credits of graduate level course work in accounting, business or public administration taken at the 500 level or above with the exception of ACCT 601.</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 30

Controllership Track

This track is for returning students who aspire to be controllers or Chief Financial Officers (CFOs). Ideally, the student choosing this track should have between three to five years of experience and hold a professional accounting designation (CPA). The track also is designed to prepare students for the Certified Management Accountant (CMA) and Certified Financial Manager (CFM) exams.

Required Courses—Accounting

<table>
<thead>
<tr>
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<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ACCT 623</td>
<td>Operational Assurance Services</td>
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</tr>
<tr>
<td>ACCT 626</td>
<td>Global Accounting Theory and Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 627</td>
<td>Operational Cost Control</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 630</td>
<td>Financial Statement Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 640</td>
<td>Professional Ethics and Legal Issues in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 727</td>
<td>Strategic Costing and Consulting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 747</td>
<td>Seminar in Controllership</td>
<td>3</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>Six credits of graduate level course work in accounting, business or public administration taken at the 500 level or above with the exception of ACCT 601.</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Hours 30
and analysis positions in governmental agencies and private business firms. Finally, still others have chosen to pursue careers in general business management.

All students in the program are trained in theory and research methods and take several courses emphasizing business or government policy analysis in chosen specialty areas. An independent research program is required, permitting students to apply theory and empirical techniques to real-world problems.

The Department of Economics also encourages interdisciplinary training. The master’s program can be adapted for students desiring a diverse background by combining economics with graduate courses in sociology, political science, computer science, statistics, finance, marketing research, or public administration.

**Admission**

In addition to the University’s graduate admission requirements, applicants seeking regular admission must have at least a 3.00 grade point average in their major. In addition, applicants are required to take either the aptitude section of the Graduate Record Examination or Graduate Management Admission Test, and they must submit at least one letter of recommendation. If the undergraduate grade point average falls below that required for regular status, applicants may qualify for provisional admission.

**Requirements**

Undergraduate prerequisites include principles of economics, calculus (three hours), statistics (six hours), intermediate microeconomics, and intermediate macroeconomics with grades of at least B-.

Thirty semester hours of approved graduate work are required for the award of the Master of Arts degree in economics. A maximum of six hours of 500-level courses approved for graduate credit may be applied toward the degree. The remaining 24 hours of credit must be taken from 600- and/or 700-level courses. Up to six hours of electives (approved by the graduate program director) may be taken from courses outside the Department of Economics. Required economics courses for the graduate program are ECON 625, 701, 703, and 706. Writing skills commensurate with the level of this degree are also a requirement for graduation from this program.

Near the completion of formal course work, candidates conduct independent research projects with thesis or nonthesis options. Students who choose the thesis option should register for ECON 697 and ECON 698 in last semesters of course work. Nonthesis students conduct independent research projects under the guidance of a department faculty member. Students must first register for ECON 697, a reading course under the supervision of a faculty member, for three credits, and then register for ECON 698, the research project writing course, also under the supervision of a faculty member, for three credits. All master’s candidates must pass written comprehensive examinations covering microeconomics, macroeconomics, econometrics I, and one elective course area selected by the student.

**Required Courses – Economics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 625</td>
<td>Introduction to Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 701/801</td>
<td>Advanced Economic Analysis:</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Microeconomics</td>
<td></td>
</tr>
<tr>
<td>ECON 703/803</td>
<td>Advanced Economic Analysis:</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Macroeconomics</td>
<td></td>
</tr>
<tr>
<td>ECON 706/806</td>
<td>Econometrics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Four Elective Courses</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td></td>
<td>(These are generally 600- or 700-level courses from within the economics discipline. However, two of the courses may be approved 500-level courses, and two of the courses may be outside of the Department of Economics.)</td>
<td></td>
</tr>
<tr>
<td>ECON 697</td>
<td>Readings in Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 698</td>
<td>Economic Methodology and Research</td>
<td>3</td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

**Department of Information Technology and Decision Sciences**

2074 Constant Hall  
(757) 683-3488

G. Steven Rhiel, Chair

**Master of Science–Computer Science Major with an Emphasis in Computer Information Sciences**

Li Xu, Graduate Program Director

The Department of Information Technology and Decision Sciences offers this degree program jointly with the Department of Computer Science; please see the entry under the Department of Computer Science for degree requirements.

**Department of Urban Studies and Public Administration**

2090 Constant Hall  
(757) 683-3961

Berhanu Mengistu, Chair

**Master of Public Administration (M.P.A.)**

To Be Named, Graduate Program Director  
Marjorie Wills, Program Manager

The primary mission of the Master of Public Administration program at Old Dominion University is to enhance the knowledge, skills and abilities of public sector professionals and to serve other students who desire careers in public and non-profit organizations.

The program conveys knowledge and develops competencies in public sector management practices, public policy analysis, and public decision making processes. Graduates of Old Dominion University’s M.P.A. program hold positions as program planners and analysts, line managers, and public policy managers in local, state, federal, and nonprofit agencies.

The Master of Public Administration program offered by the faculty of Public Administration and Urban Studies in the Graduate School of Business and Public Administration is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA), the national certifying organization for public administration programs. The Master of Public Administration program is designed to develop the student’s knowledge, skills, and competencies in five context areas:

1. Public management processes, including public budgeting and personnel systems;
2. Organizational design processes and behavior;
3. Political, legal, and ethical concepts and issues of public administration;
4. Quantitative and qualitative analysis techniques; and
5. Policy analysis and program evaluation.

Many of the students in Old Dominion University’s graduate public administration program are employed in government and nonprofit agencies and seek to add to their management competencies in preparation for more senior positions. The program is offered in the evenings (and at other convenient times) to facilitate participation by students who are employed full
time and wish to pursue their education on a part-time basis. Full-time students can complete the program within a two-year period. Part-time students usually require three to four years to complete the program.

Admission Requirements
The Department of Urban Studies and Public Administration welcomes applicants who have earned a bachelor’s degree from an accredited institution. Admission to the program is competitive and is granted only to those who show ability and likely success in graduate study. The applicant must meet the University’s general requirement - an overall grade point average of 2.80 on a four-point scale. Prospective students may apply for admission to the Master of Public Administration program throughout the year.

The decision to admit an applicant to the master’s program is based on a balanced review of official transcripts, a written statement of career objectives, scores on the GRE, GMAT or LSAT examinations, and two letters of recommendation. In service applicants with 3 or more of supervisory or professional experience may apply for a Waiver from the standardized test, GRE/GMAT requirement.

Degree Requirements
The M.P.A. curriculum consists of 39 credit hours (thirteen courses)*. Courses are required in three categories:
The Core Curriculum (21 Credit Hours)
- PADM 651 Administrative Theory I: The Context of Public Administration 3
- PADM 652 Administrative Theory II: Managerial Process in the Public Sector 3
- PADM 753 Research Methods in Public Administration 3
- PADM 671 Public Budgeting and Financial Management 3
- PADM 733 Legal and Ethical Foundations of Public Administration 3
- PADM 701 Public Policy and Evaluation 3
- PADM 746 Capstone Seminar 3

The Core Curriculum (21 Credit Hours)
- PADM 651 Administrative Theory I: The Context of Public Administration 3
- PADM 652 Administrative Theory II: Managerial Process in the Public Sector 3
- PADM 753 Research Methods in Public Administration 3
- PADM 671 Public Budgeting and Financial Management 3
- PADM 733 Legal and Ethical Foundations of Public Administration 3
- PADM 701 Public Policy and Evaluation 3
- PADM 746 Capstone Seminar 3

* Prerequisite: Completion of PADM 410, Data Analysis for Public Managers, a 1.5 credit course in basic statistics and spreadsheet analysis. Exemption from PADM 410 is available based on demonstrated capabilities in the subject areas covered by the course. (The program director will advise on qualifying for an exemption from PADM 410.)

Concentration Areas (12 Credit Hours)
Students select one concentration area and in consultation with their faculty advisor select at least four courses within that area. The M.P.A. offers concentrations in four areas:
1. Public Management;
2. Urban Research and Planning;
3. Human Resource Administration; and
4. Port and Maritime Administration.

In addition to the four concentration areas, students may develop an Individually Configured Concentration in one of various specialized management functions or subject areas.

Public Management
Students selecting a concentration in public management shall, in consultation with their program advisor, select at least four courses from the following list of courses offered by the Department of Urban Studies and Public Administration.

Course Number  Credit  Course Title
PADM 603      3  The Environment of Public Administration
PADM 655      3  Theories of Public Organization
PADM 704      3  Methods of Public Program Evaluation
PADM 711      3  Urban Services Administration
PADM 712      3  Emergency Management and Policy
PADM 714      3  Privatization
PADM 715      3  Management of Nonprofit Organizations
PADM 718      3  Contract Management
PADM 719      3  Leadership
PADM 720      3  Public Personnel Administration
PADM 723      3  Ethics in Public Administration
PADM 725      3  Business, Government, and Society
PADM 730      3  Theories of Conflict Resolution and Problem Solving
PADM 734      3  Negotiation and Dispute Resolution
PADM 737      3  Digital Government
PADM 738      3  Conflict Mediation and Arbitration
PADM 745      3  Managing Development and Change in Public Organizations
PADM 785      3  Intergovernmental Management
PADM 795      3  Advanced Topics in Public Personnel Administration

Urban Research and Planning
Students selecting a concentration in urban research and planning shall in consultation with their program advisor select at least four courses from the following list of courses offered by the Department of Urban Studies and Public Administration.

Course Number  Course Title
URBN 690      3  Introduction to Urban Studies
URBN 632      3  Environmental Planning
URBN 633      3  Methods of Urban Planning
URBN 634      3  Regional Planning
URBN 635      3  Urban Design
URBN 696      3  Topics in Urban Studies
URBN 701      3  Urban Policy Analysis
URBN 702      3  Urban Resource Allocation
URBN 703      3  Urban Program Design and Implementation
URBN 704      3  Methods of Urban Program Evaluation
URBN 705      3  Urban Law and Public Policy
URBN 711      3  Urban Services Administration
URBN 724      3  Administration of Human Services

Human Resource Administration
Students selecting a concentration in human resource administration shall, in consultation with their program advisor, select at least four courses in human resource administration offered by the Urban Studies and Public Administration Department, and by the Management Department in the College of Business and Public Administration. This concentration may include courses in negotiation and dispute resolution, motivation and incentives, compensation management, organization behavior, organization development, strategy and policy, ethics, employment law, and other approved courses.

Port and Maritime Administration
Students selecting a concentration in port and maritime administration shall, in consultation with their program advisor, select at least four courses in port and maritime administration and in planning and urban affairs offered by the Urban Studies and Public Administration Department, or by the Institute for Port and Maritime Studies in the College of Business and Public Administration. This concentration may include courses in urban and regional planning, emergency management, intergovernmental management, international maritime transport, port operations and management, port planning and economics, supply chain management, and other approved courses.

Individually Configured Concentration
Students wishing to concentrate in the administration of specialized public agencies and functions not addressed in the concentrations above may, with the approval of the M.P.A. program director, develop a formal plan of study for four to six courses creating an individually designed concentration. For example, combining selected courses from the Urban Studies and Public Administration Department and other departments in the College of Business and Public Administration, M.P.A. students may develop a concentration in public sector marketing and contracting; financial management; or information technology. Other concentrations, in criminal justice administration, health policy administration, and homeland security administration, may be developed in conjunction with courses offered in other colleges in the University. In each case the plan of study must be approved by the M.P.A. program director and the program director of the relevant graduate program.
Elective Courses (6 Credit Hours)

Students may select two courses outside of their concentration area as electives. Electives will be selected in consultation with the student’s program advisor. Normally electives will be selected from courses offered by the Department of Urban Studies and Public Administration. Students may select PADM 668 Internship or PADM 698 Directed Research as electives. Students may select courses within their concentration area as electives.

The Capstone Seminar

Upon completion of the six core courses, students are eligible to take the capstone seminar course. This course is designed as an integrative experience for students utilizing the knowledge, skills and techniques learned in the core courses to complete course work assignments in the capstone seminar. (PADM 746 Capstone Seminar, three credit hours).

Internship/Field Experience

Practical professional experience in a public or nonprofit agency setting is an important asset for all public administration students. A formal internship is strongly recommended for students who lack significant experience in a public or nonprofit agency. Internships give students the opportunity to gain professional level experience in a government or nonprofit agency and provide agencies with the services of graduate students with high potential for future achievements. M.P.A. students have the opportunity to earn three semester credits for internships and apply these credits to their elective courses. The Internship/Field Experience course is a 300-hour public service experience in an approved agency.

The Application Package

The Old Dominion University Graduate Application can be downloaded from the website, www.odu.edu, or a Graduate Application Package may be received by calling (757) 683-3637. This package includes all forms necessary to apply to the Master of Public Administration program. To be considered for admission, applicants must submit the following:

1. An official transcript of previous college degree program(s).
2. A written statement describing how one’s experience in work and in other settings and the choice of graduate study in public administration will lead to achieving career goals;
3. Scores on the aptitude section of the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT), taken within the past six years. The requirement for the GRE or GMAT may be waived for applicants with at least three years supervisory, managerial or professional level experience in a local, regional, state, federal, military or nonprofit agency. Applicants who wish to be exempted from the GRE or GMAT requirement should complete the “Request for GRE/GMAT Waiver” form and submit it with their application package for review by the admissions committee. The decision to waive the GRE or GMAT is the sole responsibility of the admissions committee and its decision is final;
4. Two letters of recommendation (forms provided) from academic sources or employment supervisors; and
5. Applicants whose native language is not English are required to submit an acceptable score on the Test of English as a Foreign Language (TOEFL).

Financial Assistance

Financial aid is available to graduate students at Old Dominion University. Financial aid may be available in the form of University fellowships, tuition grants, and research assistshipships. The M.P.A. program offers graduate research assistshipships each semester. Research assistshipships provide stipends, and research assistants pay the in-state tuition rate. In addition to the financial aid offered by the University, graduate students may be eligible for aid and student loans administered by other agencies. For information about part-time employment, scholarships, and student loans, contact the Office of Student Financial Aid.

For information and forms concerning application, contact the Admissions Office, Old Dominion University, Norfolk, VA 23529 Phone: (757) 683-3637.

The Specialization Module

The urban studies program offers specializations in two specific areas. In addition, students may design and select a five course individual specialization area which is appropriate for their particular career goals in the public or nonprofit sector. Individual specialization areas must be selected in consultation with a faculty advisor or the M.U.S. graduate program director. Students may select appropriate elective courses within other departments of the Graduate School of Business and Public Administration or in other colleges within the University.

The following is a listing of recommended courses for each of the two specializations. (15 semester hours)

Policy Analysis and Program Evaluation

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PADM 603</td>
<td>Environment of Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>PADM 671</td>
<td>Public Budgeting Systems</td>
<td>3</td>
</tr>
<tr>
<td>PADM 743</td>
<td>Total Quality Leadership</td>
<td>3</td>
</tr>
<tr>
<td>URBN 711</td>
<td>Urban Services Administration</td>
<td>3</td>
</tr>
</tbody>
</table>

With permission of the graduate program director, students may take appropriate courses from other colleges and disciplines.

Community Services and Planning

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>PADM 603</td>
<td>Environment of Public Administration</td>
<td>3</td>
</tr>
<tr>
<td>PADM 633</td>
<td>Methods of Urban Planning</td>
<td>3</td>
</tr>
<tr>
<td>PADM 730</td>
<td>Theories of Conflict Resolution and Problem Solving</td>
<td>3</td>
</tr>
</tbody>
</table>
The Urban Capstone Module

All urban studies students must complete URBN 685 Urban Capstone, a significant independent study project under the supervision of a faculty advisor as the capstone experience of the degree program (three credit hours).

Internship/Field Experience

Practical professional experience in a public or non-profit agency setting is an important asset for all urban studies students. A formal internship is strongly recommended for students who lack significant experience in a public or nonprofit agency. Internships give students the opportunity to gain professional level experience in a government or non-profit agency and provides agencies with the services of graduate students with high potential for future achievement. M.U.S. students have the opportunity to earn three semester credits for internships and apply these credits to any specialization area they have chosen. The URBN 693 Internship/Field Experience course is a 300 hour public service experience in an approved agency.

Admission Requirements

The department faculty welcomes applicants who have earned a bachelor’s degree from an accredited institution.

Admission to the program is competitive and is granted only to those who show ability and likely success in graduate study. The applicant must meet the requirement of an overall grade point average of 2.80 on a 4.00 scale. Applicants must provide scores from the Graduate Record Examination taken within the past five years. To request a waiver, see the section for application package. Prospective students may apply for admission to the Master of Urban Studies program throughout the year.

The decision to admit an applicant to the master’s program is based on a balanced review of official transcripts (particularly in the last two years of undergraduate education), the written statement of career objectives, a review of work experience for in-service students, and written recommendations.

The Application Package

The Old Dominion University Graduate Application Package may be received by calling (757) 683-3637. This package includes all forms necessary to apply to the Master of Urban Studies program. To be considered for admission, applicants must submit the following:

1. An official transcript of all previous college degree program(s);
2. A written statement describing the purpose of seeking the Master of Urban Studies degree, i.e., how the degree will contribute to career goals and objectives (800 word minimum);
3. Two letters of recommendation (forms provided) from academic sources or employment supervisors;
4. Applicants must provide scores from the Graduate Record Examination taken within the past five years. (Applicants with three or more years of managerial or professional experience in public or non-profit organizations may request a waiver of the Graduate Record Examination requirement by submitting a job description and detailed information on the Request for GRE Waiver form; and
5. Applicants whose native language is not English are required to submit an acceptable score on the Test of English as a Foreign Language (TOEFL).

Ph.D. - Public Administration and Urban Policy

John C. Morris, Graduate Program Director
Marjorie R. Wills, Program Manager

The principal objective of the Ph.D. in Public Administration and Urban Policy is to assure that graduates become content area experts with 48 hours of doctoral level course work and 12 hours of dissertation credit. Specifically, students will learn a common body of knowledge in three areas: foundation in public and urban policy (12 hours of core courses), one of either of two tracks with courses specific to public administration or urban policy (12 hours of concentration courses), and the foundation in research (12 hours of quantitative and qualitative research courses). Each student will also complete nine hours of unique cognate courses selected by the student with advice and consent of the Ph.D. program director. Each student will also complete three hours of dissertation seminar. Through this approach, all program graduates will have the opportunity to develop a substantive knowledge of a body of work in public administration and urban policy as well to acquire analytical and research skills that will enable them to become educators, leaders and researchers in their chosen specialty areas. The Ph.D. program in Public Administration and Urban Policy, therefore, will focus on: (1) developing effective public, non-profit sector and urban policy leaders throughout Hampton Roads, the Commonwealth of Virginia, and the nation who have both content knowledge and research skills; (2) educating individuals who intend to pursue teaching as a vocation in colleges and universities in Virginia as well as nationally and internationally; (3) building collaborative research and demonstration initiatives with community and state agencies that link research initiatives to public management and urban policy improvement and economic development; and (4) providing the linkages among content knowledge, research, and field experiences for all doctoral students.

Admission

Applications for admission to the program will be considered throughout the year as they are received. However, the program encourages applicants to apply early in the spring so that study may begin in the fall as many of the core and concentration courses are offered in sequence beginning in the fall semester.

Candidates for the doctoral program must have a master’s degree in an appropriate discipline in a program that is accredited by an appropriate specialized accrediting agency and from an institution of higher education that is regionally and/or nationally accredited. A minimum grade point average of 3.25 (on a 4.0 scale) overall and in the major area of study in the master’s degree and an acceptable score on the Graduate Record Examination (GRE); a minimum score of 500 on the verbal section is required. Applicants whose native language is not English must score a minimum of 550 on the Test of English as a Foreign Language. Upon admission, the student should contact the Ph.D. Program Director in the Department of Urban Studies and Public Administration for advisement.

A student seeking admission to the doctoral program should request an application from the Office of Graduate Admissions at Old Dominion University. The application should be filled out completely and promptly returned to the Office of Graduate Admissions.

Each application must contain the following materials:
1. Three letters of recommendation, at least one from an academic source and one from a professional source; and
2. A three to six-page double-spaced written statement of academic and professional goals.
3. Official copies of transcripts from all institutions of higher education attended and
4. Test scores on the Graduate Record Examination (GRE) taken within five years prior to application for admission must be sent directly to the Office of Admissions.

Financial Aid

Old Dominion University offers financial assistance to graduate students. Types of aid include research assistantships, fellowships, grants, scholarships, and part-time employment. Nearly all forms of aid require that the student be engaged in full-time graduate study, and in the case of assistantships, students are required additionally to work 20 hours per week with an assigned faculty member.

Students may receive an assistantship or fellowship or sometimes a combination of both. Amounts for assistantships are typically $5,000 to $10,000 and fellowships from $5,000 to $12,000. College funds affect fellowship and assistantship amounts. Tuition is waived for research assistants.

In addition to financial aid offered by the University, graduate students may be eligible for aid administered by other agencies. For information about part-time employment, scholarships, and student loans, contact the Office of Student Financial Aid, Old Dominion University, Norfolk, VA 23529-0052, (757) 683-3683.

Prerequisites

Applicants who have insufficient background in any of the prerequisite competency areas (PADM 651 Administrative Theory I: The Context of Public Administration, ELS 732 Quantitative Research Design or CHP 640 Data Interpretation Methods for Health Care) will be required to enroll in courses in the area(s) of deficiency. Such courses must be completed with a grade of B or
better. These prerequisite courses will not be included in the required credit hours to complete the doctoral program.

Students taking ELS 732 should plan to take ELS 832 as the multivariate statistics course. Students taking CHP 640 should plan to take HLSC 811 as the multivariate statistics course.

Course Offerings

Students are required to complete a minimum of 45 hours of course work and maintain a minimum grade point average of 3.0 or better. Up to 12 hours of appropriate course work beyond the master’s degree and with a grade of B or better may be transferred into the program with the approval of the Ph.D. Program Director. In addition to course work, students are required to take three hours of dissertation seminar and a minimum of 12 hours of dissertation credit.

CORE COURSES (12 hours)
- PAUP 801 Public Policy Analysis 3
- PAUP 807 Urban Theory and Practice 3
- PAUP 808 Administrative Theory and Behavior 3
- PAUP 810 Public Law and Urban Governance 3

RESEARCH CORE COURSES (12 hours)
- PAUP 802 Logic of Social Inquiry 3
- HLSC 812 Qualitative Research Methods or ECI 890 Qualitative Research Design 3
- ELS 832 Statistics Applied to Research in Education and Human Services II or HLSC 811 Quantitative Research Design – Multivariate 3
- PAUP 853 Research and Evaluation Design 3

MAJOR (CONCENTRATION) (12 hours)

Public Administration Track - Students may select four of the following courses for their concentration:

Course Number
- PAUP 804 Program Evaluation 3
- PAUP 811 Urban Services Administration 3
- PAUP 820 Public Personnel Administration 3
- PAUP 823 Ethics and Public Administration 3
- PAUP 830 Theories of Conflict Resolution and Problem Solving 3
- PAUP 834 Negotiation and Dispute Resolution 3
- PAUP 838 Conflict Resolution and Arbitration 3
- PAUP 845 Organization Development and Change Management 3
- PAUP 881 Intergovernmental Management 3
- PAUP 898 Directed Research 3

Urban Policy Track - Students may select four of the following courses for their concentration:

Course Number
- PAUP 802 Urban Resource Allocation 3
- PAUP 804 Program Evaluation 3
- PAUP 805 Urban Law and Public Policy 3
- PAUP 811 Urban Services Administration 3
- PAUP 823 Ethics and Public Administration 3
- PAUP 830 Theories of Conflict Resolution and Problem Solving 3
- PAUP 834 Negotiation and Dispute Resolution 3
- PAUP 838 Conflict Resolution and Arbitration 3

Other course offerings by the department may be considered for substitution for courses listed in each concentration track.

MINOR (COGNATE) (9 hours)
Courses may be taken outside of USPA, including, but not limited to, the following: international management, marketing, finance, accounting, educational leadership, business and government, community health, urban economics, industrial psychology, criminal justice, sociology, political science, and engineering management.

DISSERTATION SEMINAR (3 hours)
- PAUP 896 Dissertation Seminar 3

DISSERTATION
- Total Hours 12
- 60

Advanced Certificate in Public Administration and Policy

Leonard I. Ruchelman, Graduate Program Director

Marjorie R. Wills, Program Manager

The Department of Urban Studies and Public Administration in the College of Business and Public Administration at Old Dominion University offers an Advanced Certificate in Public Administration and Policy for individuals who submit evidence of having completed a master’s degree at an accredited college or university. The objective of the program is to help working professionals upgrade their skills in the areas of policy analysis and public management, by developing analytical and management capabilities.

A student enrolling in the certificate program may be eligible to apply to the Ph.D. program in Public Administration and Urban Policy (PAUP). If accepted, the full 12 credit hours earned in the certificate program may be transferred into the Ph.D. Program.

All courses are taught in the evening.

Curriculum: The curriculum consists of five tracks of courses listed below. Students are required to take four courses, a total of 12 credit hours, to complete the certificate program. Each is to be seen as a subspecialty in the field of public administration and policy. WITH GUIDANCE FROM A FACULTY ADVISOR, THE STUDENT SELECTS A TRACK.*

Conflict Resolution and Negotiation
- PAUP 730 Conflict Resolution and Problem Solving 3
- PAUP 734 Negotiation and Dispute Resolution 3
- PAUP 738 Conflict Mediation and Arbitration 3
- PAUP 745 Managing Development and Change in Public Organizations 3

Human Resource Management
- PAUP 651 Administrative Theory I: The Context of Public Administration 3
- PAUP 655 Theories of Public Organization 3
- PAUP 720 Public Personnel Administration 3
- PAUP 795 Advanced Topics in Public Personnel Administration 3

Public Policy
- PAUP/URBN 701 Public Policy Analysis & Evaluation 3
- PAUP 753/URBN 607 Research Methods (Pre-requisite is PAUP/URBN 410 or waiver) 3
- PAUP/URBN 704 Methods of Program Evaluation 3
- PAUP 705 Urban Law and Public Policy 3

Public Budgeting and Finance
- PAUP 671 Public Budgeting and Financial Management 3
- PAUP 781 Intergovernmental Management 3
- ECON 545 Urban Economics 3
- ACCT 601 Accounting for Managers 3

General Public Sector Management
- PAUP 651 Administrative Theory I: The Context of Public Administration 3
- PAUP 603 The Environment of Public Administration 3
- PAUP 655 Theories of Public Organizations 3
- PAUP 733 Legal and Ethical Foundations of Public Administration 3

* Any alteration in course selection requires prior faculty advisor approval.

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 Economic Education. The Center for Economic Education has been established to enhance the college’s capacity to teach and conduct research on the subjects related to business practices. The center collects and disseminates information 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 training 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 disciplines 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 programming which is responsive to the port-related needs of Hampton Roads, Virginia, and other port-related facilities in the world. The institute serves as a positive link with the port-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.
College of Business and Public Administration Graduate Courses

Course Prefixes
- Accounting – ACCT
- Business Admin – BUSN
- Decision Sciences – DSCI
- Economics – ECON
- Finance – FIN
- Information Technology - IT
- International Business – INBU
- Management - MGMT
- Maritime Ports and Logistics Management – PORT
- Marketing – MKTG
- Master of Business Admin – MBA
- Operations Management – OPMT
- Public Admin – PADM
- Public Administration and Urban Policy — PAUP
- Taxation – TAX
- Urban Studies - URBN

Accounting-ACCT

405/505. Accounting and Auditing 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 study, 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 Business Entities. 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.

601. Accounting for Managers. Lecture and discussion 3 hours; 3 credits. A study of the concepts of financial and managerial accounting. Covers the financial planning process and the development of financial statements for external users while exposing students to internally generated accounting information. The overall objective of the course is to provide students with sufficient knowledge and competency to be intelligent users of accounting information.

623. Operational Assurance Services. Lecture 3 hours; 3 credits. Prerequisite: ACCT 601 or equivalent. Standards, ethics, and practice of operational auditing particularly as it concerns the internal auditing profession, as well as exposure to financial auditing.

624. Information Technology Assurance Services. Lecture 3 hours; 3 credits. Prerequisite: ACCT 601 or equivalent. Standards, ethics, and practice of fraud examination and forensic accounting particularly as it concerns the accounting profession.

626. Global Accounting Theory and Strategy. Lecture 3 hours; 3 credits. Prerequisite: ACCT 301 with a C or better or equivalent. This course covers the analysis and interpretation of financial statements, including the significant accounting issues involved by national and multinational corporations in reporting financial information to external users in a global economy. Accounting and financial analysis are used to provide a framework for applying the various technical standards for analytically and interpreting financial statements. The application of professional ethics is also stressed.

627. Operational Cost Control. Lecture 3 hours; 3 credits. Prerequisite: ACCT 601 or equivalent. Covers cost concepts and analysis in both a manufacturing and service-oriented environment. Provides an introduction to activity based costing and standard cost systems, methodology for measuring productivity changes and cost of quality and measurement and control of operating performance.

630. Financial Statement Analysis. Lecture 3 hours; 3 credits. Prerequisite: ACCT 301 with a C or better or equivalent. This course covers the analysis and interpretation of financial statements, including the significant accounting issues involved in performing an effective evaluation of a company. Accounting and financial analysis are used to provide a framework for applying the various techniques for analyzing and interpreting financial statements.

631. Advanced Financial Auditing. Lecture 3 hours; 3 credits. Prerequisite: ACCT 301 with a C or better or equivalent. Advanced concepts associated with the public accounting profession, generally accepted auditing standards, public accounting reporting, and recent developments, such as Sarbanes-Oxley/Public Company Accounting Oversight Board, are emphasized.

640. Professional Ethics and Legal Issues in Accounting. Lecture 3 hours; 3 credits. Prerequisite: a basic business law course. An intensive course covering ethical and legal issues confronted by practicing accountants. The course emphasizes rigorous analysis of complex situations leading to appropriate ethical and legal solutions.

667. Cooperative Education. 1-3 credits. Prerequisite: permission of the departmental chair in accordance with departmental Cooperative Education policies and approval of Career Management. Student participation in a full-time professional work experience.

668. Accounting Internship. 1-3 credits. Prerequisite: permission of the departmental chair. The course is a practicum in the profession of accounting where theories, concepts, and financial management techniques are applied in a business environment.

693. Selected Topics in Accounting. 3 credits. Prerequisites: permission of the chair of the Department of Accounting and the graduate program director, and an established B average in graduate work. Study designed for students who have had one of the required courses waived or for students desiring additional work in an area of particular interest in accounting.

727. Strategic Costing and Consulting. Lecture and discussion 3 hours; 3 credits. Prerequisite: ACCT 627 or equivalent. This course covers the development and use of relevant cost information for the formulation and execution of business strategies. It focuses on advanced costing concepts being used by business to develop world class performance. The consulting process is introduced to show how these concepts are used to provide value by diagnosing, strategizing, constructing, integrating, and implementing solutions.

747. Seminar in Controllership. Lecture 3 hours; 3 credits. Prerequisite: ACCT 627 or equivalent. This course is the capstone course for the study of management accounting. It includes a review of management accounting practices and analytical techniques employed by controllers in supporting their organization’s strategic decision-making process.

Business Administration - BUSN

800. Seminar in International Business. Seminar 3 hours; 3 credits. This course will prepare students for understanding of the environmental issues, institutions, opportunities, challenges, problems and managerial processes that are unique to international business. Both the macro and micro contexts in which international business is conducted will be examined.

801. Research/Teaching Colloquium. 1 credit. The one-hour Research/Teaching Colloquium is mainly intended to promote research/teaching competencies of doctoral students through their exposure to presentations on and discussions of various topics dealing with research, writing, publishing and effective teaching. The presentations may be by faculty members, outside speakers or doctoral students.

Economics — ECON

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 aspects 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 201S, 202S 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.

425/525. Introduction to Mathematical Economics. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S, MATH 200 or equivalent and senior standing or permission of the chief departmental advisor. The course focuses on the use of differential and integral calculus, matrix algebra, difference equations and classical optimization theory in the presentation and development of economic theories.

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 201S, 202S and permission of the instructor. This course 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.

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 20th century. This course introduces students to the importance of understanding economic theory in the understanding of historical economic developments.

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.

451/551*. History of Economic Thought. Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 205 (or 200S) and 202S and junior standing or permission of the chief departmental advisor. Topics discussed include conservatism and scarcity, market failure, fishery management, benefit-cost analysis, water resource development, environmental quality, recreation, energy, and marine resources.

454W/554*. Economic Development. Lecture 3 hours; 3 credits. Prerequisites: ECON 201S and 202S and junior standing or permission of the chief departmental advisor. An analysis of the basic elements 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*. Comparative Economic Systems. 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.

456/556. 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. Considerations include the scale and scope of the Internet and e-commerce, the diffusion of innovations and the intellectual property as they are utilized on the Internet and in e-commerce. Taught in a microcomputer laboratory.

459/595. Selected Topics in Economics. 1-3 credits. Prerequisites for 459: ECON 205 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.

612. Global and Applied Macroeconomics. Lecture 3 hours; 3 credits. Prerequisite: ECON 604 or permission of instructor. (Credit may not be applied toward the M.A. in economics) Statistical measurements and indicators of economic activity; short-run macroeconomic analysis, credit markets, demand for money, institutional factors in money and banking, money creation, financial and monetary policy, long-run macroeconomics, short-run macroeconomic comparative statics, foreign exchange market; description and history of business cycles, inflation, economic growth and public policies.

625. Mathematical Economics. Lecture 3 hours; 3 credits. Prerequisite: MATH 200 or equivalent. Study of income, employment, and monetary policy, long-run macroeconomics, short-run macroeconomic comparative statics, foreign exchange market; description and history of business cycles, inflation, economic growth and public policies.

640. Microeconomics. Lecture 3 hours; 3 credits. Prerequisite: CSCI 600 or equivalent. Study of microeconomic models; problems such as production and pricing with market power, multiple plants, markets and products, profit maximization over time and under uncertainty, international trade and tariffs.
identification, single-equation estimation, estimation of equation systems, and model evaluation techniques; time-series models such as moving average and autoregressive models; forecasting with time-series models.

752/852. International Trade. Lecture 3 hours; 3 credits. Prerequisite: ECON 707/807. Issues in cross-section and panel data, focuses on problems such as selection bias, heterogeneity, unobserved heterogeneity, treatment effects, truncation and censoring. The course covers multivariate techniques such as principal component analysis and factor analysis, along with event studies and nonparametric and semiparametric estimators.

753/853. International Finance. Lecture 3 hours; 3 credits. Prerequisite: ECON 604 or 650 or equivalent. International capital flows, exchange rates and price level, income, money supplies, inflation, international liquidity, causes of international balance-of-payments adjustments. Monetary magnitudes as a basis for insight into international financial policies.

754/854. Economic Development. Lecture 3 hours; 3 credits. Prerequisite: ECON 304 or 604 or 650. 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.

755/855. Selected Topics in Economics. 3 hours; 3 credits. Prerequisites: Ph.D. standing and permission of the department chair and coordinator. Designed to provide the advanced student with an opportunity to study independently or in small groups and investigate specific topics of current interest in the field of economics.

Finance — FIN

605. Financial Management. Lecture 3 hours; 3 credits. Prerequisite: ACCT 601 and DSCI 600. The course develops basic concepts of shareholders wealth maximization, net present value, security valuation, risk-return analysis, capital budgeting, cost of capital, capital structure, and dividend policy.

610. Principles of Risk and Insurance. Lecture and discussion 3 hours; 3 credits. Prerequisites: graduate standing and permission of the department chair. Risk theory as applied to the various fields of insurance, including life, health, property-liability and employee benefits.

633. The Legal Environment of Business and the Age of Electronic Commerce. Prerequisite: graduate standing. An understanding of the traditional legal environment of business issues is essential for management to successfully utilize e-commerce and respond to legal problems that it will present. The course therefore examines disputes resolution, constitutional, tort, criminal, contract and property law, both in the context of traditional business practice and as applied to e-commerce.

668. Finance Internship. 1-3 credits. Prerequisites: FIN 605, graduate standing, and permission of the department chair. The course is a practicum in the field of finance, applying theories, concepts, and financial management tools in a business environment.

697. Selected Topics in Finance. 1-3 hours; 1-3 credits. Prerequisites: permission from the department chair and the graduate program director. Study designed for students who have had one or more of the required courses waived, or for students desiring additional work in a finance area of particular interest.

698. Selected Topics in Real Estate. 3 hours; 3 credits. Prerequisites: permission from the department chair and the graduate program director. Study designed for students who have had one or more of the required courses waived, or for students desiring additional work in a finance area of particular interest.

699. Selected Topics in Insurance. 3 hours; 3 credits. Prerequisites: permission from the department chair and the graduate program director. Study designed for students who have had one or more of the required courses waived, or for students desiring additional work in an insurance area of particular interest.

707/807. Econometrics III. Lecture 3 hours; 3 credits. Prerequisite: ECON 707/807. Issues in cross-section and panel data, focuses on problems such as selection bias, heterogeneity, unobserved heterogeneity, treatment effects, truncation and censoring. The course covers multivariate techniques such as principal component analysis and factor analysis, along with event studies and nonparametric and semiparametric estimators.

708/808. Econometrics IV. Lecture 3 hours; 3 credits. Prerequisite: ECON 707/807. Issues in cross-section and panel data, focuses on problems such as selection bias, heterogeneity, unobserved heterogeneity, treatment effects, truncation and censoring. The course covers multivariate techniques such as principal component analysis and factor analysis, along with event studies and nonparametric and semiparametric estimators.

735/835. Portfolio Analysis. Lecture and discussion 3 hours; 3 credits. Prerequisite: FIN 605. A mathematical analysis of modern investment theory. Analyzes return and risk characteristics of individual securities and portfolios and develops valuation models of various financial instruments.

737/837. International Financial Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: FIN 605. Examines such topics as the financial aspects of international business including financing and hedging activities of firms involved in international transfer of goods and services and decision making in connection with the asset management financing activities of multinational corporations.

740. Futures and Options. Lecture 3 hours; 3 credits. Prerequisite: FIN 605. In no area of finance is the interface between academic theory and real-world practice as close as in the case of futures and options. We have now reached a stage where it is essential that all finance professionals understand how these markets work, how they can be used, and what determines prices in them. This course addresses all these issues.

741. Corporate Financial Policy and Control. Lecture 3 hours; 3 credits. Prerequisite: FIN 605. The course will comprise mainly cases but there will be some lecturing particularly on material not covered in FIN 605.

795/895. Selected Topics in Finance. 3 hours; 3 credits. Prerequisites: Ph.D. standing and permission of the chair and coordinator. Designed to provide the advanced student with an opportunity to study independently or in small groups and investigate specific topics of current interest in the field of finance.

841. Seminar in Financial Theory. Seminar 3 hours; 3 credits. Prerequisite: FIN 738/838. This course discusses the building blocks which much of financial theory is based on. In addition, a number of current topics in the literature are analyzed. Students are expected to read many of the original journal articles.

860. Seminar in Financial Investments. Seminar 3 hours; 3 credits. Prerequisites: FIN 737/837 and 738/838. The purpose of this course is to be acquainted with recent theoretical and empirical literature on investments, portfolio management and speculative instruments. Emphasis will be placed on the development of methodological approaches to the various research problems.
Information Technology — IT

430/530. Object-Oriented Programming with JAVA. Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 261. An introduction to JAVA as an object-oriented language used to write JAVA applets and applications. Business examples incorporating multimedia, multitreading, networking, and advanced graphical interfaces are used to reinforce the object-oriented concepts of abstraction, encapsulation, inheritance, polymorphism, persistence, and dynamic binding.

610. Information Technology Management. Lecture 3 hours; 3 credits. Prerequisite: ACCT 601. Corequisite: MGMT 602. Information systems are introduced, illustrating both the technical and behavioral perspectives emphasizing awareness of the managerial, organizational, and technological dimensions. The role of information systems in decision support and strategic planning is explored.

612. Knowledge-Based Systems. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 610 or equivalent; graduate standing; or permission of the department. Introduction to Artificial Intelligence and Expert Systems. (cross-listed with MSCI 612)


661. Implementing Internet Applications. Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 610 or equivalent; prior programming experience; or permission of the department. 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.
Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. Available for pass/fail grading only.

672. Information Architectures. Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 650 or permission of the department. Modeling of information architectures for business. High-level modeling methodologies. Implications for database and object data management.

674. Strategic Information Systems. Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 620 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 prominent generic strategy models and how IS and IT aid in applying the principles of those generic strategic models.

695. Selected Topics in Information Systems. 3 credits. Prerequisite: permission of the department chair and the graduate program director.

697. Independent Study in Information Systems. 1-3 credits. Prerequisite: IT 650 or permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

698. Master's Project in Information Systems. 3 credits. Prerequisites: IT 650 and permission of the department.

699. Master's Thesis in Information Systems. 1-6 credits. Prerequisites: IT 650 and permission of the department.

795/895. Selected Topics in Management Information Systems. 3 credits. Prerequisite: permission of the department chair and the graduate program director.

Operations Management — OPMT

431/531. Planning and Control Systems. Lecture and discussion 3 hours; 3 credits. Prerequisites: OPMT 303T for 431 and OPMT 611 for 531. Introduces planning techniques in a production and inventory management system. Topics include aggregate planning, master scheduling, capacity planning, MRP, and demand management.

611. Operations Management with Quantitative Analysis. Lecture 3 hours; 3 credits. Prerequisite: DSCI 600. Introduces concepts and frameworks for making decisions concerning designing, planning and controlling service and manufacturing operations. Concepts and issues related to process, layout, materials management, capacity, and quality, and how they affect productivity and customer satisfaction are discussed. Quantitative techniques such as linear programming, PERT/CPM, and control charts are used to make appropriate decisions.

624. Managing Services. Lecture 3 hours; 3 credits. Prerequisite: OPMT 611. Discusses operations function in service organizations. Concepts and issues related to characteristics of services, managing demand, designing and delivering services, service process and quality, human resource management in service systems will be discussed.

667. Cooperative Education. 1-3 credits. Prerequisite: graduate standing. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment.

668. Operations Management Internship. 1-3 credits. Prerequisite: graduate standing. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment.

695. Selected Topics in Operations Management. 3 credits. Prerequisite: permission of the department chair and the graduate program director.

697. Independent Study in Operations Management. 3 credits. Prerequisite: OPMT 611. Affords students the opportunity to undertake independent study under the direction of a faculty member.

795/895. Topics. 3 credits.

Management — MGMT

413/513. Compensation Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: 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. Prerequisite: 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, current statutory employment law and common law employment issues, 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 processes. Topics include OD Theory, role of change agent, intervention processes, the consulting process, and design and implementation of OD change programs.

463/563. Management Seminar Abroad. Lecture and discussion 3 hours; 3 credits. Prerequisite: permission of the chief departmental advisor. A study tour abroad under the direction of a faculty member including on-site visits and management lectures designed to provide insight into differences in management practices in foreign countries. Offered summers only and when available.

602. Organizational Management. Lecture 3 hours; 3 credits. Examine issues and principles in the management of individuals, groups, and organizations. Topics include motivation and reward systems, groups dynamics and team building organization design and change.

618. Issues in Human Resource Management. Lecture 3 hours; 3 credits. Prerequisite: MGMT 602 or permission of the instructor. An analysis and evaluation of current human resource practices and problems. Examines topics such as human resource planning, selection, development, and compensation.

470. Strategic Planning and Incentives. Lecture 3 hours; 3 credits. Prerequisite: MGMT 602 or permission of the instructor. This course addresses how managers and organizations can enhance employee productivity and job satisfaction in a competitive global environment. Both the theories and practices of motivation and quality-of-work life will be examined.

668. Management Internship. 1-3 credits. Prerequisites: MGMT 602, graduate standing and permission of the department chair. This course is a practicum in management, applying theories, concepts, and management techniques in a business setting.

695. Selected Topics in Management. 1-3 credits. Prerequisite: permission of the department chair and the graduate program director. Study designed for students who have one or more of the required courses waived, or for students desiring additional work in an area of particular interest in management.

727. Seminar in Strategic Management. Lecture 3 hours; 3 credits. Prerequisite: MGMT 710 or BUSN 800 or permission of the instructor. This course deals with various strategic options available to businesses operating in an international environment. It explores the literature and case materials on multinational companies and the theories and concepts relevant to the analysis of international strategic decisions.

750. Business Policy and Strategy. Lecture 3 hours; 3 credits. Prerequisite: permission of the graduate program director. A capstone integrative course on strategy formulation and implementation.

830. Issues in Human Resource Management. Lecture 3 hours; 3 credits. An intensive examination of research and theory on human resource management. Selected topics may include strategic human resource management, recruitment, selection, training, career development, compensation, incentives, employee benefits, performance appraisal, performance management, industrial relations, employee relations and international human resource management.

835. Seminar in Organizational Behavior/Organizational Theory. Lecture 3 hours; 3 credits. A discussion of current theory and research in OB/OT. Topics include understanding values and attitudes, perception, motivation, goal setting, job redesign, group process, organizational design and structure, stress and conflict, and organizational change and development. Other topics of current research interest may also be included.

840. Strategy Formulation. Lecture 3 hours; 3 credits. Prerequisite: MGMT 830 or permission of the instructor. An analysis of theories and paradigms related to the formulation of strategy. Reviews previous studies in strategic management and conducts critical evaluation of current research. Future direction of strategy formulation will be explored.

842. Strategy Implementation. Lecture 3 hours; 3 credits. Prerequisite: MGMT 840. This course involves an intensive study of the theory and practice of strategy implementation, evaluation, and control processes that follow from strategy formulation.
688. Directed Research/Port Internship. 1-3 credits. Prerequisites: PORT 611, 612, 613, and 614. Practical field experience in international maritime, ports and logistics related challenges through supervised investigation and analysis of a problem or working internship within the port-related arena.

695. Selected Topics in Maritime and Port Management. 3 credits. Prerequisites: PORT 611 or 612. The advanced study of selected topics not offered on a regular basis.

697. Independent Study. 3 credits. Designed to provide the opportunity for independent study under the guidance of a member of the faculty.

Maritime and Supply Chain Management — MSCM

430/530. Purchasing Management. Lecture 3 hours; 3 credits. Prerequisites: ACCT 202 and OPMT 303T for 430 and ACCT 601 and OPMT 611 for 530. An overview of the purchasing function and its role in the supply chain. Topics include source decisions, price/cost analysis, quality issues, purchasing, information systems, legal and ethical issues, and acquisition of services and capital assets.

610. International Shipping and Supply Chain Management. Lecture 3 hours; 3 credits. Examines international freight transportation and terms for movement of international trade; focuses on improving supply chain relationships in the movement of international trade/directing the flow of information, materials and products. (cross-listed with MSCM 610)

611. International Maritime Transport. Lecture 3 hours; 3 credits. Prerequisites: an undergraduate course in the international field such as MGMT 361, MGMT 462, or a similar graduate course. Examines the international business of shipping, commercial processes, maritime-related organizations, shipbuilding and repair, ship types and fleets, and commodity movement.

612. Port Operations and Management. Lecture 1 hour; 3 credits. Prerequisites: an undergraduate or graduate course in management such as MGMT 325 or 602 and a course in operations management like OPMT 303T. Covers role, functions, and types of international terminals and ports, including design and operation of general and specialized cargo handling facilities and offshore systems, port authorities, operational structures, and labor.

613. International Maritime and Admiralty Law. Lecture 3 hours; 3 credits. Prerequisite: a basic law course such as FIN 331 or 332. International law of the sea, maritime jurisdiction, regulation of shipping, carriage of goods, marine insurance, salvage, marine environmental law, safety at sea, and the Oil Pollution Act of 1990 are covered, along with other maritime laws.

614. Port Planning and Economics. Lecture 3 hours; 3 credits. Prerequisite: an undergraduate or graduate course in microeconomics such as ECON 304 or 604. Port planning and competition, ports and ocean container shipping, port impacts, port users in theory, port cost accounting and pricing, port carriers and shippers, government and maritime institutions, dockworkers, port environment and port performance evaluation.

628. Marketing of Services. Lecture 3 hours; 3 credits. Prerequisite: MKTG 603. This course examines the application of marketing principles and techniques to service organizations. Topics covered include the nature of services, distribution, and promotion considerations. Class discussion revolves around a textbook, cases, and outside readings. Students take part in a major group project which will involve the development of a marketing plan for a service organization.

630. Ethics and Marketing Decision-Making. Lecture 3 hours; 3 credits. Prerequisite: MKTG 603. Marketers, probably more than other professionals, often are faced with decisions involving an ethical issue. This course has the following objectives: 1) to examine the ethical decision-making process of marketing professionals, 2) to study the major ethical issues confronting marketers, 3) to provide frameworks to help resolve the ethical dimensions of marketing decisions, and 4) to provide experience in making marketing decisions that involve ethical dilemmas through the use of case studies.

640. Global Marketing Management. Lecture and discussion 3 hours; 3 credits. Prerequisite: MKTG 603 or permission of instructor. Examines the global environment of business and its potential effects on marketing principles and practices. The course will include the effect of culture on marketing mix strategies.

645. Marketing Internship. Lecture 3 hours; 3 credits. Prerequisite: MKTG 603. Course examines the application of marketing theories to the internet. Topics include internet marketing strategy, electronic commerce, web page development, and the impact of the internet in the international marketplace.

668. Marketing — MKTG

603. Marketing Management. Lecture and discussion 3 hours; 3 credits. Fundamentals of marketing (including market research, product design, distribution, pricing and promotion of goods, services, people, places and ideas) with case analyses to clarify applications.

621. Managerial Problems in Marketing Strategy. Lecture 3 hours; 3 credits. Prerequisite: MKTG 603 or permission of instructor. Lecture, case analysis and discussion of marketing from the business executive's viewpoint. Recent developments in marketing and related disciplines and their application in management. Readings, case analysis, discussion.

625. Marketing Research Methods and Analysis. Lecture 3 hours; 3 credits. Prerequisites: MKTG 603 and DSCI 641. Examines the various methods of marketing research design. Covers experimental methods, sampling procedures, measurement techniques, and other methodological problems in marketing research. The student is introduced to data analysis and statistical modeling programs.

801. Seminar in Marketing Theory: History and Current Topics. Seminar 3 hours; 3 credits. Prerequisite: MKTG 603. This course focuses on the historical development of marketing from the 1840s to the latest publications in marketing journals. The topics covered include philosophy of science, truth in research, the development of marketing theory and practice, and the current direction in marketing theory and research opportunities.

802. Seminar in Marketing Concepts and Issues. Lecture 3 hours; 3 credits. This course examines the current academic research trends in the different functional areas of the marketing discipline. Topics covered include promotional theory, pricing theory, distribution theory, product theory, marketing strategy theory, marketing ethics, and multinational marketing.

803. Seminar in Consumer Behavior. Lecture 3 hours; 3 credits. Prerequisite: MKTG 603. The purpose of this course is to provide a comprehensive and up-to-date understanding of the major research work carried out in consumer behavior. It examines major psychological constructs and phenomena related to consumer behavior.
improvement of writing skills by understanding major grammar and mechanics errors, understanding the importance of audience, tone and style in professional writing and learning effective letter and memo formats used in professional writing. The course will also look at the process of conceptualizing new ideas and developing methodology for communicating and commercializing new ventures. This includes the process of assessing ideas, understanding opportunities, gathering resources, the skills needed at each stage, and successfully implementing a commercial idea. The focus will be on the practical tools needed to be a successful entrepreneur.

621. Effective Business Writing. Lecture 1 hour; 1 credit. This course is designed to provide an understanding of communications in the management setting. Objectives include leadership and tactics; and to begin developing negotiating skills. Through lectures, class discussions, reading and practical exercises, the student will be introduced to the concepts and structures of different types of negotiations; achieve an understanding of the basic principles of conducting and participating in successful negotiations; and gain experience from participation in negotiation exercises.

622. Business Plan Development. Lecture 1 hour; 1 credit. Prerequisite: completion of core MBA courses. This course is designed to provide an integration of skills needed to develop an effective business plan. Lectures plus students will be assigned clients of the Entrepreneurial Center. Some students may bring their own projects.

623. Essential Business Communication Skills. Lecture 1 hour; 1 credit. This course will introduce students to concepts and discussion of major communication issues that occur in the workplace and will help students to develop skills to deal with communication issues. Course skills would include how to listen effectively, understand nonverbal cues, manage conflict, and communicate non-defensively.

624. Employment Law and Regulation. Lecture 1 hour; 1 credit. This course will analyze the impact of employment-related statutes and case holdings on the business environment. Federal laws and guidelines relating to employment relations are numerous. This course, however, will focus on those that have the greatest impact on personnel decisions and which have increased risks faced by employers.

625. Leadership in Organizations. Lecture 1 hour; 1 credit. Students will develop a practical understanding of significant research and documented practical experience have shown to be characteristic of effective leadership behavior in a range of organizational contexts. They will better evaluate their own and other's leadership in organizational settings.

626. Resolving Business Disputes: Alternatives to Litigation. Lecture 1 hour; 1 credit. An introduction to alternative dispute resolution (ADR), the name given to a variety of non-litigation processes, institutionalized to varying degrees, which lead to resolution of disputes.

627. Business Ethics. Lecture 1 hour; 1 credit. An examination and practical application of classical and modern ethical theories as criteria for decision making in a variety of current business situations.

628. Business in Global Cultures. Lecture 1 hour; 1 credit. One of the critical elements in conducting international business is sufficient preparation in learning the host country's culture. This course is designed to introduce students to concepts and methods of understanding and comparing cultures around the globe. The course draws heavily on the works of cross-cultural psychologists.

630. Issues in International Business. Lecture 1 hour; 1 credit. Prerequisites: MKGT 602 and MKTG 603. This course explores the impact of exposure to real life constraints on business development in the global arena. The course will examine development models, including wholly owned subsidiaries and joint ventures, and historical evolution of these models. It will explore the decision factors which are driving multinational company strategies and will discuss likely future trends in global business development.

631. Negotiation. Lecture 1 hour; 1 credit. Prerequisite: MKTG 602. Designed to introduce the student to the concept of negotiation; to examine different types of negotiations, strategies and public administration.  

640. Data Analysis for Public Managers. Lecture 1.5 hours; 1.5 credits. This short course provides an intro to quantitative analysis using spreadsheets. It is intended for those students who have no background in data analysis and statistics as well as those students who may have taken a statistics course in their undergraduate studies but desire a refresher. This course emphasizes practical applications providing skills appropriate for the quantitative analysis of data. Laboratory assignments include univariate and bivariate analysis and an introduction to regression analysis.

662. The Environment of Public Administration. Lecture 3 hours; 3 credits. Analysis of environmental factors influencing decision making in public bureaucracies. Special emphasis is placed on the civil service system, legal issues, regulatory practices and intergovernmental arrangements.

651. Administrative Theory I: The Context of Public Administration. Lecture 3 hours; 3 credits. Introduction to the profession of public administration; the evolution and development of the field, the role of organizations in contemporary American government, and the roles of politics and administration. The course also provides an introduction to the necessary skills for successful graduate study.

652. Administrative Theory II: The Process of Public Administration. Lecture 3 hours; 3 credits. Prerequisite: PADM 651. Introduction to management in the public sector. Topics include: organizing public agencies, managing people and work groups, introduction to organizational systems (human resources, budget, and information systems), and effective leadership and decision-making processes.

653. Creative Thinking in Business Decisions. Lecture 1 hour; 1 credit. Develops understanding and skills in applying a complete process of creative and critical thinking, problem solving and decision making in real world business situations. Uses a disciplined process of thinking, emphasizing both divergence and convergence. Emphasizes the concept of creative and critical thinking as being distinct from content involvement. Individuals will be better equipped to help their organizations, teams, and selves be more effective, adaptable and flexible in the short and long run.

Public Administration — PADM

410. Data Analysis for Public Managers. Lecture 1.5 hours; 1.5 credits. This short course provides an intro to quantitative analysis using spreadsheets. It is intended for those students who have no background in data analysis and statistics as well as those students who may have taken a statistics course in their undergraduate studies but desire a refresher. This course emphasizes practical applications providing skills appropriate for the quantitative analysis of data. Laboratory assignments include univariate and bivariate analysis and an introduction to regression analysis.

610. The Environment of Public Administration. Lecture 3 hours; 3 credits. Analysis of environmental factors influencing decision making in public bureaucracies. Special emphasis is placed on the civil service system, legal issues, regulatory practices and intergovernmental arrangements.

611. Administrative Theory I: The Context of Public Administration. Lecture 3 hours; 3 credits. Introduction to the profession of public administration; the evolution and development of the field, the role of organizations in contemporary American government, and the roles of politics and administration. The course also provides an introduction to the necessary skills for successful graduate study.

612. Administrative Theory II: The Process of Public Administration. Lecture 3 hours; 3 credits. Prerequisite: PADM 651. Introduction to management in the public sector. Topics include: organizing public agencies, managing people and work groups, introduction to organizational systems (human resources, budget, and information systems), and effective leadership and decision-making processes.

653. Creative Thinking in Business Decisions. Lecture 1 hour; 1 credit. Develops understanding and skills in applying a complete process of creative and critical thinking, problem solving and decision making in real world business situations. Uses a disciplined process of thinking, emphasizing both divergence and convergence. Emphasizes the concept of creative and critical thinking as being distinct from content involvement. Individuals will be better equipped to help their organizations, teams, and selves be more effective, adaptable and flexible in the short and long run.
course also examines organizational behavior, design, structure and evaluation.

668. Internship/Field Experience. 3 or 6 credits. Required of all students without previous experience in government service. Supervised work experience in a public agency. A written report will be required.

671. Public Budgeting and Financial Management. Lecture 3 hours; 3 credits. The purpose of this course is to examine the institutions, principles, and techniques of national, state, and local budgeting processes and financial administration. The course explores the allocation as well as the re-distributive role of government and the market. While applying information technology, students will analyze the practices and fundamental concepts of government budgeting, financial management, and public finance, with an emphasis on revenue, expenditure, capital budgeting and debt structures.

695. Advanced Topics. Lecture and discussion; 1-3 credits. Topics vary each semester.

696. Directed Readings. 1-3 credits. Specifically planned readings for the graduate student who wishes to pursue special interests outside the scope of formal studies. Supervised on an individual basis.

698. Directed Research. 1-6 credits. Supervised research on a specific program. A written report will be required.

699. Thesis. 6 credits. An approved research project, written under the supervision of a faculty committee, in which the student demonstrates the capability to conduct a complete independent scholarly investigation. The completion of the project must be approved by the thesis committee.

701. Public Policy and Evaluation. Lecture and discussion 3 hours; 3 credits. Exploration of key theories and approaches to public policy. This course covers all phases of the policy process, from formulation to evaluation, with particular focus upon the substance, political dynamics, and evolution of public policy.

704. Methods of Public Program Evaluation. Lecture 3 hours; 3 credits. Prerequisite: PADM 753/853. Examination of various methodologies for designing and conducting program evaluation and research. Experimental, quasi-experimental and nonexperimental procedures will be discussed.

711. Urban Services Administration. Lecture and discussion 3 hours; 3 credits. Analysis of the range of administrative tools and strategies for the delivery of urban services. Emphasizes new administrative alternatives under conditions of urban change.

712. Emergency Management and Policy. Lecture 3 hours; 3 credits. Explores policy and regulatory issues of emergency management; intergovernmental responsibilities and relationships among local, state and federal agencies in an “all hazards” approach to preparing and responding to manmade and natural disasters. Examines challenges faced by local, state, and federal managers during a large scale disaster.

714. Privatization. Lecture 3 hours; 3 credits. An in-depth analysis of the forces behind the privatization movement. Examines the context of privatization, the theoretical and empirical arguments on both sides of the debate, and the different forms of privatization practiced in the U.S. The course draws on a wide range of disciplines in a quest for an understanding of the privatization phenomenon—political science, public administration, public policy, sociology, economics, management, and others.

715. Management of Nonprofit Organizations. Lecture 3 hours; 3 credits. Explores the history and role of the nonprofit sector; the management of nonprofit entities including strategic planning, marketing, financial management and the management of nonprofit organizations. The course examines the differences and similarities between public, private and nonprofit sectors; and reviews issues facing nonprofit organizations within the context of current social, political and economic environments.

718. Contract Management. Lecture 3 hours; 3 credits. Examines public sector contracting including preliminary design of contracts, contract budgeting, developing specifications, scope of services, bid solicitation, RFPs, evaluation of bids, and awarding and administering contracts. Reviews state and federal laws pertaining to governmental contracting, and examines minority procurement programs, local preference issues, and the impact of fraud, waste and abuse in public sector contracting.

719. Leadership. Lecture 3 hours; 3 credits. Examines leadership through theoretical and practice-based frameworks. Offers analytical and in-depth case-based considerations of core issues in the practice of leadership. These objectives will be achieved through open discussion, honest self-assessment, experiential exercises, and observation of real-life leadership practice.

720. Public Personnel Administration. Lecture 3 hours or 3 credits. Examines the basic framework of the public personnel system beginning with the legal requirements imposed by federal and state laws and regulations. General considerations of policy and procedures development, the organization of the public personnel system, and the importance of ethical values employed in public personnel administration. The course will be a case approach to public sector personnel administration and training.

721. Ethics in Public Administration. Lecture 3 hours; 3 credits. Prerequisite: PADM 651. This course reviews the theory and application of ethics in the public sector, identifying problems and how they apply in the administration of government. It reviews sources of values employed in public sector decision-making, and reviews how values in public administration are managed and applied. Systems of professional ethics are reviewed. Case studies and best practices are examined to help the student understand the application of administrative ethics in public management.

725. Business, Government, and Society. Lecture 3 hours; 3 credits. Prerequisite: six completed hours of graduate work in MBA or MPA program. An overview of business-government-society interactions, with special attention to the differences and similarities between public policy and corporate strategy on corporate social responsibility. An important theme is the ethical component of management decision making.

730. Theories of Conflict Resolution and Problem Solving. Lecture 3 hours; 3 credits. An introduction to the field of alternative dispute resolution methods and problem solving. The first part of the course focuses on conflict theory at all levels of human social systems and the second part examines collaborative problem solving strategies.

733. Legal and Ethical Foundations of Public Administration. Lecture 3 hours; 3 credits. Introduces the role of law in ordering public administration through the application of constitutional values and administrative law principles in administrative practice. Introduces ethical theories and applications in the public sector, examining values within administrative entities, and ethical theories and applications in public administration through the application of constitutional law, administrative law, and the common law to public administration.

734. Negotiation and Dispute Resolution. Lecture 3 hours; 3 credits. Prerequisite: PADM 730. The course provides conceptual and practical skills in negotiations. It examines the underlying principles and strategies of mediation and arbitration, and other techniques used in delivering public services. The course explores administrative responsibility and accountability in digital government, and problems in managing technology in the public sector. Issues concerning privacy, freedom of information and organizational problems that affect managing human resources in the workplace.

735. Digital Government. Lecture 3 hours; 3 credits. This course provides public administrators knowledge of current technology issues in the public sector, and familiarizes them with the technological tools used in delivering public services. The course explores administrative responsibility and accountability in digital government, and problems in managing technology in the public sector. Issues concerning privacy, freedom of information and organizational problems that affect managing human resources in the workplace.

738. Conflict Mediation and Arbitration. Lecture 3 hours; 3 credits. Prerequisite: PADM 730. Surveys the field of third-party intervention in dispute resolution. Provides skills in mediation and arbitration. Examines the nature and effectiveness of mediation in a wide variety of disputes including labor relations, community, family, environmental, and international conflicts.

745. Managing Development and Change in Public Organizations. Lecture/cases/activities; 3 credits. Examination of the theory and practice of organization development. Students will take the role of change agent and public manager and apply a range of organization development techniques to public agency situations while giving attention to the particular cultural, political and organizational characteristics of public organizations.

746. Capstone Seminar in Public Administration. Lecture 3 hours; 3 credits. Prerequisite: completion of 30 hours in the MPA program or permission of instructor. Presents an integrated approach to the field of public administration, and examines the political, administrative, and social implications of administrative choices. The emphasis of the course will be a case approach to public administration and public management.

753. Research Methods in Public Administration. Lecture 3 hours; 3 credits. Prerequisite: PADM 410 or equivalent course work. The course covers various methods for designing and conducting research, collecting and organizing data, and disseminating results. Information technology and applications to practical management problems and public research topics are emphasized.

781. Intergovernmental Management. Lecture 3 hours; 3 credits. Analysis of relationships among federal, state, and local governmental units in the delivery of governmental programs. Focus on intergovernmental issues in urban metropolitan regions.

795. Advanced Topics in Public Personnel Administration. Lecture 3 hours; 3 credits. An examination of selected topics including job
analysis, position classification, test construction, performance appraisal, and affirmative action. The course emphasizes the everyday application of these topics through in-class exercises and short papers. Permission of advisor is required.

**Public Administration and Urban Policy — PAUP**

801. Public Policy and Evaluation. Lecture 3 hours; 3 credits. Exploration of key theories and approaches to public policy. This course covers all phases of the policy process, from formulation to evaluation, with particular focus upon the substance, political dynamics, and evolution of public policy.

802. Urban Resource Allocation. Lecture 3 hours; 3 credits. This course has three basic emphases: (a) theories of resource allocation; (b) analytical techniques useful in resource allocation analysis; and (c) methods of control for resource allocation. Includes techniques of cost effectiveness, budgeting, expenditure analysis as they relate to the urban environment.

804. Methods of Urban Program Evaluation. Lecture 3 hours; 3 credits. Prerequisite: PADM 753 or URBN 607. Examination of various methodologies for formulating and conducting public urban program evaluation and research. Experimental, quasi-experimental and nonexperimental procedures will be covered.

805. Urban Law and Public Policy. Lecture 3 hours; 3 credits. Focuses on legal aspects of urban policy by analyzing primary legal materials, including administrative regulations and legislative and administrative regulations. Skills of legal interpretation and legal draftsmanship are developed.

806. Logic of Social Inquiry. Lecture 3 hours; 3 credits. Social inquiry, the production and application of social science knowledge in the field of public administration/urban management and urban policy, and recent trends in policy analysis, are examined with a view to uncovering philosophical and paradigmatic points of view. The goal of this course is to provide a forum for students to review and critique the major issues within social inquiry: ways of knowing (questions of epistemology and methodology), ways of deciding what is known and what is justifiably known.

807. Urban Theory and Practice. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor or graduate program director. The purpose of this course is to convey an understanding of urban theory and practice in the culturally diverse urban environment. The course focuses on the process of urbanization, social differentiation, and social and political organization. Special emphasis is given to the role of technology in contributing to urban change.

808. Administrative Theory and Behavior. Lecture 3 hours; 3 credits. The course reviews the broad topics of administration theory, behavior and practice in organizations and focuses on the development of management thought, as well as the macro and micro organizational processes in public and non-profit organizations.

810. Public Law and Urban Governance. Lecture 3 hours; 3 credits. Public law defines the structure and authorized practices of public institutions in urban settings. The course reviews the legal basis of central and local government in the U.S., of cities, counties, public authorities and special districts, and of nontraditional forms of governance including principal-agent relations in the production of public services, regulatory governance, delegation of public authority to private entities, and citizen roles in governance.

811. Urban Services Administration. Lecture and discussion 3 hours; 3 credits. Analysis of the range of administrative tools and strategies for the delivery of urban services. Emphasizes new administrative alternatives under conditions of urban change.

820. Public Personnel Administration. Lecture 3 hours; 3 credits. Examines the basic framework of the public personnel system beginning with the legal requirements imposed by federal and state laws and regulations. General considerations of policy and procedures development, the organization of the public personnel system, the adoption of the personnel ordinance, the determination of various levels of employee status and the coverage of the personnel system are included.

823. Ethics in Public Administration. Lecture 3 hours; 3 credits. Prerequisite: PADM 651. This course reviews the theory and application of ethics in the public sector, identifying public values and how they apply in the administration of government. It reviews sources of values employed in public sector decision-making, and the processes in which public administration are managed and applied. Systems of professional ethics are reviewed in the context of public professions. Case studies and best practices are examined to help the student understand the application of administrative ethics in public management.

824. Administration of Human Services. Lecture 3 hours; 3 credits. Analysis of human services involving direct client/agency interaction. Problems of discretion and control are examined as alternative service delivery strategies which can deal with these problems.

825. Business, Government, and Society. Lecture 3 hours; 3 credits. Prerequisite: six completed hours of graduate work in MBA or MPA program. An overview of business-government-society interactions, with special attention to the influence of public policy and corporate strategy on corporate social responsibility. An important theme in the course is the ethical component of management decision making.

830. Theories of Conflict Resolution and Problem Solving. Lecture 3 hours; 3 credits. An introduction to the field of alternative dispute resolution methods and problem solving. The first part of the course focuses on conflict theory at all levels of human social systems and the second part examines collaborative problem solving strategies.

833. Legal Foundations of Public Administration. Lecture 3 hours; 3 credits. Focus on the processes of law and law application by the executive departments of government and especially the independent regulatory agencies, and their control by legislature and court. Examination of the political origins and constitutional status of administrative agencies and of administration discretion.

834. Negotiation and Dispute Resolution. Lecture 3 hours; 3 credits. Prerequisite: PADM 730. The course provides conceptual and practical skills in negotiations. It examines the underlying cultural, legal, and organizational issues and problems that affect managing human resources in the workplace.

837. Digital Government. Lecture 3 hours; 3 credits. This course provides public administrators knowledge of current technology issues in the public sector and familiarizes them with technological tools used in delivering public services. The course explores administrative responsibility and accountability in digital government, and problems in managing technology in the public sector. Issues concerning citizen privacy, freedom of information requirements, planning, coordinating and sharing information among public sector agencies and the private sector, and building community networks are reviewed.

838. Conflict Mediation and Arbitration. Lecture 3 hours; 3 credits. Prerequisite: PADM 730. Surveys the field of third-party intervention in dispute resolution. Provides practical skills in mediation and arbitration. Examines the nature and effectiveness of mediation in a wide variety of disputes including labor relations, community, family, environmental, and international conflicts.

845. Managing Development and Change in Public Organizations. Lecture/cases/activities; 3 credits. Examination of the theory and practice of organization development. Participants will take the role of change agent and public manager and apply a range of organization development techniques to public agency situations while giving attention to the particular cultural, political, legal and organizational characteristics of public organizations.

853. Research and Evaluation Design. Lecture 3 hours; 3 credits. The course examines advanced research design and evaluation methods used in public administration and management research. Experimental, quasi-experimental, and non-experimental procedures in the context of urban settings will be emphasized. Includes usage of various statistical software.

868. Urban Services Internship. 3 credit hours. Urban field experience for students in the Ph.D. in Public Administration and Urban Policy program. Supervised work experience in a public agency. A written report is required.

881. Intergovernmental Management. Lecture 3 hours; 3 credits. Analysis of relationship among federal, state, and local governmental units in the delivery of governmental programs. Focus on intergovernmental issues in urban metropolitan regions.

890. Dissertation Seminar. 3 credit hours. A multidisciplinary seminar that focuses on the design, implementation, and evaluation of urban programs under real-life conditions in the field. Students and faculty work with urban decision makers utilizing problem-solving skills and analysis.


899. Dissertation. 1 to 12 credits. An approved research project, written under the supervision of a faculty advisor, in which the student demonstrates the capacity of design and completes independent applied research. The completed project must be approved by the dissertation committee.

999. Public Administration and Urban Policy 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is completed.

**Taxation-TAX**

650. Tax Strategies for Business Decisions. Lecture 3 hours; 3 credits. Prerequisite: ACCT
Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Covers federal income taxation of corporations and shareholders. Includes organizing a corporation; establishing capital structure; determining tax liability; dividends and other non-liquidating distributions; stock redemptions; and liquidations.

652. Taxation of Partners and Partnerships. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Taxation of partners and partnerships: formation, termination, distributions and liquidations, and sales of partnership interests. Limited partners are discussed with their use as tax shelters, and the multifaceted attributes of family partnerships.

653. Taxation of Estates and Gifts. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Examines transfers under federal estate and gift tax laws. Includes property owned by the decedent; retained powers; transfers taking effect at death; transfers with retained powers; concurrent property interest; powers of appointment; valuation problems; expenses, debts, and taxes; charitable bequests; marital deduction; taxable inter vivos gifts; gift splitting and credits; consideration of Chapter 14 and asset freezing techniques for life insurance.

654. Income Taxation of Estates, Trusts & Beneficiaries. Lecture 3 hours; 3 credits. Prerequisite: TAX 653. Examines simple, complex, and revocable trusts; trusts accumulation distributions; income in respect of decedents; trust accounting income; distributable net income; terminations; excess deductions; basis rules; and the decedent’s final income tax return.

655. Taxation of Corporations II. Lecture 3 hours; 3 credits. Prerequisite: TAX 651. Analyzes the different types of taxable and tax-free acquisitions and reorganizations. Includes determining tax consequences for corporations and shareholders involved in an acquisition or reorganization; analyzing necessary requirements for a tax-free corporate division (spin-off). Covers aspects of filing consolidated federal income tax returns.

656. Taxation of Deferred Compensation. Lecture 3 hours; 3 credits. Prerequisite: TAX 651. Discusses federal income taxation of deferred compensation plans with emphasis on qualified retirement plans. Reviews plan qualification requirements, reporting and disclosure requirements, and distribution rules. Includes discussion of specific types of plans such as Sec. 401(K) and ESOPs.

657. State and Local Taxation. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Examines state levying of individual income, corporate income, property, sales, and excise taxes.

658. Tax Aspects of International Business. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Taxation of foreign persons conducting business in the U.S. including FIRPTA; source of income rules, and residency requirements; taxation of U.S. individuals and businesses doing business abroad including FSCs, CFCs, FHP Co’s and possessions corporations.

660. Taxation of Property Transactions. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Covers determination of realized and recognized gains and losses and their tax treatment on property dispositions. Includes consequences of property transactions, such as depreciation, depletion, basis and capital gains properties.

661. Taxation of the Small Business Corporation. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Covers federal income taxation of S corporations including election eligibility; termination of status; treatment of income and deduction items; distributions; and basis of stock and debt. Also discusses compensation arrangements in closely held corporations; fiscal year issues; personal service corporations; the advantages of C corporations versus S corporations; corporation liquidation and redemption rules; and the S corporations’s built-in gains tax.

662. Tax Procedure and Practice. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Discusses procedures for dealing with the IRS. Includes sources of IRS policy; processing returns; auditing returns; rulings and determination letters; assessments and collections; and interest and civil penalties.

675. Selected Topics in Taxation. Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521 or equivalent. Examines the unique rules applicable to federal taxation of farmers and ranchers. Also, covers the basics on the new Limited Liability Company and Virginia law on LLCs. Topics may vary each year.

691. Independent Study. 3 credits. Prerequisites: ACCT 421/521 or equivalent and approval of instructor. Individually supervised research projects in selected tax areas. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Urban Studies — URBN

The following courses are coordinated through the Department of Urban Studies and Public Administration.

607. Urban Research Methods II. Lecture 3 hours; 3 credits. Focus on research design, methods, and data collection and problems of measurement.

632. Environmental Planning. Lecture 3 hours; 3 credits. Environmental analysis and the planning process; administrative agency structure, policy development, regulation and enforcement, content and use of the environmental impact statement.

633. Methods of Urban Planning. Lecture 3 hours; 3 credits. A survey of the methods of local planning in the governmental and administrative setting. The course is geared toward the administrator and technician in dealing with urban planning problems.

708. Urban and Regional Economic Development. Lecture 3 hours; 3 credits. This course examines the theory and practice of urban and regional economic development. The tools, institutions, and analytical techniques of urban and regional economic development are examined in light of relevant public policy issues.

711. Urban Services Administration. Lecture and discussion 3 hours; 3 credits. Analysis of the range of administrative tools and strategies for the delivery of urban services. Emphasizes new administrative alternatives under conditions of urban change.

724. Administration of Human Services. Lecture 3 hours; 3 credits. A survey of the delivery of human services involving direct client/agency interaction. Problems of discretion and control are examined as alternative service delivery strategies which can deal with these problems.
The Darden College of Education offers the Master of Science (M.S.), Master of Science in Education (M.S.Ed.), and Educational Specialist (Ed.S.) degrees as well as the Doctor of Philosophy (Ph.D.) degree in the following broad concentrations and areas:

Counseling
- Ph.D. in Counseling
- Ed.S. Counseling
- M.S.Ed. Counseling

Community College Leadership
- Ph.D. in Community College Leadership

Curriculum and Instruction
- Ph.D. in Curriculum and Instruction

Early Childhood Education
- Ph.D. in Early Childhood Education
- M.S.Ed. Early Childhood Education with PK-3 licensure

Educational Leadership
- Ph.D. in Educational Leadership
- Ed.S. Educational Leadership
- Ed.S. Educational Leadership with PreK-12 licensure
- M.S.Ed. Educational Leadership with PreK-12 Licensure
- M.S.Ed. Field-Based Elementary/Middle School for Licensed Teachers
- M.S.Ed. Field-Based Secondary for Licensed Teachers
- Educational Leadership licensure only (non-degree)

Field-Based Masters Programs

Higher Education
- Ph.D. in Higher Education
- Ed.S. Higher Education
- M.S.Ed. Higher Education

Instructional Design and Technology Programs
- Ph.D. in Instructional Design and Technology
- M.S.Ed. Elementary/Middle School Instructional Design and Technology
- M.S.Ed. Secondary Instructional Design and Technology

Library Science – School Librarianship
- M.S.Ed. K-12 Endorsement for licensed teachers
- M.S.Ed. Initial Licensure for non-teachers
- Library Science Endorsement for licensed teachers (non-degree)

Military Career Transition Program
- M.S.Ed. Initial Licensure Program (Prek-6)
- M.S.Ed. Initial Licensure Program - Middle School (Grades 6-8)
- M.S.Ed. Initial State Licensure 6-12

Occupational and Technical Studies
- Ph.D. in Occupational and Technical Studies
- M.S. Business and Industry Training
- M.S. Community College Teaching
- M.S. Middle/Secondary Education

Physical Education
- M.S.Ed. Athletic Training
- M.S.Ed. Athletic Training with Initial Virginia Licensure in Physical Education and
Health Education (PreK-12)
M.S.Ed. Exercise Science and Wellness
M.S.Ed. Physical Education and Health Education Curriculum and Instruction (PreK-12)
M.S.Ed. Physical Education and Health Education Curriculum and Instruction with Initial Virginia Licensure (PreK-12)
Ph.D. in Human Movement Science
M.S.Ed. Recreation and Tourism Studies
M.S.Ed. Sport Management

PreK-6 (Elementary) and Middle School Programs
M.S.Ed. Fifth Year Initial Licensure Elementary (PreK-6)
(Continuation of undergraduate Interdisciplinary Studies program)
M.S.Ed. Initial Licensure - PreK-6
M.S.Ed. Initial Licensure – Middle School (6-8)
M.S.Ed. Licensed Teachers - Elementary/Middle School – General
M.S.Ed. Elementary/Middle School – Science

Reading Education
Ph.D. Literacy Leadership
M.S.Ed. Reading plus Reading Specialist Endorsement
Endorsement – Reading Specialist K-12 (non-degree)

Secondary Education Programs
M.S.Ed. Initial State Licensure 6-12
M.S.Ed. Licensed Teacher –6-12

Special Education
Ph.D. in Special Education
M.S.Ed. Special Education–research emphasis for currently licensed teachers
M.S.Ed. Special Education with initial K-12 licensure
Darden College of Education

120 Education Building
757-683-3938 (office)
757-683-5083 (fax)

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. The Office of Teacher Education Services and Advising 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. The college also houses Programs for Research and Evaluation in Public Schools (PREPS), a research center charged with assisting school divisions within the Commonwealth of Virginia to meet the requirements of PL 107-110, the No Child Left Behind Act of 2001. The college is the headquarters for Virginia Troops to Teachers and houses Career Switchers, an accelerated alternate pathway to teacher licensure.

Mission. The Darden College of Education is committed to excellence in teaching, research, public service, and leadership. 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 education 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. In addition to teacher education, the Darden College of Education also prepares individuals to work in agencies and other settings.

Goals. The teacher preparation programs embrace several broad goals. Candidates will possess the following:

a) Knowledge of their teaching field(s);

b) Pedagogical knowledge of principles and strategies which pertain to classroom organization and instructional practices;

c) Knowledge of curricular content, classroom organization, instructional materials, and industrial technology;

d) Knowledge of learners’ developmental characteristics and diversity;

e) 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;

f) Knowledge of educational values, purposes, ends, history, and philosophies which pertain to schooling in a democracy;

g) Ability to conduct research and utilize research findings in decisions to improve long-range planning, school operation and student learning;

h) 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 eleven broad majors for the Master of Science in Education, three majors in the Master of Science in Special Education, and a Ph.D. in educational studies. The Department of Philosophy degree is offered in 11 areas. Within these graduate majors are over 50 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 Admissions 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 sciences, sciences, technology education, and theatre. To be considered under the Fast Track graduate admissions 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 PreK-3/early childhood education, PreK-6 elementary education, middle school education, secondary education, or special education.

In addition, to be considered for Fast Track graduate admission, an applicant must (1) have a minimum 3.20 undergraduate cumulative GPA at Old Dominion University; and (2) have passing scores in EACH of the three sections of the PRAXIS I examination (or equivalent SAT/ACT test scores) as established by the Commonwealth of Virginia. Composite scores will not be considered.

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 Science, 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 pursuing 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 admissions, continuance, 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.

Department of Early Childhood, Speech-Language Pathology and Special Education

Katharine C. Kersey, Chair
Child Study Center
757 683-4117

The Department of Early Childhood, Speech-Language Pathology and Special Education (ESSE) is housed in the Lions Child Study Center (45th St. and Hampton Blvd.), a building that was made possible through the generosity of civic clubs, alumni, patrons and students and which opened in 1997. The clinical programs, housed in the center, give students valuable practical experience, deliver needed professional and educational services to members of...
Students with an undergraduate degree from a regionally accredited college or university may apply to the Master of Science in Education with early childhood education concentration. Those who have completed the undergraduate degree in interdisciplinary studies at Old Dominion University will have completed all of the necessary prerequisite coursework required by the state of Virginia and will be qualified to apply for entrance into the master’s program. (Please see the College of Arts and Letters section of the catalog for baccalaureate degree requirements in interdisciplinary studies.) Students are encouraged to obtain current program information from the Early Childhood Program website at: http://education.odu.edu/esse/academics/degrees/ecedeg.shtml

**Admission.** Admission to the graduate program in early childhood education is granted by the department’s graduate program director in conjunction with early childhood education faculty. Individuals entering this master’s program in early childhood education must already possess a bachelor’s degree in the liberal arts and sciences (or equivalent). For those who desire to be licensed in the state of Virginia, prerequisite coursework must meet the Virginia state competencies for PreK-3 and must fulfill the following requirements (subject to change according to Virginia Department of Education guidelines): English – 12 semester hours; Mathematics – 9 semester hours; Science – 9 semester hours; History – 6 semester hours; Social Science – 6 semester hours and Computer/technology – 3 semester hours. Students who are already licensed or who do not wish to be licensed to teach in the Commonwealth of Virginia will have more flexibility in their course work and will be advised according to their needs and career choices.

The following requirements are necessary for admission to the program.

**Regular admission requires:**

1. a baccalaureate degree from an institution accredited by a regional accrediting body or an equivalent degree from a foreign institution, which includes (for students seeking licensure in the state of Virginia) the prerequisite course work required to meet the Virginia state competencies for PreK-3 (as listed above);
2. an undergraduate grade point average of 2.80 or better;
3. a Graduate Record Examination (GRE) score of at least 900 (verbal and quantitative sections with a minimum verbal component of 450) and 4.5 on the analytical writing section OR a Miller analogies Test (MAT) minimum score of 396;
4. successful completion of the Praxis 1, SAT or ACT exam, as determined by the Virginia Department of Education; and,
5. a 400-500 word goal statement indicating why the student wishes to enroll in the early childhood education program.

**Provisional admission requires:**

1. a baccalaureate degree from an institution accredited by a regional accrediting body or an equivalent degree from a foreign institution, which includes (for students seeking licensure in the state of Virginia) the prerequisite course work required to meet the Virginia state competencies for PreK-3 (as listed above);
2. an undergraduate grade point average of 2.80 or better;
3. a Graduate Record Examination (GRE) score of at least 800 (verbal and quantitative sections with a minimum verbal component of 400) and 4.0 on the analytical writing section OR a Miller analogies Test (MAT) minimum score of 396;
4. successful completion of the Praxis 1, SAT or ACT exam, as determined by the Virginia Department of Education; and,
5. a 400-500 word goal statement indicating why the student wishes to enroll in the early childhood education program.

**Continuance.** Students must:

1. maintain a grade point average of 3.00 overall;
2. earn no more than two grades below B-. Students must retake courses in which grades below B- are earned and receive grades of B- or higher. Obtaining three grades below B- leads to expulsion from the program. Coursework may be repeated;
3. for licensure (PK-3), successfully complete Practicum with a grade of B or better in order to be approved for student teaching; and,
4. complete all prerequisite content courses with a grade of C- or better before student teaching.

**Exit.** Students must:

1. have a grade point average of 3.00 overall and a grade of B- or better in all course work;
2. successfully complete all program requirements, including undergraduate content course deficiencies, the comprehensive examination and internship/student teaching experience;
3. complete a Graduate Student Assessment;
4. for licensure (PK-3), successfully pass Praxis II (Elementary 0014) (scores to be determined by the Virginia Department of Education);
5. successfully pass the Virginia Communication and Literacy Assessment and the Virginia Reading Assessment (as required by the Virginia Department of Education for licensure); and
6. submit a professional portfolio according to program guidelines prior to the awarding of the master’s degree in early childhood education.

Comprehensive Examination. All students seeking a master’s degree in early childhood education are required to complete successfully a written comprehensive examination. Questions will be congruent with the student’s academic and professional preparation. If not passed during the first administration, a student may repeat the exam only one time. Failure to successfully pass the comprehensive examination will result in not completing the requirements for the Master of Science in Education.

Program Requirements
For all students who have the prerequisite course work, the master’s degree requires a minimum of 30 semester hours of graduate study in early childhood education to complete licensure. Students are expected to demonstrate dedication to early childhood environments, professional and ethical behavior, and dispositions commensurate to that expected for teachers of young children.

Curriculum

Prerequisite Courses - 12 credits

ESSE 468/568 Language Acquisition and Reading 3
ESSE 474/574 Foundations and Contemporary Issues in ECE 3
ECI 304 Educational Applications of Computers or ECI 530 Instructional Technology and the Classroom 3

Required Courses - 15 credits

ESSE 586 Teacher Candidate Internship for Special Endorsement 6
ESSE 677 Advanced Child Theory 3
ESSE 679 Advanced Classroom Management w/Practicum 3
ECI 680 Reading to Learn Across the Curriculum or Diagnostic Teaching of Reading in the Classroom 3

Elective Courses - 15 credits

ESSE 492/592 Integrating Mathematics and Science Across the Curriculum PK-3 3
ESSE 493/593 Integrating Children’s Literature, Language Arts and Social Studies Across the Curriculum PK-3 3
ESSE 506 Students with Diverse Learning Needs in the Gen. Ed. Classroom 3
ESSE 670 Assessment and Evaluation 3
ESSE 688 Practicum in Early Childhood Education 6
ESSE 690 The Child and the Family 3

Early Childhood Education Licensure Only
Katharine C. Kersey, Graduate Program Director

Many students who already possess 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 and must meet the college’s policy for admitting students into a baccalaureate degree program. Admission to Old Dominion University for licensure only is available for those students who wish to pursue licensure and do not meet the master’s degree admission requirements or who do not wish to pursue the master’s degree.

Admission. Individuals entering this graduate program must already possess a bachelor’s degree from a regionally accredited college/university in the liberal arts and sciences (or equivalent). Prerequisite course work must meet the Virginia state competencies for PreK-3 and must fulfill the following requirements (subject to change according to Virginia Department of Education guidelines): English – 12 semester hours; Mathematics – 9 semester hours; Science – 9 semester hours; History – 6 semester hours; Social science – 6 semester hours; Arts and humanities – 6 semester hours; and Computer/technology – 3 semester hours.

Regular admittance requires:
1. admission to Old Dominion University as a non-degree seeking graduate;
2. cumulative GPA of 2.8 for all college credit courses taken in the baccalaureate degree program;
3. successful completion of Praxis I, SAT or ACT exam, as determined by the Virginia Department of Education;
4. an interview and recommendation for admittance from a department representative, Teacher Education Services advisor; and,
5. submission of an application for admittance into the Darden College of Education Teacher “Licensure Only” Program.

Provisional admittance requires:
1. admission to Old Dominion University as a non-degree seeking graduate;
2. cumulative GPA of 2.79 for all college credit courses taken in the baccalaureate degree program;
3. successful completion of Praxis I, SAT or ACT exam, as determined by the Virginia Department of Education;
4. an interview and recommendation for admittance from a department representative, Teacher Education Services advisor; and,
5. submission of an application for admittance into the Darden College of Education Teacher “Licensure Only” Program.

Continuance and exit. Requirements are:
1. successful completion of all courses required for licensure;
2. maintenance of a GPA of 3.0 with a B- or better in all course work; and,
3. passing scores on Praxis II (Elementary 0014), the Virginia Communication and Literacy Assessment and the Virginia Reading Assessment as required by the Virginia Department of Education for licensure;
4. for licensure (PreK-3), successfully complete practicum with a grade of B or better to be approved for student teaching.

Curriculum

Prerequisite Courses - 12 credits

ESSE 468/568 Language Acquisition and Reading 3
ESSE 474/574 Foundations and Contemporary Issues in ECE 3
ECI 304 Educational Applications of Computers or ECI 530 Instructional Technology and the Classroom 3

Required Courses - 15 credits

ESSE 586 Teacher Candidate Internship for Special Endorsement 6
ESSE 677 Advanced Child Theory 3
ESSE 679 Advanced Classroom Management w/Practicum 3
ECI 680 Reading to Learn Across the Curriculum or Diagnostic Teaching of Reading in the Classroom 3

**Note: No transfer credits will be accepted into the professional core of this program.**

In order for a student to move from the Licensure-Only program into the master’s program in early childhood, application to the graduate program must be made before going beyond 12 semester hours of graduate work. If accepted into the program, all of the hours would be counted toward the graduate degree.

Doctor of Philosophy in Early Childhood Concentration
Katharine C. Kersey, Graduate Program Director

114 OLD DOMINION UNIVERSITY
The Ph.D. in early childhood education program, through its integral partnership with the Old Dominion University Child Study and Development Centers, is unique in the Commonwealth of Virginia. The emphasis of the program is on the multidisciplinary study of the cognitive, language, and the healthy social/emotional development of young children from birth to age nine. Professors and master teachers demonstrate research based teaching practices and provide supervised clinical training in positive discipline through class management and learning techniques, which are modeled in the Child Study and Development Centers at Old Dominion University.

The Ph.D. program in early childhood education will prepare students to become faculty members in colleges and universities and senior administrators in institutions and agencies. Personalized mentorship and professional training are provided for those who desire careers in academic research, child advocacy, program design and evaluation, and higher education, including teacher preparation, policy, and administrative leadership. Graduates will be in high demand to assume intellectual leadership in a variety of professional settings and to provide service to schools, agencies, government, child care providers, and families involved in the education, welfare, and the healthy development of children.

Students in this program of study will be expected to develop professional abilities in the field of early childhood education through publication, research, and service that include program support and development, teacher supervision and mentoring, advocacy activities, grant writing, and professional presentations. Involvement in faculty-sponsored research and professional development activities will be an essential part of graduate training in this concentration.

**Admission.** Criteria for admission to the Ph.D. in early childhood education will include:

1. a completed master’s degree in an appropriate discipline from a regionally accredited university;
2. a minimum GPA of 3.5 (on a 4.0 scale) overall for the master’s degree and in the major area of study in the master’s degree;
3. a minimum of 1000 overall total score on the GRE and a minimum of 500 on both the verbal and quantitative sections of the GRE. Prospective students must score a minimum of 4.5 on the analytical writing portion of the GRE. GRE scores expire after five years; however, candidates who have completed the exam prior to five years before the application deadline may submit those scores for consideration if the scores meet the minimum expectations and they are provided from an official source such as a transcript or form provided by the Educational Testing Service. Old Dominion University reserves the right to determine what is an “official source.” While these scores are minimums, other portions of the total application package will be strongly considered to balance lower scores;
4. applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600;
5. applicants must submit a 500-800 word statement of their academic and professional goals with an emphasis on how the Ph.D. degree in early childhood education will contribute to the achievement of the stated goals;
6. three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study. At least two of these letters must be from a graduate instructor in a college or university;
7. an interview with the early childhood education program committee. This committee will also review applications for admission; and,
8. prior course work is assumed in statistics, early childhood education and child development. If this assumption is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisite coursework in section which follows or curriculum.

**Continuance.** Students must:

1. maintain a grade point average of 3.0 overall; and
2. successfully complete all requirements relative to their program of study.

**Program Requirements**

The Ph.D. program in early childhood education is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes a required core (9 credit hours), a content concentration totaling 24 credit hours, a research component including 12 credit hours, electives (3 credit hours), the capstone course (3 credit hours), and the dissertation which will include a minimum of 12 credit hours. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program may also need to complete one introductory statistics course if they have not had such a course or cannot demonstrate competency at a satisfactory level. All students will be required to complete an internship (ESSE 888). Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to early childhood education and/or who have not completed courses to develop competency in early childhood education may need to complete these courses in lieu of electives. A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements.

**Program Completion and Exit.** In order to complete the program, students must fully comply with the curriculum below, all requirements noted elsewhere in the University catalog for graduate students, and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and complete required portions.

<table>
<thead>
<tr>
<th><strong>Curriculum</strong></th>
<th><strong>Prerequisite Coursework - 12 credits.</strong></th>
<th><strong>Required Core - 9 credits.</strong></th>
<th><strong>Research Core - 12 credits.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ESSE 677 Advanced Child Theory and Research</td>
<td>ESSE 735/835 Connecting Research in Early Childhood Development</td>
<td>ELS 833 Advanced Research Design and Analysis</td>
</tr>
<tr>
<td></td>
<td>ESSE 679 Advanced Classroom Management/ Practicum PreK-6</td>
<td>ECI 890 Qualitative Research Design</td>
<td>ECI 791/891 Program Evaluation</td>
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<tr>
<td></td>
<td>ELS 732 Statistics Applied to Research in Education and Human Services – I</td>
<td>ESSE 788/888 Internship/Practicum/Field Experience with Seminar</td>
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</tr>
</tbody>
</table>

**Early Childhood Concentration - 24 credits**

<table>
<thead>
<tr>
<th><strong>Curriculum</strong></th>
<th><strong>Prerequisite Coursework - 12 credits.</strong></th>
<th><strong>Required Core - 9 credits.</strong></th>
<th><strong>Research Core - 12 credits.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ESSE 737/837 Schools and Families: Enriching the Partnership</td>
<td>ESSE 739/839 Cross Cultural Perspectives in Early Childhood Education</td>
<td>ELS 833 Advanced Research Design and Analysis</td>
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<td></td>
<td>ESSE 740/840 Issues in Early Childhood Language and Literacy</td>
<td>ESSE 772/872 Advanced Developmental Process</td>
<td>ECI 890 Qualitative Research Design</td>
</tr>
<tr>
<td></td>
<td>ESSE 774/874 Constructivist Teaching: Theory into Practice</td>
<td>ESSE 774/874 Constructivist Teaching: Theory into Practice</td>
<td>ECI 791/891 Program Evaluation</td>
</tr>
<tr>
<td></td>
<td>ESSE 795/895 Topics in Education</td>
<td>ESSE 795/895 Topics in Education</td>
<td>ESSE 795/895 Topics in Education</td>
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**DARDEN COLLEGE OF EDUCATION 115**
Master of Science in Education—Special Education

Child Study Center
757-683-4383

Cheryl S. Baker, Graduate Program Director

Within the Master of Science in Education—special education degree program, there are two programs: one for licensed teachers who seek an advanced degree with a research emphasis and the other for those who seek initial licensure in special education and a master’s degree. The special education graduate program is committed to a philosophy of serving as a catalyst to promote awareness, understanding, and acceptance of individuals with disabilities. The course work focuses on the improvement of the quality and scope of educational and related services available to individuals with disabilities from infancy to adulthood.

Special Education, Research Emphasis

A master’s degree in special education with research emphasis will provide educators with an advanced professional degree and qualifications beyond licensure. The emphasis will include a focus on scholarly research, statistical analysis, and writing for professional journals. This emphasis will also serve as the prerequisite course work to the Ph.D. in special education, thereby facilitating entry into the Ph.D. program for master educators seeking terminal degrees. This program is well grounded in current federal education law, which mandates familiarity with and use of evidence-based practices for educators.

Admission. Admission to the graduate program in special education is granted by the department’s graduate program director in conjunction with special education faculty. The following requirements are necessary for admission to the program. Students must:

1. hold a baccalaureate degree from an accredited institution;
2. hold a Virginia Collegiate Professional License or an equivalent license from another state for special education;
3. have an undergraduate grade point average of 2.80 or better;
4. take and receive satisfactory scores on either the Graduate Record Examination (score of 900 combined on verbal and quantitative with a minimum of 450 verbal for regular admission and 4.5 on the analytical writing section) or Miller Analogies Test (score of 400 for regular admission); and,
5. submit a 400-500 word goal statement indicating why the student wishes to enroll in the special education program. Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director.

Continuance. Students must:

1. maintain a grade point average of 3.00 overall, and
2. successfully complete all competencies relative to their program of study.

Exit. Students must:

1. have a grade point average of 3.00 overall and a grade of B- or better in all course work;
2. satisfactorily complete all program requirements;
3. complete a Graduate Student Assessment;
4. complete the Post Task Rating Form online at http://education.odu.edu/esse/; and
5. submit a written research project according to program guidelines prior to the awarding of the master’s degree in special education.

Program Requirements

For all students who have met the prerequisite requirement of licensure in special education, the master’s degree requires a minimum of 30 credits of graduate study.

Curriculum

Research Core Courses - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 635</td>
<td>Research Methods in Education</td>
<td>3</td>
</tr>
<tr>
<td>ELS 732</td>
<td>Statistics Applied to Research in Education</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 701/801</td>
<td>Historical and Contemporary Research in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 702/802</td>
<td>Cognitive Processes and Learning Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 636</td>
<td>Problems in Education</td>
<td>3</td>
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</tbody>
</table>

Electives - choose at least five - 15 credits

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSE 618*</td>
<td>Characteristics and Advanced Procedures:</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Emotional/Behavioral Disorders</td>
<td></td>
</tr>
<tr>
<td>ESSE 621*</td>
<td>Effective Interventions for Children and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Youth with Challenging Behavior</td>
<td></td>
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<tr>
<td>ESSE 623*</td>
<td>Characteristics and Advanced Procedures:</td>
<td>3</td>
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<tr>
<td></td>
<td>Mental Retardation</td>
<td></td>
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<tr>
<td>ESSE 625*</td>
<td>Teaching Students with Autism</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 626*</td>
<td>Characteristics and Advanced Procedures:</td>
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<tr>
<td></td>
<td>Spectrum Disorders</td>
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<tr>
<td>ESSE 628*</td>
<td>Teaching Students with Severe Disabilities</td>
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<td>ESSE 630*</td>
<td>Teaching Preschoolers with Disabilities</td>
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<tr>
<td>ESSE 714/814</td>
<td>Alternative Strategies for Secondary Level</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 715/815</td>
<td>Alternative Strategies for Elementary Students: Prevention and Intervention</td>
<td>3</td>
</tr>
</tbody>
</table>

*Requires practicum of 45 hours.

Special Education, K – 12 Licensure

The special education master’s program prepares teachers and agency personnel to design and implement programs for individuals with disabilities in a variety of settings. This master’s degree program, with endorsement, can be completed in approximately two years during which the enrolled students will specify either special education/general curriculum, K – 12, early childhood special education, or special education/adaptive curriculum, K - 12. Due to changing University requirements, national accreditation standards, and state licensure regulations, the programs in teacher education are under constant revision. Students are encouraged to obtain current program information from the Special Education Program website at: http://education.odu.edu/esse/.

The graduate licensure programs in special education, in addition to meeting the Master of Science in Education degree requirements, satisfy Virginia Department of Education teacher endorsement competencies. Graduates are prepared to work effectively with children, adolescents, and adults who require special educational services. Classroom instruction is supplemented by field experiences with children, adolescents, and adults in a variety of settings. Teacher interns have been placed in children’s hospitals, special education classes in public and private facilities, regional education programs, residential psychiatric hospitals, mental health centers, and community agencies. Graduates in special education serve as key members of child study teams and are prepared to address educational, emotional, and physical disabilities. They also find employment as educational therapists, psycho-educational diagnosticians, and special education teachers and staff members in public and private schools.

Admission. Admission to the graduate program in special education is granted by the department’s graduate program director in conjunction with special education faculty. The following requirements are necessary for admission to the licensure program. Individuals who have a non-teaching B.S. or B.A. and wish to earn an M.S. Ed. and qualify for a teaching license in special education must meet the liberal arts and sciences content requirements.

Regular admittance requirements:

1. a baccalaureate degree from any accredited institution that meets the Virginia Department of Education stated liberal arts/sciences competencies in the following areas: English, Mathematics, Science, History Social Science, Arts and Humanities, and Computer/Technology;
2. an undergraduate grade point average of 2.80 or better;
3. a Graduate Record Exam (GRE) score of at least 900 (verbal and quantitative sections with a minimum verbal component of 450), and 4.5 on the analytical writing section OR a Miller Analogies Test (MAT) minimum score of 400;
4. a 400-500 word goal statement indicating why the student wishes to enroll in the special education program; and,
5. successful completion of the Praxis I, SAT or ACT exam, as determined by the Virginia Department of Education.

Provisional admittance requirements:

1. a baccalaureate degree from any accredited institution that meets the Virginia Department of Education stated liberal arts/sciences competencies in the following areas: English, Mathematics, Science, History Social Science, Arts and Humanities, and Computer/Technology;
2. an undergraduate grade point average of 2.80 or better;
3. a Graduate Record Exam (GRE) score of at least 800 (verbal and quantitative sections with a minimum verbal component of 400),
Special Education, K-12 Licensure – General Curriculum K-12

This program is designed to prepare professionals who are able to design and to implement appropriate educational programs for students who manifest mild disabilities. The program combines course work, supervised practica and internship to facilitate the integration of theory and practice in the development of evidence-based interventions applicable for individuals with special needs from preschool through adult in both public and private facilities. Program competencies prepare students to work in school-based programs, clinics, hospitals, and agency settings. Program practica and internship allow students opportunities to apply management, instructional and problem-solving skills in one-to-one and group settings.

Curriculum
Prerequisite Courses (or Undergraduate Minor or IDS in special education)
ESSE 400/500 Foundations of Special Education: Legal Aspects and Characteristics 3
ESSE 402/502 Instructional Design I: Learner Characteristics and Assessment 3
ESSE 411/511 Classroom and Behavior Management Techniques for Students with Diverse Needs 3
ESSE 413/513 Fundamentals of Human Growth and Development 3
ESSE 415/515 Instructional Design II: Curricular Procedures and Individualized Education Planning 3
ESSE 417/517 Collaboration & Transitions 3
ESSE 468/568 Language Acquisition and Reading 3
ECI 304 Educational Applications of Computers or Instructional Technology and the Classroom 3

Graduate Course Work
Three of the following - 9 credits
ESSE 618* Characteristics & Advanced Procedures: Emotional & Behavioral Disorders 3
ESSE 623* Characteristics & Advanced Procedures: Mental Retardation 3
ESSE 625* Teaching Students with Autism Spectrum Disorders 3
ESSE 626* Characteristics & Advanced Procedures: Learning Disabilities 3

*Requires practicum of 45 hours and passing scores on Praxis I or equivalent.
One of the following - 3 credits
ESSE 714/814 Alternative Strategies for Secondary Level Students 3
ESSE 715/815 Alternative Strategies for Elementary Students: Prevention and Early Intervention 3

One of the following - 3 credits
ECI 680 Reading to Learn Across the Curriculum 3
ECI 683 Diagnostic Teaching of Reading in the Classroom 3

Required –15 credits
ESSE 586 Teacher Candidate Internship for Special Endorsement 9
ESSE 621 Effective Interventions for Children and Youth with Challenging Behavior 3
ESSE 634 Capstone Seminar 3

Special Education, K-12 Licensure - Early Childhood Special Education and Special Education - Adapted Curriculum K - 12

The early childhood special education program is designed to prepare students to teach children from birth to age six who manifest disabilities or who are at risk of later school failure. Students endorsed in the area of early childhood special education will be eligible to teach in infant and preschool programs in both public and private settings. The adapted curriculum program is designed to prepare teachers to instruct individuals traditionally labeled with moderate, severe, or profound disabilities who may have disabling conditions such as cerebral palsy, autism, or a sensory impairment.

Curriculum
Prerequisite Courses (or Undergraduate Minor or IDS in special education)
ESSE 400/500 Foundations of Special Education: Legal Aspects and Characteristics 3
ESSE 402/502 Instructional Design I: Learner Characteristics and Assessment 3
ESSE 411/511 Classroom and Behavior Management Techniques for Students with Diverse Needs 3
ESSE 413/513 Fundamentals of Human Growth and Development 3
ESSE 415/515 Instructional Design II: Curricular Procedures and Individualized Education Planning 3
ESSE 417/517 Collaboration & Transitions 3
ESSE 468/568 Language Acquisition and Reading 3
ECI 304 Educational Applications of Computers or Instructional Technology and the Classroom 3

Graduate Core Courses - 12 credits
ESSE 504 Medical Aspects of Disabling Conditions 3
ESSE 569 Communication/Language Development and Intervention Strategies 3
ESSE 635* Sensorimotor Development and Intervention Strategies 3
ECI 683 Diagnostic Teaching of Reading in the Classroom 3

*Requires a 45-hour practicum and passing scores on Praxis I.

Early Childhood Special Education - 9 credits
ESSE 630* Teaching Preschoolers with Disabilities 3
ESSE 631* Developmental and Ecological Assessment Strategies 3
ESSE 637* Infant/Family Intervention and Teamwork 3

*Requires a 45-hour practicum and passing scores on Praxis I.

Special Education--Adapted Curriculum K – 12 - 9 credits
ESSE 621* Effective Intervention for Children and
Special Education Licensure Only

Cheryl S. Baker, Graduate Program Director

Many students who already possess 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 and 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. The special education licensure only option is available for those students who wish to pursue endorsement in special education and do not meet the master’s degree admission requirements or hold provisional licensure in special education and wish to complete licensure requirements.

The Special Education Teacher Licensure Only Program meets Virginia Department of Education endorsement requirements. Graduates find employment as special education teachers within the continuum of services provided for children with special needs and may also serve as key members of child study teams; they are prepared to address the educational, emotional, and physical needs of students with disabilities.

Admission. Regular admittance requires:
1. admission to Old Dominion University as a non-degree seeking graduate;
2. cumulative GPA of 2.8 for all college credit courses taken in the baccalaureate degree program;
3. successful completion of the Praxis I, SAT or ACT exam, as determined by the Virginia Department of Education;
4. an interview and recommendation for admittance from a department representative, Teacher Education Services advisor, or site director; and
5. submission of an application for admittance into the Darden College of Education Teacher “Licensure Only” Program.

Provisional admittance requires:
1. admission to Old Dominion University as a non-degree seeking graduate student;
2. cumulative GPA of 2.79 for all college credit courses taken in the baccalaureate degree program;
3. successful completion of the Praxis I, SAT or ACT exam, as determined by the Virginia Department of Education;
4. an interview and recommendation for admittance from a department representative, Teacher Education Services advisor, or site director; and
5. submission of an application for admittance into the Darden College of Education Teacher Licensure Only Program.

Continuance and exit. Requirements are:
1. successful completion of all courses required for licensure in an endorsement area;
2. maintenance of a GPA of 3.0 with a B- or better in all course work;
3. passing scores on the Virginia Communication and Literacy Assessment and the Virginia Reading Assessment will be required by the Virginia Department of Education for licensure.

Curriculum

<table>
<thead>
<tr>
<th>Special Education Licensure Only—General Curriculum, K - 12</th>
<th>118</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSE 400/500 Foundations of Special Education: Legal Aspects and Characteristics</td>
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<tr>
<td>ESSE 402/502 Instructional Design I: Learner Characteristics and Assessment</td>
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<tr>
<td>ESSE 414/511 Classroom and Behavior Management Techniques for Students with Diverse Needs</td>
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<tr>
<td>ESSE 413/513 Fundamentals of Human Growth and Development</td>
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</tr>
<tr>
<td>ESSE 415/515 Instructional Design II: Curricular Procedures and Individualized Education Planning</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 417/517 Collaboration &amp; Transitions</td>
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</tr>
<tr>
<td>ESSE 468/568 Language Acquisition and Reading</td>
<td>3</td>
</tr>
<tr>
<td>ECI 680 Reading to Learn Across the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>ECI 304 Educational Applications of Computers or ECI 530 Instructional Technology and the Classroom</td>
<td>3</td>
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</tbody>
</table>

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 the catalog. Students are encouraged to obtain current program information from their advisors and the Darden College of Education website at http://education.odu.edu/.

Doctor of Philosophy in Special Education

Cheryl S. Baker, Graduate Program Director

The Doctor of Philosophy is the degree most often desired for those who wish to become faculty in colleges and universities and those who aspire to senior administrative roles in institutions and agencies. The Ph.D. in special education is intended to prepare individuals for administrative and faculty positions and to provide students with the skills to carry out scholarly research, lead organizations, and create new research.
The Ph.D. in special education is designed to address the acute shortage of doctoral level special education personnel in the Commonwealth and across the nation. Program graduates will be prepared as content experts in pre-referral intervention and early intervention to assume positions of leadership as special education faculty at the university and college level. Additionally, graduates of the special education program will have the professional skills to work with school systems to address the diverse learning needs and behavior challenges associated with the education of students with special needs and those students at risk. Program graduates will attain a degree of proficiency in research and writing that will prepare them to make contributions to the professional literatures of special education and related disciplines.

The curriculum described below contains elements that will provide research expertise, administrative skills and experience, and the ability to serve the nation’s colleges, universities, and agencies providing special education services.

**Admission.** The criteria for admission into the Ph.D. in special education will include:

1. A completed master’s degree in special education or an equivalent degree, in an appropriate discipline in a program that is accredited by an appropriate specialized accrediting agency and from an institution of higher education that is regionally accredited. A minimum grade point (GPA) of 3.60 (on a 4.0 scale) overall for the master’s degree and in the major area of study in the master’s degree will be expected. In extraordinary circumstances, an individual may be accepted into the Ph.D. in special education program on a provisional status without having received a master’s degree. This individual first must complete the master’s degree in the selected concentration area and meet all other admission criteria prior to beginning Ph.D. coursework.

2. An acceptable overall total score on the Graduate Record Examination (minimum 550 on the verbal portion) and no less than a 4.5 on the writing sample. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) that meets the University’s current standard.

3. A minimum of three years teaching experience.

4. A 500-800 word statement of academic and professional goals. This statement must address how the applicant would work within the research agenda of the concentration to achieve his/her goals.

5. Three letters of reference from sources capable of commenting on the applicant’s readiness for the advanced graduate study. At least two of these letters must be from an academic source.

6. Prior course work in statistics and in theories of learning. If this requirement is not met, a student may be admitted and additional course work will be added to the candidate’s program of study.

7. An on-campus interview with concentration area faculty.

Applications for admission will be reviewed by the admissions committee from the special education concentration. Admission to the special education program is competitive with the number of applications expected to exceed the number of available openings. Admission criteria will be weighted with competitive applicants invited to participate in an on campus interview. Most full time students will begin their course of study each summer semester as a cohort following a summer orientation.

**Continuance.** Students must:

1. maintain a grade point average of 3.00 overall; and,

2. successfully complete all competencies relative to their program of study.

**Exit.** In order to complete the program, students must fully complete the curriculum below and all requirements noted elsewhere in the University catalog for graduate students and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and comply with all requirements.

### Program Requirements

The Ph.D. program in special education is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes a content concentration totaling 24 credit hours, an introductory core of nine hours, a research component including 15 credit hours, and the dissertation, which will include a minimum of 12 hours. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program may also need to complete one introductory statistics course if they have not had such a course or cannot demonstrate competency at a satisfactory level. Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to special education and/or who have not completed courses to develop competency in specified areas may need to complete additional prerequisite course work.

Under normal circumstances, admissions will be offered once a year in order to build efficient cohort groups for this type of advanced study. In order to enhance the experience of the students and to increase the efficiency by which courses are offered, a cohort of 10 students will be admitted each year. This limited number of students is necessary to ensure that there is an adequate number of full-time faculty to serve the students through advising and other duties, particularly when the cohorts reach the dissertation stage of the program.

To build a cohesive cohort group, a series of intensive courses will be offered on the Old Dominion University campus each summer. It is expected that all newly admitted students will come to campus for one of these seminars during the summer after they are admitted to the program and complete two courses together as a group. These courses will be selected from the introductory core requirements. A third course will be available for regular study during the summer so that students may comply with one of the residency requirements.

A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements. One of the semesters of full-time study (defined as completion of nine credit hours) must be accomplished by the completion of the intensive seminar noted above. The second semester of residency can be accomplished in several ways. Courses taken via TELETECHNET or other distance education methodologies are considered “resident” courses, so that taking three TELETECHNET courses during a semester may complete the second residency requirement.

Applicants must submit completed applications and all related material no later than March 1 of each year, and students will be admitted for study beginning in June or July of the same year.

### Curriculum

#### Prerequisite Course work - 6 credits

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELS 732</td>
<td>Statistics Applied to Research in</td>
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</tr>
<tr>
<td>ESSE 701/801</td>
<td>Historical &amp; Contemporary Research in</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 821</td>
<td>Critical Issues I: Readings in Special Education &amp;</td>
<td>3</td>
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<tr>
<td></td>
<td>Professional Writing</td>
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<td>ESSE 822</td>
<td>Critical Issues II: Research and Professional</td>
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<td></td>
<td>Writing</td>
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<tr>
<td>ESSE 893</td>
<td>Professional Seminar: Teaching, Research,</td>
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#### Introductory Core - 9 credits

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<tbody>
<tr>
<td>ELS 832</td>
<td>Statistics Applied to Research in</td>
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<tr>
<td>ELS 833</td>
<td>Advanced Research Design &amp; Analysis</td>
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<tr>
<td>ECI 890</td>
<td>Qualitative Research Design</td>
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<tr>
<td>ELS 891</td>
<td>Advanced Program Evaluation and Assessment</td>
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<td>ESSE 830</td>
<td>Single Subject Research</td>
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#### Research Core - 15 credits

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<tr>
<td>ESSE 700/800</td>
<td>Social/Emotional Aspects of Child Development</td>
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<tr>
<td>ELS 702/802</td>
<td>Cognitive Processes &amp; Learning Strategies for</td>
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<td>Students with Special Needs</td>
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<tr>
<td>ESSE 707/807</td>
<td>Advanced Instructional Procedures in</td>
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<tr>
<td></td>
<td>Special Education</td>
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<td>ESSE 715/815</td>
<td>Alternative Strategies for Elementary Students:</td>
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<td></td>
<td>Prevention and Intervention</td>
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<tr>
<td>ESSE 720/820</td>
<td>Curriculum/Instruction: Research Into Practice</td>
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<tr>
<td>ELS 887</td>
<td>Leadership for Equity and Inclusive Education</td>
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<tr>
<td>ESSE 795/895</td>
<td>Topics in Education</td>
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<tr>
<td>ESSE 868</td>
<td>Internship: Urban Child Study /Special Education</td>
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#### Special Education Concentration - 24 credits*

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<tr>
<td>ELS 700/800</td>
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<tr>
<td>ELS 702/802</td>
<td>Cognitive Processes &amp; Learning Strategies for</td>
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<td></td>
<td>Students with Special Needs</td>
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<tr>
<td>ESSE 707/807</td>
<td>Advanced Instructional Procedures in</td>
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<tr>
<td></td>
<td>Special Education</td>
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<td>ESSE 715/815</td>
<td>Alternative Strategies for Elementary Students:</td>
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<td>Prevention and Intervention</td>
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<td>ESSE 720/820</td>
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#### Dissertation - 12 credits

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<tbody>
<tr>
<td>ESSE 899</td>
<td>Dissertation</td>
<td>12</td>
</tr>
</tbody>
</table>

*With approval of the graduate program director, elective courses may be substituted for those within the special education core. This allows students to take up to 12 hours as electives. Such substitutions must be approved in writing. Electives may be taken in other areas in the College of Education (e.g., educational leadership, higher education, early childhood education, instructional design and technology) or in other colleges with the approval of the appropriate graduate program director or department.

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
Master of Science in Education-Speech-Language Pathology

Child Study Center
757-683-4117

Nicholas G. Bountress, Graduate Program Director

This program leads to a Master of Science in Education with a major in speech-language pathology. The program is accredited by the American Speech-Language and Hearing Association (ASHA) and is intended to prepare professionals to understand, identify, assess and prepare intervention programs for children and adults who present a wide array of speech and language disorders. Content areas of coursework include language development and disorders, articulation and phonological disorders, voice disorders, fluency disorders, hearing disorders and evaluation, dysphagia, aphasia, motor speech disorders, orofacial disorders and social dialects, among others. Students engage in supervised on-campus practica in the university Speech and Hearing Clinic/Scottish Rite Center for Childhood Speech and Language Disorders. They also engage in off-campus practica in a wide variety of area hospitals, private practice settings, rehabilitation centers, clinics and public schools. Each graduate student also completes a research paper in an area of their interest under the supervision of a program faculty member and must successfully pass a written comprehensive examination. All students must complete the national examination in Speech-Language Pathology (Praxis II) and essential paperwork for ASHA certification prior to graduation.

Graduates of the program hold positions as speech-language pathologists in a variety of professional settings, such as hospitals, children’s hospitals, private practice agencies, medical schools, rehabilitation centers and public schools. Many graduates have become administrators, clinical supervisors and instructors at universities, and researchers.

Students with and without an undergraduate degree in speech-language pathology are eligible for acceptance into the program. The normal matriculation for a student who holds an undergraduate degree in the field is two full years of full-time enrollment. Students who do not hold an undergraduate degree in the field typically require two additional semesters to complete prerequisite and required master’s degree coursework.

Admission

Admission to the graduate program in speech-language pathology is granted by the department’s graduate program director with the advisement of the speech-language pathology faculty. Individuals entering the master’s degree program must possess an undergraduate degree. The following requirements are necessary in order to be considered for admission to the program.

Regular admittance requires:

1. a baccalaureate degree from an institution accredited by a regional accrediting body or an equivalent degree from a foreign institution;
2. an undergraduate grade point average of 2.80 or better;
3. a Graduate Record Examination (GRE) score of 400, minimum, on the verbal section and 4.0, minimum, on the analytical section. Students meeting these minimal scores enter a selection pool of candidates;
4. three letters of recommendation, at least two of which should be from prior university instructors;
5. a 400-500 word essay indicating the student’s academic and professional goals as well as a description of the reasons the student believes he or she is a competitive candidate.

Continuance. Students must:

1. maintain a grade point average of 3.00;
2. satisfactorily complete all practica
3. earn no more than two grades below B-. Students must retake courses in which grades below B- are earned and receive grades of B- or higher. Obtaining three grades below B- leads to expulsion from the program;
4. meet prerequisite competencies, including the Grammatical Categories Test, in order to be admitted to clinical practica;
5. receive permission from the faculty in order to be admitted to any clinical practicum;
6. pass Praxis I prior to a public school practicum placement.

Exit. Students must:

1. have a grade point average of 3.00;
2. pass the department writing proficiency examination;
3. meet all academic competencies;
4. meet all clinical competencies;
5. pass a written comprehensive examination;
6. complete Praxis II (Speech-Language Pathology);
7. successfully complete a written research project; and,
8. complete an exit interview with the graduate program director.

Comprehensive Examination

All students seeking a master’s degree in speech-language pathology are required to successfully complete a written comprehensive examination. Areas of examination are based upon program coursework and related areas of professional preparation. If any area is not successfully completed during the first administration, the student is allowed only one more attempt. Failure of any question on the second administration leads to expulsion from the program.

Program Requirements

All students who have met prerequisite requirements must complete a minimum of 36 semester hours of graduate study in speech-language pathology. Students are expected to satisfy all professional, academic and clinical requirements and demonstrate ethical and interactive behaviors commensurate with the standards of the profession.

Curriculum

Prerequisite Courses - 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESSE 351</td>
<td>Anatomy of Speech, Language and Hearing</td>
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<tr>
<td>ESSE 352</td>
<td>Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 449</td>
<td>Pre-Clinical Competencies</td>
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<td>ESSE 450</td>
<td>Survey of Communication Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 451</td>
<td>Articulation and Phonological Disorders</td>
<td>3</td>
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<td>ESSE 452</td>
<td>Voice Disorders</td>
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<td>ESSE 453</td>
<td>Language Development</td>
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<td>ESSE 457</td>
<td>Language Disorders</td>
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<td>ESSE 458</td>
<td>Speech and Hearing Science</td>
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<td>ESSE 459</td>
<td>Seminar/Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 460</td>
<td>Audiology and Hearing Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 461</td>
<td>Aural Rehabilitation</td>
<td>3</td>
</tr>
</tbody>
</table>

Required Courses - 58 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSE 549</td>
<td>Pre-Clinical Competencies</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 554</td>
<td>Practica in Speech-Language Pathology</td>
<td>4</td>
</tr>
<tr>
<td>ESSE 557</td>
<td>Language Diagnosis and Remediation</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 597</td>
<td>Independent Study in Special Topics in Education</td>
<td>1-3</td>
</tr>
<tr>
<td>ESSE 635</td>
<td>Research Methods in Education</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 636</td>
<td>Problems in Education</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 650</td>
<td>Organic Speech Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 651</td>
<td>Language Development and Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 652</td>
<td>Articulation and Phonological Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 654</td>
<td>Advanced Clinical Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 655</td>
<td>Cleft Palate</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 656</td>
<td>Theories and Therapies in Stuttering</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 657</td>
<td>Aphasia</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 658</td>
<td>Swallowing Disorders</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 660</td>
<td>Procedures in Audiology</td>
<td>3</td>
</tr>
</tbody>
</table>

Department of Educational Curriculum and Instruction

145 Education Building
757-683-3283, 757 683-3284

Jane Hager, Chair

The Department of Educational Curriculum and Instruction (ECI) offers undergraduate and graduate programs for early childhood, middle school, and secondary school teachers, and graduate programs for reading specialists, school library media specialists, and individuals in the fields of instructional design and technology. In addition the department has Ph.D. programs in curriculum and instruction, instructional design and technology, and literacy leadership. Individual programs are described on the following pages.
PreK-6 and Middle School Programs
- Fifth Year Master’s Program for Initial Licensure Elementary (PreK-6)
- Master of Science in Education with Initial Licensure - PreK-6
- Master of Science in Education with Initial Licensure - Middle School (Grades 6-8)
- Master of Science in Education for Licensed Teachers - Elementary/Middle School - General
- Master of Science in Education for Licensed Teachers - Elementary/Middle School - Science

Secondary Education Programs
- Master of Science in Education with Initial State Licensure 6-12
- Master of Science in Education for Licensed Teacher - Secondary 6-12

Field-Based Master's Programs
- Field-Based Elementary/Middle School Master of Science in Education for Licensed Teachers
- Field-Based Secondary Master of Science in Education for Licensed Teachers

Instructional Design and Technology Programs
- Master of Science in Education - Elementary/Middle School – Instructional Design and Technology emphasis
- Master of Science in Education - Secondary – Instructional Design and Technology emphasis
- Doctor of Philosophy in Instructional Design and Technology

Library Science – School Librarianship
- Library Science Endorsement for licensed teachers (non-degree)
- Master of Science in Education - Library Science K-12 Endorsement for licensed teachers
- Master of Science in Education - Library Science K-12 Initial Licensure for non-teachers

Military Career Transition Program
- Master of Science in Education - Initial Licensure Program (Prek-6)
- Master of Science in Education - Initial Licensure Program - Middle School (Grades 6-8)
- Master of Science in Education - Initial Licensure Program - Secondary School (Grades 6-8)

Reading Education
- Endorsement – reading specialist K-12 (non-degree)
- Master of Science in Education – Reading plus Reading Specialist Endorsement
- Doctor of Philosophy in literacy leadership

Education Specialist
- Doctor of Philosophy in Curriculum and Instruction

Curriculum and Instruction
- Doctor of Philosophy in Curriculum and Instruction

Admission, Continuance, and Exit Requirements
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 cumulative grade point average of at least 2.8;
3. have been admitted to undergraduate teacher education with passing scores on Praxis I or approved SAT/ACT scores as established by the Commonwealth of Virginia;
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 (minimum score of 45 or 399 for regular admission); and,
5. submit an application for graduate studies.

Continuance. Students must:
1. maintain a grade point average of 3.00;
2. maintain a grade point average of 3.00 in the concentration;
3. pass the Praxis II and receive a B or better in ESSE 679 prior to teacher internship; and
4. obtain passing scores on the Virginia Reading Assessment prior to internship/student teaching.

All methodology courses must be completed before a student takes ECI 668.

Exit. Students must:
1. have a 3.00 grade point average in all course requirements of the fifth year;
2. pass a written comprehensive examination;
3. successfully complete internship/student teaching;
4. have an exit interview with the graduate program director or his/her designee;
5. have completed all course requirements;
6. submit an application for graduation; and
7. pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure.

Graduate Semester I
ESSE 506 Students with Diverse Learning Needs in the Gen. Ed. Classroom 3
ECI 642 Children’s Literature across the Curriculum, PK-8 3
ESSE 690 Child and Family 3
ESSE 677 Advanced Child Theory & Research 3

Graduate Semester II
ESSE 679 Advanced Classroom Management and Practicum in PreK-6 3
Prerequisite: ECI 436/536
ECI 619 Classroom Research and Assessment in C & I 3
ECI 680 Reading to Learn Across the Curriculum 3

Graduate Semester III
ECI 668 Internship/student teaching 9

Master of Science in Education with Initial Licensure - PreK-6

This licensure/master’s program in elementary school education (PreK-6) is designed for individuals with a non-teaching B.S. or B. A. degree who want to obtain licensure as a teacher in preschool through grade six and earn a master’s degree at the same time.

Admission, Continuance, and Exit Requirements
Admission. Students must:
1. hold a bachelor’s degree from a regionally accredited college/university;
2. achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or the SAT/ACT;
3. have a cumulative undergraduate grade point average of 2.80;
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 Miller Analogies Test (minimum score of 45 or 399 for regular admission); and,
5. have an interview with the graduate program director or his/her designee.
Performance in classes taken as a non-degree graduate student will not be taken into consideration in the admission process. No courses in the undergraduate academic major or professional education in which the student has made below a C- will be accepted for licensure in the Darden College of Education.

Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for elementary/middle education.

**Continuance.** Students must:

1. maintain a grade point average of 3.00.
2. maintain a grade point average of 3.00 in the concentration;
3. pass Praxis II and receive a B or better in ESSE 679 prior to teacher internship; and,
4. obtain passing scores on the Virginia Reading Assessment prior to internship/student teaching.

All methodology courses must be completed before a student takes ECI 668.

**Exit.** Students must (1) have a 3.00 grade point average; (2) pass a written comprehensive examination; (3) successfully complete internship/student teaching; (4) have an exit interview; (5) have completed all course requirements; (6) submit an application for graduation; and (7) pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure. No courses in the undergraduate academic major in which the student has made below a C- will be accepted toward licensure in the College of Education.

**Program Requirements**

**Prerequisites.** Individuals entering this graduate program must already possess a bachelor’s degree with classes which satisfy the Commonwealth of Virginia requirements for PreK-6 in the liberal arts and sciences and must pass the professional teacher’s assessment requirement (currently Praxis I or approved SAT/ACT scores) prescribed by the Virginia Board of Education. Liberal arts and sciences course work must fulfill the following requirements. No courses in the academic major or professional education in which the student has made below a C- will be accepted toward licensure requirements in the College of Education.

**English**
- (must include composition, oral communication, and literature): 12
- Mathematics: 12
- Science (including a laboratory course): 12
- History (must include American history and world history): 9
- Social science (must include geography and economics): 6
- Arts and humanities: 6
- Computer/technology: (satisfying ECI 304) 3

Transcripts will be evaluated by the education advisor to determine whether these academic requirements have been met by previous course work. Experiential learning credit may be available for non-academic work.

**Prerequisite Undergraduate Professional Education Classes:** 12

<table>
<thead>
<tr>
<th>ECI 301</th>
<th>Foundations of Education including observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 304</td>
<td>Educational Applications of Computers</td>
</tr>
<tr>
<td>ESSE 468/568</td>
<td>Language Acquisition and Reading for Students with Diverse Learning Needs</td>
</tr>
</tbody>
</table>

**Graduate I - Graduate Classes: 44 credits**

<table>
<thead>
<tr>
<th>ESSE 513</th>
<th>Fundamentals of Human Growth &amp; Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 532</td>
<td>Developing Instructional Strategies PreK-6: Language Arts</td>
</tr>
<tr>
<td>ECI 533</td>
<td>Developing Instructional Strategies PreK-6: Mathematics</td>
</tr>
<tr>
<td>ECI 642</td>
<td>Children’s Literature across the Curriculum</td>
</tr>
<tr>
<td>ECI 680</td>
<td>Reading to Learn Across the Curriculum</td>
</tr>
</tbody>
</table>

**Graduate II**

<table>
<thead>
<tr>
<th>ECI 534</th>
<th>Developing Instructional Strategies PreK-6: Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 535</td>
<td>Developing Instructional Strategies PreK-6: Social Studies</td>
</tr>
<tr>
<td>ECI 536</td>
<td>Classroom Management and Practice (passing Praxis I or SAT/ACT scores required for enrollment)</td>
</tr>
<tr>
<td>ESSE 690</td>
<td>Child and Family</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ECI 619</th>
<th>Classroom Research and Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSE 677</td>
<td>Advanced Child Theory</td>
</tr>
</tbody>
</table>

**ESSE 679**

Adv Classroom Management and Practicum in PreK-6 (passing Praxis I scores or equivalent SAT or ACT scores required for enrollment. Prerequisite: ECI 436/536)

**Final Semester**

| ECI 668 | Internship/student teaching |

Taken only after all education classes have been completed

**Master of Science in Education with Initial Licensure – Middle School (Grades 6-8)**

This licensure/master’s program in middle school education (grades 6-8) is designed for prospective teachers wanting to obtain an initial middle school teaching licensure and a master’s degree at the same time. Open to students who have a non-teaching B.S. or B.A. degree, the program requires students to take courses that meet the Commonwealth of Virginia’s stated academic competency requirements and leads to two undergraduate endorsement areas selected from the following: mathematics (21 credits minimum), English (21 credits minimum), science (21 credits minimum), or social studies (21 credits minimum). An additional 33 credits of education courses are taken at the graduate level. Advisors in the Office of Teacher Education Services will evaluate an individual’s undergraduate transcript to determine which, if any, undergraduate academic content courses are needed to meet state requirements for licensure. No courses in the academic major or professional education classes in which the student has made below a C- will be accepted toward licensure in the Darden College of Education.

**Admission, Continuance, and Exit Requirements**

**Admission.** Students must:

1. hold a bachelor’s degree from a regionally accredited college/university in the liberal arts and sciences (or equivalent) including a minimum of 21 semester hours (which meet Virginia’s stated coursework competencies) in two areas of concentration (English, mathematics, science, and history/social science) which will be listed on the license;
2. achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or approved SAT/ACT scores;
3. have a cumulative grade point average of 2.80;
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 Miller Analogies Test (minimum score of 45 or 399 45 for regular admission);
5. have an interview with the graduate program director or his/her designee; and,
6. submit an application for graduate studies.

Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. 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.

Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for elementary/middle education.

**Continuance.** Students must (1) maintain a grade point average of 3.00, (2) maintain a grade point average of 3.00 in the major, and (3) pass Praxis II and receive a B or better in practicum prior to teacher internship (passing scores must be attached to the teacher internship application). All methodology courses must be completed before a student takes internship/student teaching.

**Exit.** Students must (1) have a 3.00 grade point average; (2) pass a written comprehensive examination; (3) successfully complete internship/student teaching; (4) have an exit interview; (5) have completed all course requirements; (6) submit an application for graduation; and (7) pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure.

No courses in the academic major or professional education in which the student has made below a C- will be accepted toward licensure requirements in the Darden College of Education.

**Program Requirements**

Students seeking initial licensure plus a master’s degree in middle school education (grades 6-8) must meet the academic concentration requirements (item 1) in two of the following specialties and the general academic
concentration requirements (item 2) in the other two with a minimum grade of a C-. Transcripts will be evaluated by the education advisor to determine whether these academic requirements have been met by previous course work. Experiential learning credit may be available for non-academic work.

English

English concentration must include course work in language (e.g., history, structure, grammar); literature; advanced composition; and interpersonal communication or speech; 21 semester hours.

Individuals seeking endorsement in middle education 6-8 without an English concentration must have completed 12 semester hours in English.

Mathematics

Mathematics concentration (must include course work in algebra, geometry, probability and statistics, and applications of mathematics): 21 semester hours.

Individuals seeking endorsement in middle education 6-8 without a mathematics concentration must have completed a minimum of six semester hours in mathematics.

Science

Science concentration (must include courses in the following: biology, chemistry, physics, and earth and space science; a laboratory course is required in two of the four areas): 21 semester hours.

Individuals seeking endorsement in middle education 6-8 without a science concentration must have completed a minimum of six semester hours in science for a total of 15 semester hours in mathematics and science.

History/Social Science

History/social science concentration (must include American history, world history, economics, geography, international affairs, and current events): 21 semester hours.

Individuals seeking endorsement in middle education 6-8 without a history/social science concentration must have completed a minimum of six semester hours in history and a minimum of six semester hours in social science for a total of 15 semester hours in history and social science.

Prerequisite Classes: 12 credits [Some may be satisfied as part of undergraduate degree]

- ECI 301 Foundations of Education including observation, 30 hours. 3
- ECI 304 Educational Applications of Computers 3
- ESSE 413/513 Fundamentals of Human Growth & Development 3
- ESSE 468/568 Language Acquisition and Reading for Students with Diverse Learning Needs 3

Graduate Professional Education [33 graduate credits]

Graduate I

- ESSE 506 Special Needs Student in the General Education Classroom 3
  Two of the following to correspond with two areas of academic concentration (4 credits each) 8
- ECI 551 Developing Instructional Strategies for Teaching in the Middle/High School: English 3
- ECI 553 Developing Instructional Strategies for Teaching in the Middle/High School: Mathematics 3
- ECI 554 Developing Instructional Strategies for Teaching in the Middle/High School: Science 3
- ECI 555 Developing Instructional Strategies for Teaching in the Middle/High School: Social Studies 3

Graduate II

- ECI 615 Teaching in the Middle School 4
- ECI 619 Classroom Research and Assessment 3
- ECI 642 Children’s Literature across the Curriculum 3
- ECI 680 Reading to Learn Across the Curriculum or 3

Graduate III

- ECI 666 Internship/Student Teaching and Seminar 9

Master of Science in Education for Licensed Teachers - Elementary/Middle School - General

The following program is for licensed teachers who wish to enter a degree program leading to the Master of Science in Education degree. Non-degree students intending to enter this graduate program must meet with the elementary/middle school graduate program director upon completion of more than six graduate credits.

The graduate program associated with this major is intended to meet the needs of the individual student. Program options are designed to accomplish three primary goals: (1) to enhance classroom instruction by enriching the knowledge and skills of practicing teachers; (2) to train and encourage classroom teachers to conduct in-school research so that significant findings in the learning-teaching process can be applied to the classroom situation; and (3) to permit teachers to upgrade their teaching credentials to the Postgraduate Professional License level.

Curricula for the program includes specific courses in teaching in most of the major content areas: mathematics, science, social studies, and language arts. Each individualized program has three component areas: (1) core; (2) support; and (3) research. The research component may have up to three options (thesis, problem paper, or seminar) as indicated.

Admission, Continuance, and Exit Requirements

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) hold at least the Virginia Collegiate Professional License or an equivalent license from another state for elementary or middle school education; (3) have a general undergraduate grade point average of at least 2.80; (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 Miller Analogies Test (minimum score of 45 or 399 for regular admission); (5) have an interview with the graduate program director; and (6) apply for admission to graduate school. Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for elementary/middle education.

Continuance. Students must (1) maintain a grade point average of 3.00 and (2) maintain a grade point average of 3.00 in the major.

Exit. Students must (1) have a 3.00 grade point average; (2) have a 3.00 grade point average in the major; (3) pass a written comprehensive examination; (4) have an exit interview; and (5) have completed all course requirements; and (6) submit an application for graduation.

Program Requirements

Since students are expected to be dedicated to the goal of becoming master teachers, evidence that a student has reached this goal must be presented before graduation is certified. A minimum of 31 semester credits of course work is required for programs in elementary/middle school education. After admission to provisional or regular degree status, or before the completion of six credits as a non-degree student, the student must meet with the graduate program director who will assign a permanent advisor from the graduate faculty of the Darden College of Education. It is the responsibility of the student to confer with the assigned advisor for the purpose of developing a program of study. Each program has a core, support and research area that may, in some instances, be tailored to fit individual needs. Listed below is a possible program of study.

Program: Elementary/Middle School for licensed teachers—General Core: (12 credits)

- ECI 530 Instructional Technology and the Classroom 3
- Taken within five years or waived through examination
- ECI 683 Diagnostic Teaching of Reading 3
- Instructional Strategies classes or other courses based on teaching specialties 6
- Support beyond the core: (6 to 12 credits)
- Classes to be selected in consultation with the student’s advisor or program director

Research courses (7 to 13 credits)

a. Thesis option (10-13 credits; 34 credits required for graduation)

- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 698 Thesis 3-6
- ELS 732 Statistics Applied to Research in Education 3

b. Problem paper option (7 credits; 31 credits required for graduation)

- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 636 Problems in Education 3
- c. Seminar option (13 credits; 37 credits required for graduation)

- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 639 Seminar in Education 3
- Electives 6

DARDEN COLLEGE OF EDUCATION 123
Master of Science in Education for Licensed Teachers - Elementary/Middle School - Science

The following program is for licensed teachers who wish to enter a degree program leading to the Master of Science in Education degree and to specialize in science education. Nondegree students intending to enter this graduate program must meet with the elementary/middle school program director upon completion of no more than six graduate credits.

Admission, continuance and exit requirements are the same as the general elementary/middle school program for licensed teachers that is listed directly above this section. This emphasis is for licensed teachers who wish to expand their education in science. Thirty-one credits are required for graduation.

**Core: (16-18 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 530</td>
<td>Instructional Technology and the Classroom</td>
<td>3</td>
</tr>
</tbody>
</table>

Taken within five years or waived through examination:

**Instructional Strategies in Science**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 654</td>
<td>Science in the Elementary/Middle School</td>
<td>3</td>
</tr>
<tr>
<td>ECI 554</td>
<td>Developing Instructional Strategies for Teaching in the Middle/High School: Science</td>
<td>10 to 12</td>
</tr>
</tbody>
</table>

Science courses must have a science department prefix and be approved by the student’s science education advisor.

**Support Courses: (6-8 credits)**

Selected in consultation with the advisor and/or graduate program director.

**Research (7 credits): Problems paper**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 600</td>
<td>Introduction to Graduate Research</td>
<td>1</td>
</tr>
<tr>
<td>ECI 635</td>
<td>Research Methods In Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 636</td>
<td>Problems in Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Master of Science in Education – Secondary**

149 Education Building
757-683-5545
Robert Lucking, Graduate Program Director

**General Description of Secondary Education**

Within the Master of Science in Education-Secondary degree program, there are a number of programs for both licensed teachers as well as those seeking initial licensure in grades 6-12. In addition, at the undergraduate level, there are programs for initial licensure in grades 6-12.

**Master of Science in Education with Initial State Licensure 6-12**

There are a number of individuals who have earned B.S. or B.A. degrees who now want to obtain a master’s degree leading to licensure as a secondary school teacher. In the program, students complete (or have completed) a minimum of 32 credits of undergraduate courses in one endorsement area (mathematics, social studies, English, earth science, chemistry, biology, or physics) and an additional 31-34 credits of education courses at the graduate level.

The graduate education component provides preparation in social and cultural foundations of education, adolescent development, classroom management, reading in the content area, microcomputers and curriculum, instructional strategies for secondary school, special needs students, research in curriculum and instruction, and a 14-week internship/student teaching experience. Courses include ESSE 506, 513, ECI 530, 608, 619, 640, 669, 680 and one instructional strategies course chosen from ECI 551 (English), 553 (Math), 554 (Science), 555 (Social Studies).

For the subject specialty, academic course requirements must be met in one of the following endorsement areas: mathematics, social studies, English, English as a second language, earth science, chemistry, biology, or physics.

**Admission, Continuance, and Exit Requirements**

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or Board-approved SAT/ACT scores; (3) have a cumulative grade point average of 2.80; (4) take and receive satisfactory scores on either the Graduate Record Examination (score of 900 combined on verbal and quantitative for regular admission) or Miller Analogies Test (minimum score of 45 or 399 for regular admission); (5) have an interview with the graduate program director; and (6) submit an application for graduate studies. Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. No courses in the academic major or professional education in which the student has made below a C- will be accepted for licensure in the Darden College of Education.

Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for secondary education.

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) receive a B or better in practicum to participate in teacher internship; and (4) pass Praxis II prior to the teacher internship. Passing scores must be attached to the teacher internship application.

Exit. Students must (1) have a 3.00 grade point average; (2) pass a written comprehensive examination; (3) have an exit interview; (4) have completed all course requirements; (5) submit an application for graduation, and (6) pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure. No courses in the academic major or professional education in which the student has made below a C- will be accepted for licensure requirements in the Darden College of Education.

Graduate Professional Education Classes

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 680</td>
<td>Reading to Learn Across the Curriculum</td>
<td>3</td>
</tr>
</tbody>
</table>

One instructional strategies course corresponding to the content specialty chosen from for following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 551</td>
<td>Developing Instructional Strategies for Teaching in the Middle/HS: English</td>
<td>3</td>
</tr>
<tr>
<td>ECI 553</td>
<td>Developing Instructional Strategies for Teaching in the Middle/HS: Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>ECI 554</td>
<td>Developing Instructional Strategies for Teaching in the Middle/HS: Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**Master of Science in Education for Licensed Teachers – Secondary 6-12**

The graduate programs in secondary education are designed for licensed teachers to improve and update professional competency in teaching at the secondary level. Licensed teachers completing the program enhance their ability to teach effectively and to participate in educational research in their schools. Completion of requirements leads to upgrading of the teaching license to the Postgraduate Professional level. Library endorsement for licensed teachers may be obtained in this program (See separate listing.) Non-degree students intending to enter this graduate program must meet with the secondary education graduate program director upon completion of no more than six graduate credits.

**Program: General for Licensed Teachers**

The general education major for licensed teachers includes interest areas in computer applications in education, instructional design and technology, general vocational education, library science/media, and music education. The programs in instructional design and technology and school librarianship are listed in separate sections below. Other programs may be individually designed as students’ needs indicate.
Admission, Continuance, and Exit Requirements

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) hold the Virginia Collegiate Professional License or an equivalent license from another state preferably in secondary education; (3) have a cumulative grade point average of 2.80; (4) achieve a satisfactory score on the Graduate Record Examination (score of 900 combined on verbal and quantitative for regular admission) or Miller Analogies Test (minimum score of 45 or 399 for regular admission); (5) have an interview with faculty in the program; and (6) submit an application for admission. Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for secondary education.

Continuance. Students must (1) maintain a grade point average of 3.00 and (2) maintain a grade point average of 3.00 in the major.

Exit. Students must (1) have a 3.00 grade point average; (2) have a 3.00 grade point average in the major; (3) pass a written comprehensive examination; (4) have an exit interview; (5) have completed all course requirements; and (6) apply for graduation.

Program Requirements

Students enrolled in secondary and general secondary programs are expected to be dedicated to the goal of becoming master classroom teachers or librarians; therefore, evidence that a student has reached this goal must be presented before graduation is certified. A minimum of 31 semester credits is required for completion of any program planned. If a graduate student elects to add other goals to the program, such as becoming a secondary education supervisor, then the program may require an additional nine to 12 credits beyond the 31-hour minimum.

Emphasis Areas

In the secondary school - general program, emphases are offered in biology, chemistry, English, mathematics, economics, history, and social studies education. For requirements in the music education interest area, refer to the Music section in the College of Arts and Letters. For instructional design and technology, and library science/media refer to the separate sections listed later in the department.

Area I: Core: 12 to 18 credits.

Area II: Support: 12 to 18 credits.

Area III: Research: 7 to 13 credits. Students must select one of the following options as a means of fulfilling the degree requirements: (1) a thesis option, which requires a minimum of 34 semester credits, (2) a problems paper option, which requires a minimum of 31 semester credits, or (3) a seminar option, which requires a minimum of 37 credits. Listed below are the core requirements for each option:

Thesis option
ECI 600 Introduction to Graduate Research 1
ECI 635 Research Methods In Education 3
ECI 698 Thesis 3-6
ELS 732 Statistics Applied to Research in Education 3

Problem paper option
ECI 600 Introduction to Graduate Research 1
ECI 635 Research Methods In Education 3
ECI 636 Problems in Education 3

Seminar option
ECI 600 Introduction to Graduate Research 1
ECI 635 Research Methods In Education 3
ECI 639 Seminar in Education 3
Electives 6

After admission to provisional or regular degree status, each student is assigned a permanent advisor from the Darden College of Education’s graduate faculty. It is the student’s responsibility to confer with the assigned advisor. The advisor will be well acquainted with the emphasis area the student has chosen and will be responsible for helping the student develop a program of study that best meets the student’s needs. This proposed program of study becomes the student’s graduate program upon approval of the graduate program director, and can be changed only with the advice and consent of both the faculty advisor and the student. Because of the individualized nature of graduate programs in secondary education, good working relationships between faculty advisors and students are essential.
Program Requirements

Problem Paper Option: Area I (24 credits); Area II (7 credits); 31 credits total
Seminar Option: Area I (30 credits); Area II (7 credits); 37 credits total
Core: (24-30 credits chosen from courses below with the advisor’s or graduate program director’s approval in advance)

ECI 530  Instructional Technology and the Classroom  3
ECI 634  Microcomputer Hardware Systems  3
ECI 651  Software Evaluation and Curriculum  3
ECI 731  Instructional Technology Trends in Curriculum & Instruction  3
ECI 732  Visual Communication and Design for Instructional Environments  3
IDT 749  Instructional Systems Design  3
ECI 665  Digital Video Materials Development  3
IDT 761  Applied Instructional Design  3
IDT 746  Distance Education  3
ECI 647  Online Learning  3
ECI 748  Assessment and Evaluation in Content Areas  3

Support courses
Graduate electives approved by the graduate program director may be substituted for technology classes when those courses complement personal and professional goals.

Research Courses (7-13 credits)

Problem Paper Option (7 credits; 31 credits required for graduation)
ECI 600  Introduction to Graduate Research  1
ECI 635  Research Methods in Education  3
ECI 636  Problems in Education  3

Seminar Option (13 credits; 37 credits required for graduation)
ECI 600  Introduction to Graduate Research  1
ECI 635  Research Methods in Education  3
ECI 639  Seminar in Education  3
Electives  6

Master of Science in Education - Secondary – Instructional Design and Technology Concentration

The Master of Science in Education – Secondary - instructional design and technology concentration is designed to meet the needs of professionals interested or involved in the design, development and delivery of instruction. The courses are appropriate for a variety of venues, including PreK-12, higher education, military, and business. In this specialization, students select 24 to 30 credits in instructional design and technology plus the problems paper or seminar research option. Working with an advisor, students select courses that complement their backgrounds and professional goals.

Admission, Continuance and Exit Requirements

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) have a cumulative undergraduate grade point average of 2.80; (3) 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 Miller Analogies Test (minimum score of 45 or 399 for regular admission); and (4) have an interview with the graduate program director or his/her designee. Performance in classes taken as a non-degree graduate student will not be taken into consideration in the admission process.

Continuance. Students must (1) maintain a grade point average of 3.00, (2) maintain a grade point average of 3.00 in the major. Exit. Students must (1) have a 3.00 grade point average; (2) pass a written comprehensive examination; (3) have an exit interview; (4) have completed all course requirements; and (6) submit an application for graduation;

Program Requirements

All courses in the core and elective blocks plus ECI 635/636 will be offered in distributed format, via VTEL, Virtual Classroom, or asynchronously. All ID&T students are expected to have regular and reliable access to a multimedia computer (headphones, microphone, and web cam) and a high speed Internet connection.

Problem Paper Option: Area I (24 credits); Area II (7 credits); 31 credits total
Seminar Option: Area I (30 credits); Area II (7 credits); 37 credits total
Area I Emphasis Courses (24 - 30 credits chosen from the following courses)

Skills Courses
ECI 575  Web Development for Educators  3
ECI 634  Microcomputer Hardware Systems in Education  3
ECI 648  Digital Media for Educators  3

Core Courses
IDT 617  Foundations of Instructional Technology  3
IDT 760  Cognition and Instructional Design  3
IDT 749  Instructional Systems Design  3
IDT 761  Applied Instructional Design  3

Elective Courses
IDT 647  Online Learning  3
IDT 731  Media Trends in Education  3
IDT XXX  Visual Communication and Design  3
IDT XXX  Advanced Demonstration Seminar in Instructional Design/Technology  3
IDT 746  Distance Education  3
IDT 748  Instructional Technology Product Evaluation  3
IDT 873  Advance Instructional Design Tools and Techniques  3

Graduate electives approved by the graduate program director may be substituted when those courses complement personal and professional goals.

Area II: Research Courses Required

Problem Paper Option (31 graduate credits)
ECI 600  Introduction to Graduate Research in Curriculum & Instruction  1 *
ECI 635  Research Methods in Education  3
ECI 636  Problems in Education  3
ECI 600  Introduction to Graduate Research in Curriculum & Instruction  1 *
ECI 635  Research Methods in Education  3
ECI 639  Seminar in Education  3

* Should be taken during the first semester.

Doctor of Philosophy in Education – Instructional Design and Technology

The Doctor of Philosophy in instructional design and technology (ID&T) prepares individuals to conduct research and assume leadership roles in the field of instructional technology. Students will master a number of ID&T skills, ranging from instructional problem identification, task and audience analysis, strategy design, assessment, evaluation, and implementation, that they can use in settings including traditional classrooms and distance education. Courses explore theories and research that provide a foundation for the field. Students are also expected to participate in and conduct research studies as part of their program. Completing the Ph.D. in ID&T will prepare students to take jobs as practitioners in business, military, government, health care, and educational settings. They are also prepared to take positions as faculty members in higher education and as researchers for private organizations.

Admission. For admission to this program, individuals should have completed master’s degree in an appropriate discipline from a regionally accredited university. Degrees that are equivalent to a master’s degree such as L.L.B., J.D., and D.D.S. are also acceptable. Prospective students should also have prior course work in statistics and instructional technology. If this assumption is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisites on the curriculum description for specifics.

Admission to the instructional design and technology Ph.D. program is competitive. A number of criteria are considered including graduate and undergraduate GPAs, GRE scores, writing ability, a personal interview, and the match between student interests and faculty expertise. Meeting the minimum requirements established by the department does not ensure admission to the program. A minimum undergraduate GPA of 2.8 and a minimum graduate GPA of 3.25 are recommended.

Application requirements for the Ph.D. in instructional design and technology are as follows:
1. a completed application which is available online or from the Office of Graduate Admissions.
2. Official transcripts of all undergraduate and graduate courses and degrees completed.
3. Official report scores from the Graduate Record Examination (verbal, quantitative, and analytical) taken within the last five years. GRE scores expire after five years; however, candidates who have completed the exam prior to five years before the application deadline may submit those scores for consideration if they are provided from an official source such as a transcript or form provided by the Educational Testing Service. Old Dominion University reserves the right to determine what is an “official source.”

4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600 (written) or 250 (computer based).

5. Applicants must submit a 1500 word statement of their academic and professional goals with an emphasis on how the Ph.D. degree in instructional design and technology will contribute to the achievement of the stated goals.

6. Three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study. It is recommended that at least two of the letters come from university faculty members. Other letters may come from work supervisors or managers.

7. An interview with the instructional design and technology program faculty. This committee will also review applications for admission.

**Program Requirements.** The Ph.D. program in Education with a concentration in instructional design and technology is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes an introductory core of six credit hours, an instructional design and technology core with a minimum of 24 credits hours, a research core of 15 credit hours, the three credit dissertation seminar hour and the dissertation, which will include a minimum of 12 credit hours. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program may also need to complete introductory statistics courses and an instructional technology foundations course if they have not had equivalent courses or cannot demonstrate competency at a satisfactory level. Students who enter the Ph.D. program with a master’s degree in an academic field that is unrelated to instructional design and technology and/or who have not completed courses to develop competency in specified areas may need to complete these courses in addition to the required courses.

All ID&T students are expected to have regular and reliable access to a multimedia computer (headphones, microphone, and web cam) and a high speed Internet connection.

Under normal circumstances, admissions will be offered three times a year for the fall, spring, and summer semesters. Acceptance is competitive to assure that there is an adequate number of full-time faculty to serve the students through advising, mentoring, and other duties, particularly when individuals reach the dissertation stage of the program.

A minimum of two semesters of full-time study (9 credit hours per semester) is required of students in the program to meet University residency requirements. Courses taken via distance education methodologies are considered “resident” courses, so that taking three distance education courses during a semester may complete the residency requirement.

Students interested in attending full-time and applying for financial aid should submit their applications by December 1 prior to the fall semester they wish to start.

Applicants must submit completed applications and all related material no later than the following dates:

<table>
<thead>
<tr>
<th>Submission Deadline</th>
<th>Starting Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1</td>
<td>Fall</td>
</tr>
<tr>
<td>November 1</td>
<td>Spring</td>
</tr>
<tr>
<td>March 1</td>
<td>Summer</td>
</tr>
</tbody>
</table>

**Program Completion and Exit.** To complete the program students must fully comply with the curriculum below and all requirements noted elsewhere in the University catalog for graduate students and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and complete required portions.

**Curriculum**

Prerequisites: All students admitted into the Ph.D. in instructional design and technology must complete the following prerequisite courses unless they have previously completed equivalent graduate level coursework or have appropriate educational experience.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS 732</td>
<td>Statistics - Data Driven Decision</td>
<td>Making I</td>
</tr>
<tr>
<td>IDT 617</td>
<td>Foundations of Instructional Technology</td>
<td></td>
</tr>
<tr>
<td>IDT 801</td>
<td>ID&amp;T Introductory Courses (6 credits)</td>
<td></td>
</tr>
<tr>
<td>IDT 849</td>
<td>Instructional Systems Design</td>
<td></td>
</tr>
<tr>
<td>Research Core (15 credits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ELS 832** Statistics - Data Driven Decision 3
**ELS 833** Advanced Research Design and Analysis 3
**ECI 890** Qualitative Research Design 3
**IDT 848** Instructional Product Evaluation 3
**IDT 879** Research Residency 3

**Instructional Design Concentration (24 credits)**

**Theory**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 810</td>
<td>Trends and Issues in Contemporary Instructional Design*</td>
<td>3</td>
</tr>
<tr>
<td>IDT 846</td>
<td>Foundations of Distance Education</td>
<td></td>
</tr>
<tr>
<td>IDT 860</td>
<td>Cognition and Instructional Design*</td>
<td></td>
</tr>
<tr>
<td>IDT 863</td>
<td>Instructional Design Theory*</td>
<td></td>
</tr>
<tr>
<td>IDT 832</td>
<td>Visual Communication and Design</td>
<td></td>
</tr>
<tr>
<td>IDT 861</td>
<td>Applied Instructional Design*</td>
<td></td>
</tr>
<tr>
<td>IDT 869</td>
<td>Advance Instructional Design Tools and Techniques</td>
<td></td>
</tr>
<tr>
<td>IDT 871</td>
<td>Identifying Training and Performance Problems</td>
<td></td>
</tr>
<tr>
<td>IDT 888</td>
<td>Internship/practicum</td>
<td></td>
</tr>
</tbody>
</table>

**Technology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 647</td>
<td>Online Learning</td>
<td></td>
</tr>
<tr>
<td>IDT 831</td>
<td>Distributed Learning Trends</td>
<td></td>
</tr>
<tr>
<td>IDT 835</td>
<td>Instructional Management Systems</td>
<td></td>
</tr>
<tr>
<td>IDT 852</td>
<td>Diffusion/Adoption of Technology Innovations</td>
<td></td>
</tr>
<tr>
<td>IDT 856</td>
<td>Instructional Gaming; Theory and Practice</td>
<td></td>
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</tbody>
</table>

*Electives: Chosen from the list above, or from related areas (e.g., modeling & simulation, psychology, engineering, speech-communications, business, IO psychology)

**Capstone Courses (15 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT 893</td>
<td>ID&amp;T Dissertation Seminar</td>
<td>3</td>
</tr>
<tr>
<td>ECI 899</td>
<td>Dissertation</td>
<td>12</td>
</tr>
</tbody>
</table>

(If seminar is waived by doctoral committee, the credits are added to the content.)

**Library Science (School Librarianship K-12)**

**Master of Science in Education – Elementary**

**Master of Science in Education – Secondary**

249-5 Educational Building
757-683-3254

Katherine T. Bucher, Graduate Program Director

**General Description of the School Library Program**

Contained within this program are the library science endorsement for licensed teachers (non-degree), a Master of Science in Education leading to endorsement in school library media K-12 for licensed teachers, and a Master of Science in Education with initial licensure in library science K-12 for non-teachers.

**Library Science Endorsement K-12 for Licensed Teachers (non-degree)**

This non-degree graduate endorsement program leads to licensure as a school librarian (K-12) for individuals who already have a current Virginia teaching license. Students applying to this program complete a licensure-only application form.

**Admission, Continuance, and Exit Requirements**

**Admission.** Students must (1) hold a bachelor’s degree from an accredited institution; (2) have at least a collegiate professional teaching certificate from the Commonwealth of Virginia, (3) have a cumulative GPA of 2.75 for all college credit courses taken in the baccalaureate degree program, (4) have an interview and recommendation by a departmental representative in library science or his/her designee, and (5) submit an application for licensure only studies. No courses in the academic major or professional education in which
the student has made below a C- will be accepted for licensure in the Darden College of Education.

Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the program director for library science.

Continuance. Students must maintain a grade point average of 3.00.

Exit. Students must (1) have a 3.00 grade point average; (2) have an exit interview; (3) have completed all course requirements; and (4) have successfully completed a portfolio review.

Required courses:
- ECI 602 Production of Instructional Materials 3
- ECI 605 Selection and Utilization of Nonbook Media 3
- ECI 675 Administration, Management and Evaluation of Libraries (Required first course) 3
- ECI 676 Library Media Services and the Curriculum 3
- ECI 677 Technical Services in Libraries 3
- ECI 678 Selection, Evaluation and Utilization of Materials NK-12 4
- ECI 679 Theory and Management of Reference and Information Retrieval 3
- ECI 586 Student teaching for Special Endorsement 3

Master of Science in Education - Library Science K-12 Endorsement for licensed teachers

This program leads to a master’s degree plus licensure as a school librarian (K-12) for individuals who already have licensure as a teacher. Students applying to this program may apply for a degree in either elementary or secondary education and should designate the library science concentration on the application form.

Admission, Continuance, and Exit Requirements

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) hold the Virginia Collegiate Professional License or an equivalent license from another state; (3) have a general undergraduate grade point average of at least 2.80; (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 Miller Analogies Test (minimum score of 45 or 399 for regular admission); (5) have an interview with the graduate program director; and (6) apply for admission to graduate school. Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for elementary/middle education.

Continuance. Students must (1) maintain a grade point average of 3.00 and (2) maintain a grade point average of 3.00 in the major.

Exit. Students must (1) have a 3.00 grade point average; (2) have a 3.00 grade point average in the major; (3) pass a written comprehensive examination; (4) have an exit interview; (5) have completed all course requirements; and (6) submit an application for graduation; and (7) have successfully completed a portfolio review.

Program Requirements

Core (28 credits)
- ECI 602 Production of Instructional Materials 3 (Technology prerequisite)
- ECI 605 Selection and Utilization of Nonbook Media 3 (Technology prerequisite)
- ECI 675 Administration, Management and Evaluation of Libraries (Required first course) 3
- ECI 676 Library Media Services and Evaluation of Libraries 3
- ECI 677 Technical Services in Libraries 3
- ECI 678 Selection, Evaluation and Utilization of Materials NK-12 4 (Prerequisite: ECI 642 or equivalent)
- ECI 679 Theory and Management of Reference and Information Retrieval 3
- ECI 586 Internship/student teaching for Special Endorsement 3

Support (3-9 elective credits): Prerequisites for the core area may be counted as support courses if taken on the graduate level within six years of the date of graduation. These courses must be selected in consultation with the graduate program director or advisor.

Research core (7-13 credits)
- Thesis option (10-13 credits; 41 credits required for graduation)
- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 698 Thesis 3-6
- ELS 732 Statistics Applied to Research in Education 3

Problem paper option (7 credits; 38 credits required for graduation)
- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 636 Problems in Education 3

Master of Science in Education - Library Science K-12 Initial Licensure for non-teachers

This is an initial licensure program as a school library media specialist for people with a non-teaching B.S. or B.A. It is offered as part of the Master of Science in Education - elementary/middle education. In this program, students who do not have teacher licensure but who are seeking licensure as a school librarian (K-12) and a master’s degree in education will complete professional studies courses in addition to a prescribed set of library media courses and a research core. The minimum number of graduate credits for the program is 44 with some additional undergraduate requirements.

Admission, Continuance, Exit Requirements

Admission. Students must (1) hold a bachelor’s degree from a regionally accredited college/university; (2) achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or Board-approved SAT/ACT scores; (3) have a cumulative grade point average of 2.80; (4) take and receive satisfactory scores on either the Graduate Record Examination (score of 900 combined on verbal and quantitative for regular admission) or Miller Analogies Test (minimum score of 45 or 399 for regular admission); (5) have an interview with the graduate program director; and (6) submit an application for graduate studies. Performance in classes taken as a non-degree student will not be taken into consideration in the admission process. No courses in the academic major or professional education in which the student has made a grade below a C- will be accepted for licensure in the Darden College of Education.

Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the graduate program director for school librarianship.

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) receive a B or better in practicum to participate in teacher internship.

Exit. Students must (1) have a 3.00 grade point average; (2) pass a written comprehensive examination; (3) have an exit interview; (4) have completed all course requirements; (5) submit an application for graduation; and (6) pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure; and (7) have successfully completed a portfolio review. No courses in the academic major or professional education in which the student has made below a C- will be accepted for licensure requirements in the Darden College of Education.

Program of Study

Prerequisites. Individuals entering this graduate program must already possess a bachelor’s degree with classes which satisfy the Commonwealth of Virginia requirements in the liberal arts and sciences, and must pass the professional teacher’s assessment requirement (currently Praxis I or equivalent
SAT or ACT score) prescribed by the Virginia Board of Education. Transcripts will be evaluated by the education advisor to determine whether the academic requirements have been met by previous coursework or whether additional undergraduate courses are needed to satisfy the academic content requirements of the Commonwealth of Virginia. No courses in the academic major or professional education in which the student has made below a C- will be accepted toward licensure requirements in the College of Education.

**Professional Education (23 credits)**

- ECI 301 Social and Cultural Foundations of Education 3
- One of the following four instructional strategies courses 3
- ECI 530 Instructional Technology and the Classroom
- ECI 532 Developing Instructional Strategies PreK-6: Language Arts or
- ECI 533 Developing Instructional Strategies PreK-6: Mathematics or
- ECI 534 Developing Instructional Strategies PreK-6: Science or
- ECI 535 Developing Instructional Strategies PreK-6: Social Studies

**Taken within five years or waived through examination**

- ECI 436 Classroom Management and Practicum 2
- ECI 485 Internship/student teaching 6
- To be taken after the completion of all required professional education and library science courses.
- ECI 680 Reading in the Content Area 3
- ESSE 513 Human Growth and Development 3

**Library Science (25 credits) (Taken after at least 12 credits of professional education have been completed)**

- ECI 602 Production of Instructional Materials 3
- (Note: Technology prerequisite)
- ECI 605 Selection and Utilization of Nonbook Media (Note: Technology prerequisite) 3
- ECI 642 Children’s Literature Across the Curriculum 3
- ECI 675 Administration, Management and Evaluation of Libraries 3
- Required first course in the library science courses
- ECI 676 Library Media Services and the Curriculum 3
- ECI 677 Technical Services in Libraries 3
- ECI 678 Selection, Evaluation and Utilization of Materials NK-12 (Prerequisite: ECI 642 or equivalent) 4
- ECI 679 Theory and Management of Reference and Information Retrieval 3

**Research (7 credits) Problems paper**

- ECI 600 Introduction to Graduate Research 1
- ECI 635 Research Methods In Education 3
- ECI 636 Problems in Education 3

**Military Career Transition Program**

149 Education Building
757-683-5545

Robert Lucking, Graduate Program Director

**General Description of the Military Career Transition Program**

Designed with the needs and interests of the military person and spouse in mind, the Military Career Transition Program (MCTP) is a graduate, off-campus, evening, and weekend program specifically geared towards military and Department of Defense (DoD) personnel and their spouses. Upon completion of the Master of Science in Education and additional state licensure requirements, participants are eligible for licensure in the State of Virginia. Licensure grade levels include elementary education (PreK-6), middle school (6-8), and secondary (6-12); endorsements are available in the areas of math, sciences (earth science, biology, chemistry, and physics), English, social studies and technology education. Participants seeking technology education may do so in a program at the undergraduate or graduate level offered through the Department of Occupational and Technical Studies.

Potential candidates for the master’s degree program must possess an undergraduate degree from a regionally accredited college/university. Military personnel must have, at a minimum, six years of military service (active, reserve, or national guard). Spouses and DoD employees must have, at a minimum, six years of full time work experience to be eligible for admission. Degree courses are offered via distance education and traditional classroom format at 18 locations throughout Virginia and in Bangor/Everett and Bremerton, Washington. Site personnel are available at all locations to provide advisement. All MCTP students are required to meet with their site advisor prior to registration each semester. Old Dominion University is a member of the Service Members Opportunity Colleges (SOC), recognizing the unique nature of the military lifestyle and committed to easing the transfer of relevant course credits, providing flexible academic residency requirements, and crediting learning from appropriate military training and experiences.

**Programs:**

- Initial Licensure Program (Prek-6)
- Initial Licensure Program - Middle School (Grades 6-8)
- Initial State Licensure 6-12
- Master of Science in Education – Elementary
- Master of Science in Education – Secondary

**Admission.** Students must: (1) hold a bachelors degree from a regionally accredited college/university; (2) achieve passing scores on Praxis I Academic Skills Assessment based on Virginia standards; (3) have served a minimum of six years of military service; spouses and DoD personnel must have six years of full time work experience; (4) provide a 500 word essay (goal statement); (5) submit a two-page resume highlighting professional work experience; (6) complete an interview with an MCTP advisor; and (7) receive official transcript review from MCTP main campus office. Performance in courses taken as a non-degree student will not be taken into consideration in the admission process.

**Continuance.** Students must: (1) maintain a grade point average of 3.00; (2) receive a satisfactory observation evaluation as part of ECI 569; (3) complete required content coursework with grades of C or better; (4) submit a teacher internship application; (5) pass Praxis II specialty area exams based on Virginia standards (passing scores must be attached to the teacher internship application); and (6) submit scores and transcripts verifying successful completion of assessments and content coursework. Elementary Education (PreK-6) students must pass the Virginia Reading Assessment (VRA) prior to internship/student teaching.

**Exit.** Students must (1) have a graduate grade point average of 3.00; (2) pass a written comprehensive exam; (3) pass teacher candidate internship; (4) submit a graduation application and complete University graduate assessment; (5) submit a Virginia application for teacher licensure with official documentation to verify completion of all program and teacher licensure requirements as outlined by the College of Education and Virginia Department of Education, and (6) pass the Virginia Communication and Literacy Assessment (VCLA) prior to licensure.

**Program of study: Block I**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 569</td>
<td>Foundations and Observation</td>
<td>3</td>
</tr>
<tr>
<td>ECI 616</td>
<td>Design for Effective Instruction</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 513</td>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>ECI 530</td>
<td>Instructional Technology and the Classroom or</td>
<td>3</td>
</tr>
<tr>
<td>OTED 789</td>
<td>Instructional Technology in Education and Training</td>
<td>3</td>
</tr>
<tr>
<td>ESSE 506</td>
<td>Student with Diverse Learning Needs in the General</td>
<td>3</td>
</tr>
<tr>
<td>ECI 640</td>
<td>Management of Learning and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>ECI 680</td>
<td>Reading to Learn Across the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>ECI 656,657,658,659,662</td>
<td>Instructional Strategies/Methods*</td>
<td>3</td>
</tr>
<tr>
<td>ECI 568</td>
<td>Language Acquisition and Reading for Students</td>
<td>3</td>
</tr>
<tr>
<td>ECI 619**</td>
<td>Classroom Research and Assessment in</td>
<td>3</td>
</tr>
</tbody>
</table>

**Block III**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 699**</td>
<td>Internship/Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>Total credits required for master’s degree and licensure: PreK-6 (36); 6-8 (39), 6-12 (36)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
and Advising Office for internship/student teaching eligibility (Block III), with the exception of ECI 619.

Content area, co-requisite requirements specific to grade level/specialty area are mandatory for teacher licensure. An official transcript review based on the standards outlined by the Virginia Board of Education will be provided by the MCTP academic advisor to guide subject area preparation. No courses in which the student achieves below a C- will be accepted towards fulfillment of content area licensure requirements.

Master of Science in Education – Reading
168-3 Education Building
757-683-5103
Charlene Fleener, Graduate Program Director

General Description of Reading Education

Contained within this program are the Reading Specialist K-12 Endorsement for licensed teachers (non-degree) already having a master’s degree, Master of Science in Education – reading plus reading specialist endorsement for licensed teachers, and the Doctor of Philosophy in literacy leadership.

Endorsement – Reading Specialist K-12 (non-degree)

This non-degree graduate endorsement program leads to licensure as a reading specialist (K-12) for individuals already having a current Virginia teaching license and a master’s degree. Students applying to this program complete a licensure-only application form and submit official transcripts to the reading program director. Students intending to enter this graduate program must meet with the reading education graduate program director before or upon completion of more than six graduate credits. In addition to required coursework, students must complete three years of satisfactory experience in teaching reading, and satisfactorily complete a written comprehensive exam as well as the Virginia Reading Assessment for Reading Specialists to obtain the reading specialist endorsement.

Required Courses for Endorsement [21 credits]:
ECI 689 Survey of Reading Instruction 3
ECI 680 Reading to Learn Across the Curriculum 3
ECI 683 Diagnostic Teaching of Reading in the Classroom 3
ECI 685 Organizing and Supervising Reading Program Development 3
ECI 686 Language Development and Reading 3
ECI 693 Practicum in Reading I 3
ECI 618 Approaches to Teaching Literature and Writing 3

Master of Science in Education—Reading plus Reading Specialist Endorsement

The program is designed to provide professional training for prospective reading specialists and elementary- and secondary-level reading teachers, Grades K-12.

Extensive course offerings permit the graduate student to pursue an area of interest, such as elementary school reading, secondary school reading, college reading, and reading in clinical settings. As a culminating experience, each student investigates a problem area and prepares a formal research paper or project on a topic of interest.

Student study may include an intensive search of the professional literature on reading or selected field experiences in public, private, or governmental reading programs that provide reading services to clients. In addition, students tutor children and aid in the diagnosis and remediation of reading problems. Students who have three years of satisfactory experience in teaching reading, completed the entire degree program, and satisfactorily completed the Virginia Reading Assessment for Reading Specialists may obtain the reading specialist endorsement.

Admission, Continuance, and Exit Requirements

Admission. Students must: (1) hold a bachelor’s degree from a regionally accredited college/university; (2) hold the Virginia Collegiate Professional License or an equivalent license from another state; (3) have an undergraduate grade point average of 2.80 and an average of 3.00 in the major; (4) achieve a satisfactory score (as established by the ECI Department) on the Graduate Record Examination or the Miller Analogies Test; (5) have an interview with the graduate program director; (6) have had three semester credits in reading courses at the undergraduate level; and (7) submit an application for graduate study. Performance must be judged to be competent and satisfactory by the program director to continue. Students who do not meet the admission requirements must complete an application for provisional admission. Under certain circumstances, applicants who do not fully meet the requirements for regular admission to the program may be admitted on a provisional basis subject to conditions specified by the program director.

Continuance. Students must (1) maintain a grade point average of 3.00 and (2) maintain a grade average of 3.00 in the major.

Exit. Students must (1) have a 3.00 grade point average; (2) have a 3.00 grade point average in the major; (3) pass a written comprehensive examination; (4) have an exit interview; (5) have completed all course requirements; (6) submit an application for graduation; and (7) complete the Virginia Reading Assessment.

Program Requirements

A minimum of 33 semester credits is required for the master’s degree in reading education. The degree candidate must successfully pass a comprehensive examination, usually taken in the last semester of the program.

Course requirements for completion of the degree program are listed below.

Area I: Core [21 credits] (The following is the suggested sequence for these courses.)
ECI 618 Approaches to Teaching Literature and Writing 3
ECI 680 Reading to Learn Across the Curriculum 3
ECI 683 Diagnostic Teaching of Reading in the Classroom 3
ECI 685 Organizing and Supervising Reading Program Development 3
ECI 686 Language Development and Reading 3
ECI 693 Practicum in Reading I 3

Area II: Support [6 credits] - In consultation with the graduate program director, select two courses from the following or other approved courses.
ECI 642 Children’s Literature across the Curriculum 3
ECI 530 Instructional Technology and the Classroom* 3
ECI 652 Language Arts in the Elementary/Middle School 3
ECI 695 Topics: Multicultural Children’s Literature 3

Area III: Research [6 credits]
ECI 635 Research Methods in Education 3
ECI 637 Problems in Reading Education 3
Note: There is also a thesis option whereby the student elects ECI 637 and takes ECI 635 as well as ECI 698-699.

Doctor of Philosophy in Literacy Leadership

145 Education Building
757-683-3283, 757 683-3284
Jane Hager, Graduate Program Director

The Doctor of Philosophy in literacy leadership is a degree with a unique focus to prepare individuals as literacy professionals for leadership and supervisory roles, teaching literacy curriculum and instruction in higher education, and/or consulting for educational organizations or private industry. With a solid grounding in assessment, evaluation, and quantitative and qualitative research, the rigorous course of study provides an opportunity for students to develop a strong background in literacy with a leadership emphasis while providing the flexibility to pursue individual interests.

Possession of this degree often provides those who have earned it with entry into business, government, research and other leadership positions. The Ph.D. in literacy leadership is intended to prepare individuals for these roles and to provide them with the skills to carry out scholarly research and add to the body of knowledge in the field. The curriculum described below contains elements that will, if completed successfully, provide research expertise, literacy leadership skills and experience, and the ability to serve the nation’s schools, colleges and universities and contribute to global education.

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Program of Study

Prerequisite Coursework: All students admitted into the Ph.D. in literacy leadership must complete the following prerequisite courses unless they have previously completed equivalent graduate level coursework or have appropriate educational experience:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS 660</td>
<td>Teacher Candidate Internship for Special Endorsement</td>
<td>3</td>
</tr>
<tr>
<td>COUN 635</td>
<td>Research and Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>ECI 635</td>
<td>Research Methods in Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 619</td>
<td>Classroom Research and Assessment in Curriculum and Instruction</td>
<td>3</td>
</tr>
<tr>
<td>OTED 635</td>
<td>Introduction to Research in Education</td>
<td>3</td>
</tr>
<tr>
<td>ELS 732</td>
<td>Statistics Applied to Research in Educational Leadership – Data Driven Decision Making I</td>
<td>3</td>
</tr>
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</table>

Introductory Core: (6 credits – Required Courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 724/824</td>
<td>Readings in Contemporary Society</td>
<td>3</td>
</tr>
<tr>
<td>ECI 740/840</td>
<td>Critical Issues: Curriculum Research</td>
<td>3</td>
</tr>
</tbody>
</table>

Research Core: (15 credits – Required Courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS 832</td>
<td>Leadership – Data Driven Decision Making II</td>
<td>3</td>
</tr>
<tr>
<td>ELS 833</td>
<td>Advanced Research Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECI 748/848</td>
<td>Assessment and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>ECI 790/890</td>
<td>Qualitative Research Design</td>
<td>3</td>
</tr>
<tr>
<td>ECI 791/891</td>
<td>Program Evaluation</td>
<td>3</td>
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Content Area Credits (24 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 722/822</td>
<td>Curriculum Seminar in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>ECI 726/826</td>
<td>Advanced Supervision of Reading Programs</td>
<td>3</td>
</tr>
<tr>
<td>ECI 727/827</td>
<td>Advanced Practicum in Reading</td>
<td>3</td>
</tr>
<tr>
<td>ECI 728/828</td>
<td>Problems and Inservice in Reading/Literacy Research</td>
<td>3</td>
</tr>
<tr>
<td>ELS 811</td>
<td>Visionary Leadership for Educational Improvement</td>
<td>3</td>
</tr>
<tr>
<td>ELS 878</td>
<td>Leadership for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>ELS 880</td>
<td>Leadership for Exceptional Needs</td>
<td>3</td>
</tr>
<tr>
<td>ELS 887</td>
<td>Leadership for Exceptional Needs</td>
<td>3</td>
</tr>
<tr>
<td>ELS 888</td>
<td>Advanced ECI courses or substitutions as approved by advisor/committee</td>
<td>3</td>
</tr>
<tr>
<td>ECI 881</td>
<td>Dissertation Seminar (If seminar is waived by doctoral committee, the credits are added to the content.)</td>
<td>3</td>
</tr>
<tr>
<td>ECI 99</td>
<td>Dissertation</td>
<td>12</td>
</tr>
</tbody>
</table>

Education Specialist

149 Education Building
757-683-5545

Robert Lucking, Graduate Program Director

This program is designed for licensed teachers of grades PreK-12 who hold a master’s degree and wish to improve their skills/knowledge in education and earn an advanced degree. Offered in cooperation with the Department of Educational Leadership and Counseling, 18 credits are taken in the area of administration. The remainder of the 33 credits consists of courses in the Department of Educational Curriculum and Instruction.

Curriculum and Instruction

168-8 Education Building
757-683-4584

Linda Bol, Graduate Program Director

General Description of the Ph.D. in Curriculum and Instruction

The Doctor of Philosophy in curriculum and instruction is the degree most often desired by classroom teachers/SLMS who want to continue their education but remain in the classroom or school library media center, individuals who want to teach curriculum and instruction (including specialties such as library science) in higher education, and/or individuals in supervisory positions.

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positions in school divisions who wish to continue their education in curriculum and instruction. With a solid grounding in assessment, evaluation, and quantitative and qualitative research, the rigorous course of study provides an opportunity for students to develop a strong background in curriculum and instruction while providing the flexibility to pursue individual interests. The curriculum described below contains elements that will, if completed successfully, provide research expertise, curriculum and instruction skills and experience, and the ability to serve the nation’s schools, colleges and universities and contribute to global education.

Admission. For admission to this program, individuals should have a completed master’s degree in an appropriate discipline from a regionally accredited university. Degrees that are equivalent to a master’s degree such as L.L.B., J.D., and D.D.S., are also acceptable. Prospective students should also have prior course work in statistics, and curriculum and instruction. If this requirement is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisites on the curriculum description for specifics.

Application requirements for the Ph.D. in curriculum and instruction are as follows:

1. A completed application form which is available online or from the Office of Graduate Admissions;
2. Official transcripts of all undergraduate and graduate courses and degrees completed;
3. Official report scores from the Graduate Record Examination (verbal, quantitative, and analytical) taken within the last five years. GRE scores expire after five years; however, candidates who have completed the exam prior to five years before the application deadline may submit these scores for consideration if they are provided from an official source such as a transcript or form provided by the Educational Testing Service. Old Dominion University reserves the right to determine what is an “official source;”
4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600 (written) or 250 (computer-based);
5. Applicants must submit a 1500 word statement of their academic and professional goals with an emphasis on how the Ph.D. degree in curriculum and instruction will contribute to the achievement of the stated goals;
6. Three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study. It is recommended that these letters come from employment supervisors and/or university faculty members; and
7. An interview with the curriculum and instruction program committee. This committee will also review applications for admission.

Admission to the Ph.D. programs in the Department of Educational Curriculum and Instruction is competitive. A number of criteria is considered including graduate and undergraduate GPAs, GRE scores, writing ability, a personal statement, and the match between student interests and faculty expertise. Meeting the minimum requirements established by the department does not ensure admission to the program. Students applying to the Ph.D. programs in the department should have a minimum score of 500 on the verbal reasoning, 500 on the quantitative reasoning and 4.5 on the analytical writing component of the GRE. A minimum undergraduate GPA of 2.8 and a minimum graduate GPA of 3.25 are recommended.

Degree Requirements. The Ph.D. program in curriculum and instruction is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes an introductory core of six credits, a content area with 24 credits minimum, a research component including 15 credit hours, the three credit dissertation seminar and the dissertation which will include a minimum of 12 credit hours. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program may also need to complete introductory statistics courses if they have not had such courses or cannot demonstrate competency at a satisfactory level. Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to curriculum and instruction and/or who have not completed courses to develop competency in specified areas may need to complete these courses in addition to the required courses.

Under normal circumstances, admissions will be offered to build efficient cohort groups for this type of advanced study. In order to enhance the experience of the students and to increase the efficiency by which courses are offered, cohorts will be limited. The limited number of students assures that there is an adequate number of full-time faculty members to serve the students through advising and other duties, particularly when the cohorts reach the dissertation stage of the program.

To build a cohesive cohort group, the introductory core will be offered on the Old Dominion University campus each summer. It will be expected that all newly admitted students will come to campus for these courses during the first summer after which they are admitted to the program. Residency at a second intensive set of courses the following summer is recommended but not required.

A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements. One of the semesters of full-time study (defined as completion of nine credit hours in the fall and spring or six credits during the summer) must be accomplished by the completion of the intensive summer noted above. The second semester of residency can be accomplished in several ways. Students may complete nine credit hours during any spring or fall semester or may take six credits during the summer. Courses taken via TELETECHNET or other distance education methodologies are considered “resident” courses, so that taking three TELETECHNET courses during a semester may complete the second residency requirement.

Applicants must submit completed applications and all related material no later than February 1 of each year, and students will be admitted for study beginning in June or July of the same year.

Program Completion and Exit. In order to complete the program students must fully comply with the curriculum below, and all requirements noted elsewhere in the University catalog for graduate students and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and complete required portions.

Curriculum

Prerequisite Coursework: All students admitted (regular and provisional) into the Ph.D. program in curriculum and instruction must complete the following prerequisite courses unless they have previously completed equivalent graduate level coursework or have appropriate educational experience.

ELS 660  Program Evaluation Research and Planning  3
COUN 635  Research and Program Evaluation 3
ECI 635  Research Methods in Education  3
ECI 619  or 629  or 639 (course selection based on Graduate Program and Research Core in Curriculum and Instruction)  3
OTED 635  Introduction to Research in Education  3
ELS 732  Statistics Applied to Research in Educational Leadership  3
ECS 670  Decision Making I  3

Introductory Core: (6 credits – Required courses)

ECI 724/824  Readings in Contemporary Society  3
ECI 740/840  Critical Issues: Curriculum Research  3

Research Core: (15 credits - Required Courses)

ELS 832  Statistics Applied to Research in Educational Leadership  3
ELS 833  Advanced Research Design and Analysis  3
ECI 748/848  Assessment and Evaluation  3
ECI 790/890  Qualitative Research Design  3
ECI 791/891  Research Evaluation  3

Content Area Credits (24 hour minimum)

ECI 701/801  Seminar in Education: Theories of Learning and Instruction  3
ECI 721/821  Advanced Curriculum Design and Development  3
ECI 722/822  Curriculum Seminar in Content Areas  3
ECI 731/831  Instructional Technology Trends in Curriculum and Instruction  3
ECI 735/835  Technology and the Management of Curriculum and Instruction  3
ECI 741/841  Change Issues in Curriculum and Instruction  3
ECI 752/852  Curriculum Problems in the Urban School and Society  3
ECI 788/888  Seminar in the Multicultural Environment  3
ECI 795/895  Topics in Education (Not to exceed 6 credits)  3

Additional ECI courses or substitutions may be approved by the advisor/committee and ECI Ph.D. graduate program director. With approval of the advisor/committee, a student may select up to four courses from any of the other education Ph.D. concentrations with no more than two courses from any one of these areas.

Dissertation Seminar

ECI 881  Dissertation Seminar (If seminar is waived by doctoral committee, the hours are added to the content.)  3

Dissertation

ECI 889  Dissertation  12
Department of Educational Leadership and Counseling

110 Education Building
757-683-4344

Dana Burnett, Chair

The Department of Educational Leadership and Counseling offers graduate programs in community college leadership (Ph.D.), counseling (M.S.Ed., Ed.S., Ph.D.), educational leadership (M.S.Ed., Ed.S., Ph.D.), and higher education (Ph.D.).

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 the catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://education.odu.edu/.

Individual programs are described on the following pages:

Community College Leadership

- Doctor of Philosophy in Community College Leadership

Counseling

- Master of Science in Education
  - School Counseling
  - Community Health Counseling
  - Education Specialist

- Doctor of Philosophy in Counseling
  - Clinical
  - School Counseling
  - Mental Health Counseling

Educational Leadership

- Master of Science in Education – Administration and Supervision
- Master of Science in Education – Administration and Supervision with K-12 licensure
- K-12 Licensure only
- Education Specialist – Educational Leadership
- Education Specialist – Educational Leadership with K-12 licensure
- Doctor of Philosophy in Educational Leadership

Higher Education

- Master of Science in Education
  - Higher Education emphasis
  - Student Affairs Administration
  - General Administration
  - International Higher Education Leadership

- Education Specialist
  - Higher Education
- Doctor of Philosophy in Higher Education
  - Higher Education Policy and Administration
  - Student Affairs
  - Community Colleges

Doctor of Philosophy – Community College Leadership

110 Education Building
757-684-4344

Ted Rasplier, Graduate Program Director

In order to meet the executive leadership workforce needs of Virginia’s community colleges, community colleges in the Southeast United States, and beyond, Old Dominion University has developed a Doctor of Philosophy degree in Community College Leadership. The innovative quality of this program supports the University’s commitment to technology-delivered learning by implementing leadership graduate courses at each of the 23 VCCS community colleges and elsewhere in the United States through Old Dominion University’s TELETECHNET delivery system. Other course delivery methods including video streaming, asynchronous courses and other emerging technological approaches will be used as they are available and practical. This enables prospective students to meet their personal and professional needs by offering accessible graduate education.

Some of the unique community college leadership issues that are addressed in this program are: the diversity of the student body, the role of the community college in the higher education system of Virginia, the role and expectations of the communities hosting the community college, and the importance of workforce preparation provided by Community Colleges.

Admission. Criteria for admission to the Ph.D. in Community College Leadership are as follows:

1. A completed master’s degree in an appropriate discipline from an accredited university. Degrees that are equivalent to a master’s degree such as L.L.B., J.D., and D.D.S. are also acceptable;
2. A minimum GPA of 3.5 (on a 4.0 scale) overall for the master’s degree and in the major area of study in the master’s degree;
3. A minimum of 1000 overall total score on the GRE with a minimum of 500 on both the verbal and quantitative sections of the GRE. Prospective students must score a minimum of 4.5 on the analytical writing portion of the GRE. GRE scores expire after five years; however, candidates who have completed the exam prior to five years before the application deadline may submit those scores for consideration if the scores meet the minimum expectations and they are provided from an official source such as a transcript or form provided by the Educational Testing Service. Old Dominion University reserves the right to determine what is an “official source.” These scores are minimums; other portions of the total application package will be considered for admission;
4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600;
5. Applicants must submit a 1500 word statement of their academic and professional goals with an emphasis on how the Ph.D. degree in community college leadership will contribute to the achievement of the stated goals;
6. Three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study. At least one of these letters must be from a senior-level administrator in a community college;
7. An interview with the Community College Leadership Program Committee, one member of which will be a president, provost, dean or other senior representative from the administration of a community college. This committee will also review applications for admission. Any representative from the home campus of an applicant will excuse himself or herself from participation in consideration of that applicant; and,

Prior course work is assumed in statistics, student development, workforce development, and leadership theory. If this assumption is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisites and additions at the bottom of the curriculum description for specifics.

Continuing Requirements. At the end of each semester – fall, spring, and summer – the graduate program director reviews records of students who do not maintain a 3.00 cumulative grade point average (GPA). Graduate students, whether degree or non-degree seeking, who do not have a cumulative GPA of at least 3.00 will be placed on probation.

The Ph.D. program in community college leadership is comprised of courses totaling a minimum of 48 academic credit hours beyond the master’s degree. The curriculum includes four parts: a content concentration totaling 18 credit hours, a research component including 12 credit hours, nine credit hours of electives, and the dissertation which will include a minimum of nine credit hours depending on the length of time necessary for completion.

Students entering the program may also need to complete one introductory statistics course if they have not had such a course or cannot demonstrate competency at a satisfactory level. If students have not yet served in an administrative or other leadership position in a community college for a minimum of three years, they will also need to complete two three credit hour internships (CCL 868) as part of their elective requirements. Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to higher education administration and/or who have not completed courses to develop competency in specified areas may need to complete these courses in lieu of electives.

Under normal circumstances, admissions will be offered once a year in order to build efficient cohort groups for this type of advanced study. In order to enhance the experience of the students and to increase the efficiency by which courses are offered, a cohort of 15 students will be admitted each year.
To build a cohesive cohort group, a series of intensive courses will be offered on the Old Dominion University campus each summer. It will be expected that all newly admitted students will come to campus for one of these seminars during the summer after which they are admitted to the program and complete two courses together as a group. A third course will be available via TELETECHNET or other distance education methodologies as developed during the summer, so that students may comply with one of the residency requirements. Residency at a second intensive seminar the following summer is recommended but not required.

A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements. One of the semesters of full-time study (defined as completion of nine credit hours) must be accomplished via the completion of the first intensive seminar noted above. The second semester of residency can be accomplished in several ways. Students may complete nine credit hours during a Fall or Spring semester or three hours during the Summer or may attend a second summer residency. Courses taken via TELETECHNET or other distance education methodologies are considered “resident” courses, so that taking three TELETECHNET courses during a semester may complete the second residency requirement.

Applicants must submit completed applications and all related material no later than February 1 of each year, and students will be admitted for study beginning in May of the same year.

Program Completion and Exit. In order to complete the program students must fully comply with the curriculum below.

**Prerequisites**

- ELS 732 Statistics Applied to Research in Educational Leadership–Data Driven Decision Making 3
- Curriculum/Course Titles and Credits (Total of 48 credits)
- Content Concentration (Community College Research and Statistics Courses - 30 credits)

1. **Community College Core (Minimum 18 credits)**

The following nine courses (18 credits) are required for all students who did not have them as part of a master’s degree program. If some or all of these courses were taken as part of the student’s master’s program, the student may select alternate courses from the Electives List in consultation with the GPD.

- CCL 820 Community College Leadership 3
- CCL 824 Community College Finance 3
- CCL 826 Community College Curriculum & Program Development 3
- HIED 866 The Contemporary Community College 3
- OTED 865 Trends & Issues in Workforce & Economic Development 3
- OTED 889 Instructional Technology 3

2. **Research and Statistics (Minimum of 9 credits)**

- HIED 877 Advanced Program Assessment and Evaluation 3
- ELS 832 Statistics Applied to Research in Education 3
- ELS 833 Advanced Research Design and Analysis Rubric 3

3. **Electives (Minimum 6 credits)**

- COUN 807 Student & Adult Development 3
- COUN 810 Intro to Student Personnel 3
- HIED 808 Contemporary Issues in Higher Education 3
- HIED 811 Higher Education and Society 3
- HIED 812 Strategic Planning and Institutional Effectiveness 3
- HIED 837 Academic Issues in Higher Education 3
- HIED 845 Today’s College Student and Diversity 3
- HIED 852 The Law of Higher Education 3
- HIED 856 Higher Education Finance 3
- HIED 862 Development and Fund Raising 3
- HIED 864 The College and University Presidency 3
- HIED 865 Adult and Continuing Education 3
- HIED 893 History of Higher Education in the U. S. 3
- HIED 894 Organization & Administration of Higher Education 3
- HIED 895 Topics in Higher Education Administration 3
- OTED 861 Foundations of Adult Education & Training 3
- OTED 862 Administration of Adult Training Programs 3
- OTED 885 Curriculum Development in Occupational Education & Training 3
- OTED 888 Instructional Strategies & Innovations in Training & Occupational Education 3
- OTED 889 Instructional Technology in Education & Training 3

4. **Dissertation Seminar (3 credits)**

- HIED 881 Dissertation Seminar 3

5. **Dissertation (Minimum 9 credits)**

- HIED 899 Dissertation 9 (min)

6. **Experiential Requirements.**

Required for all doctoral students who have not served in a full-time administrative position. Two internships are required of students who have not completed the minimum of three years of administrative experience in a Community College. It is expected that each intern will work with an administrator at the dean level or higher.

CCL 868 Internship in Community College Leadership 3

**Department of Counseling**

The counseling program, with specialty areas in community/mental health counseling and school counseling, offers a master’s degree, an education specialist degree, and a Ph.D. in counseling. Both the master’s and the education specialist degrees fulfill the requirements for licensure by the state of Virginia as a school counselor and/or Licensed Professional Counselor. The program offers a curriculum that emphasizes the following core components: human growth and development; social and cultural foundations; the nature of helping relationships; group theory and group process; career and lifestyle development; appraisal, research and program evaluation; ethics, standards, and credentialing, and professional issues. The program also aims at stimulating social advocacy and systems understanding in order to reduce disparities among groups. In addition, course work specific to the various emphasis areas is required. A variety of field placement activities (e.g., practicum, internship) are required to assure that students are able to apply the skills and knowledge they learned to help clients. The counseling program is designed to ensure that the counseling student possesses the personal characteristics necessary to be an effective counselor. This is accomplished through the admissions process, use of experiential and didactic learning approaches, and use of an ongoing screening process of students. The program is accredited by the Council for the Accreditation of Counseling and Related Programs (CACREP). Additional program objectives and other important program information can be found in the Program Handbook.

The master’s degree in counseling offers two specialty areas: community/mental health counseling and school counseling. Although both emphasis areas meet the goals of the program as noted above, and in the Program Handbook, the school counseling emphasis area is committed to engaging students in the acquisition and application of knowledge relevant to a new vision of school counseling. Through content and experiential learning in both classroom settings and in the schools, graduate students are trained to become school counselors who are systemic thinkers, leaders, partnership builders, advocates for children, and proactive professionals who embrace the belief that all children are capable of achieving at high levels. By defining the roles and functions of the school counselor in innovative ways, this new paradigm in school counseling stresses the concept that school counselors are a major force in closing the “achievement gap” and that these changes will be observable and measurable. The community/mental health counseling emphasis area is designed to prepare graduate students for careers in community mental health clinic settings and in private practice. The program of study in this emphasis area is intended to cover the major topics required to achieve licensure as a Licensed Professional Counselor (LPC) in Virginia.

The doctoral degree in counseling also offers the two specialty areas noted above, community/mental health counseling and school counseling. The Ph.D. in counseling is intended to prepare individuals for employment as counselor educators in colleges and universities, clinicians in private practice and mental health agencies, and for counseling leadership positions in the public schools. This program provides doctoral students with the skills to carry out scholarly research, lead organizations, and create new knowledge.

**Master of Science in Education-Counseling**

110 Education Building
757-683-3221

Radha J. Horton-Parker, Graduate Program Director

**Admission.** Students must have a bachelor’s degree with 12 hours of prerequisite course work in the social sciences. Admission criteria include an undergraduate GPA of at least 3.00, Graduate Record Examination scores, recommendations, an essay, and on request by the program faculty, an interview (see graduate admission booklet). All students who are accepted are initially admitted to conditional status. Following successful completion of 13 specified hours of conditional course work and evaluation by the faculty, students are changed to regular status.
Continuance. Students must meet all University and program requirements. In addition, students must obtain a B or better average for the first 13 credits, with no more than one C for the first 13 credits, be positively evaluated by program faculty while taking conditional status course work, have demonstrated professional demeanor and have shown acceptance of personal responsibility for their actions, and have obtained a B- or better in Counseling Skills (COUN 633).

Program Completion and Exit. Students must successfully complete a written comprehensive examination and the required course of study and have a minimum GPA of 3.00.

Program Requirements. The program maintains emphasis areas in school counseling and community/mental health counseling, which are consistent with guidelines that have been set by the Council for the Accreditation of Counseling and Related Programs (CACREP). A minimum of 48 semester hours is required for the Master of Science in Education with a specialty in school counseling. A minimum of 60 semester hours is required for the Master of Science in Education with a specialty in community/mental health counseling. Three to six semester hours of credit may be earned for a thesis if the student selects the thesis option. Toward the conclusion of the program, all students must pass a comprehensive exam. All students are required to take 31 credits of common-core course work, which includes COUN 601, 630, 633, 645, 650, 655, 669, 676, 678, 679, 692 [Internship]. In addition, the school counseling specialty requires two credits of elective work. MENTAL HEALTH COUNSELING: COUN 680, 691, 694 [Internship], 647, 646, and 685. In addition, the community/mental health counseling specialty requires three credits of elective work.

Curriculum

Conditional Status Courses - 13 credits

COUN 601 Principles of Professional Counseling and Ethics 3
COUN 630 Growth Group 1
(Pre/Coreq: COUN 601, 633)
COUN 633 Counseling and Psychotherapy Techniques 3
(Pre/Coreq: COUN 601, 633)
COUN 645 Testing and Client Assessment 3
(Pre/Coreq: COUN 601, 633)
COUN 650 Theories of Counseling and Psychotherapy 3
(Pre/Coreq: COUN 601, 633)

Regular Status Courses - 18 credits

Prerequisites: COUN 601, 630, 633, 645, 650, 630
COUN 631 Counseling for Lifespan Development 3
COUN 635 Research Methods and Program Evaluation 3
(Can be substituted for COUN 645 in sequence)
COUN 644 Group Counseling and Psychotherapy 3
(Prereq: COUN 601, 630, 633, 645 & 650)
(School Counseling students may substitute COUN 642 Structured Counseling Groups)
COUN 648 Foundations of Career Development 3
COUN 655 Social/Cultural Issues in Counseling 3
COUN 669 Practicum in Counseling 3
(Pre/Coreq: COUN 642 or COUN 644)

Specialty Courses and Electives

School Counseling - 17 credits

Prerequisites: Admission to regular status; COUN 601, 630, 633, 645, 650
COUN 678 Counseling Children & Adolescents in School Settings 3
(Prereq: COUN 631, COUN 642 or COUN 644, 648)
COUN 679 School Counseling Program Development K-12 3
(Prereq: COUN 676, 678, 631, COUN 642 or COUN 644, 648, 650, 655)
COUN 692 Internship in School Counseling 6
(Dept. approval required. Only one course may be taken with internship)
Electives 2

Community/Mental Health Counseling - 29 credits

Prerequisites: Admission to regular status; COUN 601, 630, 633, 645, 650
COUN 646 Practicum in Counseling Supervision 3
(Prereq: COUN 601, 633, 650, 669 & 694)
COUN 647 Addictive Disorders 3
(Prereq: COUN 601, 630, 633, 645, & 650)
COUN 680 Mental Health Counseling 3
COUN 685 Diagnosis and Treatment Planning in Mental Health Counseling 3
COUN 691 Family Systems and Family Development 3
COUN 694 Internship in Mental Health Counseling 8
Only one course may be taken with internship.
Electives 6

Education Specialist–Counseling

110 Education Building 757-683-3221
Radha J. Horton-Parker, Graduate Program Director

The Education Specialist (Ed.S.) degree in counseling is designed to further develop and broaden students’ knowledge and skills in counseling and to cultivate their capacity for leadership as professionals. The Ed.S. is suitable for individuals who desire to enhance their preparation as professionals and to satisfy the academic portion of the state requirements for licensure as a professional counselor. It is considered a terminal counseling practitioner’s degree.

Admission. Students must have a master’s degree in counseling or a related field. The master’s degree must include graduate course work in counseling theories, counseling skills, group counseling, social and cultural foundations, counseling across the life span, testing and individual appraisal, research methods, foundations of career development, growth group experience and documentation of a practicum or internship consisting of a minimum of 180 hours of successful full-time supervised counseling experience. Students must also have one year of work experience as a counselor. Any of these courses, or their equivalents, not taken at the master’s level will have to be taken as prerequisites before admission as a regular student. Additional admission requirements are an acceptable graduate GPA, acceptable scores on the Graduate Record Examination, three letters of professional recommendation, and an essay on professional career goals and expectations. Applicants whose grade point averages or test scores are slightly below the required minimum will be considered for provisional admission.

Non-matriculated or non-degree status. Students may take a maximum of six credits as a non-matriculated or non-degree student before being admitted into the program.

Continuance. Students must meet all University requirements.

Exit. Students must successfully complete the required course of study (30 hours) with a grade point average of 3.00 or better, and pass a written comprehensive examination.

Program Requirements. The Education Specialist degree requires 30 semester hours of course work, excluding any prerequisites. At least 18 of the 30 credits must be at the 700 or 800 level. Required courses are COUN 842, 844, 845, 846, 847. Any core requirement in the Old Dominion University master’s program in counseling not previously taken is required and can be used toward elective credits in the Education Specialist program.

Professional Counselor (LPC) Track

110 Education Building 757-683-3221
Radha J. Horton-Parker, Coordinator

The purpose of the Licensed Professional Counselor track is to provide individuals with the academic preparation for eventual licensure. Students who already have a master's degree in counseling must apply to the LPC track using the form in the main Department Office. There is no specific deadline, as admissions are rolling. The admission process is internal to the program, so students only need to submit the following to the office staff in the Departmental Office: (1) a completed application, (2) their master's degree transcripts, (3) official GRE scores, (4) two letters of recommendation, and (5) a statement from the Board of Counselors that indicates courses they need to be eligible for licensure. The latter will be provided by that Board for a fee. It should be noted that the counseling program is not associated with the Board of Counseling. Please contact the Board at (804) 662-9900 or view its web site (www.dhp.state.va.us/counseling) for other specific information, such as the courses that would need to be taken, the number of hours of supervised counseling practice needed, the total number of credits required for becoming an LPC, and other requirements to sit for the licensing exam. When the student is admitted, the student's advisor, who is normally the graduate program director, will work with the student to plan his or her curriculum.
Doctor of Philosophy in Counseling

110 Education Building
757-683-3326

Nina Brown, Graduate Program Director

The Doctor of Philosophy is the degree most often desired for those who wish to become faculty members in American colleges and universities and leaders in schools and agencies. The Ph.D. in counseling is intended to prepare individuals for employment as counselor educators in colleges and universities, clinicians in private practice and mental health agencies, and for counseling leadership positions in the public schools. This program provides doctoral students with the skills to carry out scholarly research, lead organizations, and create new knowledge.

Admission. Criteria for admission to the Ph.D. in counseling include: the accrediting standards of academic aptitude for doctoral-level study, previous relevant and successful professional experience, fitness for the profession including self-awareness and emotional stability, verbal and written communication skills, and potential for professional leadership and advocacy.

Specific criteria include the following:

1. A completed master’s degree in counseling from a CACREP accredited program, or a master’s degree in a related field whose program of study included all required courses in an accredited degree program in counseling; applicants from other disciplines may be admitted provisionally;
2. An overall minimum GPA of 3.5 on a 4.0 scale for the master’s degree program;
3. A minimum of 500 on the verbal, 500 on the quantitative, and 4 on the analytical sub-test of the GRE. The GRE must have been taken within the past five years;
4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600; and,
5. A minimum of one year of full-time experience in professional counseling is suggested, and two or more years are preferred.
6. The application process includes the following materials:
7. A completed application form for graduate study obtained from the Office of Graduate Admissions.
8. Official Graduate Record Examination scores taken within the previous five years.
9. An official transcript for the master’s degree.
10. Three letters of recommendation to be distributed as follows: one or more instructors or advisors from the applicant’s graduate program, and a minimum of one from a current or recent supervisor who is qualified to assess the applicant’s suitability for the counseling profession.
11. An original essay of no less than 1,500 words addressing the applicant’s perception of a major issue in the counseling field.
12. An original essay of no less than 500 words that is a statement of the applicant’s goals, qualifications, and reasons for seeking admission to the doctoral program.

Applicants must submit completed applications and all related material no later than February 1 of each year, and students will be admitted for study beginning in August of the same year. Applicants may also be required to participate in interviews and submit a videotaped work sample in order to be considered for admission.

Program Requirements. The Ph.D. program in counseling is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes: a three-credit introductory course focused on professional issues in counseling, ethics, and professional orientation; a 15-credit research core; 30 credits of concentration, specialty, and clinical courses; and 12 credits of dissertation. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program will also need to complete an introductory statistics course, an introductory supervision course, and an introductory research course if they have not had such courses or cannot demonstrate competency at a satisfactory level.

A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements.

Program Completion and Exit. In order to complete the program students must fulfill the requirements noted elsewhere in the University catalog for graduate students and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and complete required portions.

Curriculum

Prerequisites – 9 credits
COUN 635 Research Methods and Program Evaluation in Counseling (or equivalent) 3
COUN 646 Practicum in Counseling Supervision 3
ELS 732 Statistics Applied to research in Education and Human Services I (or equivalent) 3

Introductory Course – 3 credits
COUN 801 Current Issues in Counseling and Counselor Education 3

Research Core – 15 credits
ELS 832 Statistics Applied to Research in Education and Human Services II 3
ELS 833 Advanced Research Design and Analysis 3
ECI 890 Qualitative Research Design 3
COUN 835 Advanced Counseling Research and Program Evaluation 3
COUN 898 Dissertation Seminar 3

Content Concentration and Specialty - 30 credits
COUN 820 Counselor Education Teaching and Practice (45 – 90 clinical hours) 3
COUN 844 Advanced Group Counseling & Psychotherapy (15 clinical hours) 3
COUN 842 Advanced Counseling Theories & Practice (10 clinical hours) 3
COUN 846 Supervision in Counseling (40 clinical hours) 3
Clinical – 9 credits (included in the 30 credits for the concentration)
COUN 869 Advanced Supervised Practicum in Counseling 3
COUN 892 Internship in Counseling and Urban Services (600 hours minus 120 other clinical hours) 6

Specialties:
School Counseling Specialty - 9 credits included in the 30 credits for the concentration
School Counseling Leadership Emphasis
ELS 811 Visionary Leadership for Educational Improvement 3
ELS 876 Ethics, Integrity and Social Justice in Education 3
ELS 887 Leadership for Exceptional Needs 3
COUN 850 Advanced Issues and Practices in School Counseling (Required) 3

Mental Health Counseling Specialty - 9 credits included in the 30 credits for the concentration
COUN 840 Advanced Diagnosis & Treatment Planning 3
COUN 847 Chemical Dependency Counseling 3
COUN 881 Family Therapy 3
Electives from Psychology may be substitutes

Dissertation - (12 credits minimum)
COUN 899 Dissertation 12 (min)

Educational Leadership

110 Education Building
757-683-4954
http://education.odu.edu/clc/academics/educational/ed_leadership_phd.shtml

William A. Owings, Graduate Program Director

The purpose of the graduate programs in educational leadership is to prepare individuals to assume leadership responsibilities in education, training, and human service organizations. Educational leadership offers the M.S.Ed. degree for candidates seeking principal and supervision licensure, the Ed.S. degree (with and without initial licensure) and the Ph.D. in educational leadership. The programs emphasize the preparation of visionary and responsive leaders for educational and training organizations. The program fosters an opportunity to obtain an understanding of the knowledge, research, skills, practices, and attitudes via study and field experiences. The emphasis area in educational administration and supervision is approved by the state of Virginia and the National Council for Accreditation of Teacher Education. Individualized programs are also planned.
The administration and supervision emphasis area is based on the Commonwealth of Virginia’s six competencies for educational leaders. Through this program participants will develop and demonstrate competence in the following areas:

1. Knowledge and understanding of student growth and development, including:
   - Applied learning and motivational theories;
   - Curriculum design, implementation, evaluation and refinement;
   - Principles of effective instruction, measurement, evaluation and assessment strategies;
   - Diversity and its meaning for educational programs; and
   - The role of technology in promoting student learning.

2. Knowledge and understanding of systems and organizations, including:
   - Systems theory and the change process of systems, organizations and individuals;
   - The principles of developing and implementing strategic plans;
   - Information sources and processing, including data collection and data analysis strategies;
   - Learning goals in a pluralistic society; and
   - Effective communication, including consensus building and negotiation skills.

3. Knowledge and understanding of theories, models, and principles of organizational development, including:
   - Operational procedures at the school and division/district level;
   - Principles and issues of school safety and security;
   - Human resources management and development, including adult learning and professional development models;
   - Principles and issues related to fiscal operations of school management;
   - Principles and issues related to school facilities and use of space;
   - Legal issues impacting school operations and management; and
   - Technologies that support management functions.

4. Knowledge and understanding of the conditions and dynamics of the diverse school community, including:
   - Emerging issues and trends that impact the school community;
   - Community resources and partnerships of school, family, business, government and higher education institutions; and
   - Community relations and marketing strategies and processes.

5. Knowledge and understanding of the purpose of education and its role in a modern society, including:
   - The philosophy and history of education;
   - Various ethical frameworks and professional ethics;
   - The value of the diverse school community; and
   - The role of leadership in modern society.

6. Knowledge and understanding of principles of representative governance that undergird the system of American schools, including:
   - The role of public education in developing and renewing a democratic society and an economically productive nation;
   - The law as related to education and schooling;
   - The political, social, cultural and economic systems and processes that impact schools;
   - Models and strategies of change and conflict resolution as applied to the larger political, social, cultural and economic contexts of schooling;
   - Global issues and forces affecting teaching and learning; and
   - The importance of diversity and equity in a democratic society.

The purpose of the master’s program is to prepare individuals to assume leadership responsibilities in education, training, and human service.

Master of Science in Education - Administration and Supervision emphasis

110 Education Building
757-683-4954
http://education.odu.edu/elc/academics/educational/ed_leadership_phd.shtml

William A. Owings, Graduate Program Director

Admission. Students must:
1. meet all University requirements;
2. have an undergraduate grade point average of 2.80 overall and 3.00 in the major;
3. provide two letters of recommendation, including one from an administrator who will serve as the student’s sponsor/mentor;
4. complete a one-page essay explaining why he/she should be admitted into the program; and,
5. have an acceptable score on the Graduate Record Examination or the Miller Analogies Test.

In addition, all students who wish to enter the administration and supervision programs with Commonwealth of Virginia accreditation must satisfactorily complete an administrative skills portfolio assessment process. ELS 600 must be the first course in which students enroll. Performance in classes as a non-degree student will not be taken into consideration in the admission process.

Continuation. Students must meet all University and program requirements including the administrative skills portfolio and maintain a 3.00 graduate average. Those seeking the Administration and Supervision PreK-12 endorsement on their Commonwealth of Virginia Postgraduate Professional license beginning July 1, 2005 must take and pass the School Leaders Licensure Assessment (SLLA, #1010).

Exit. Students must successfully complete:
1. the School Leaders Licensure Assessment (SLLA);
2. the required course of study;
3. a critical issues paper in ELS 673;
4. the administrative skills assessment portfolio, observation and practicum, and internship; and
5. have a minimum 3.00 grade point average in order to graduate.

Program Requirements

For the Master of Science in Education with an emphasis in administration and supervision, the student must have completed an approved 36-hour minimum graduate program with a culminating written comprehensive examination and administrative skills portfolio assessment. Approved field observation, practicum, and internship experiences are required, and students must demonstrate competence in computer applications in educational administration and supervision or take ELS 760. The thesis option is available to all students.

Administration and Supervision Preparation for Public School Pre K-12 Licensure

Requirements for this emphasis area are as follows.

1. Prerequisite. Demonstrated competency in computer applications.
2. Curriculum. (21 credits)
   - ELS 600  Principal Orientation and Instructional Leadership 3
   - This course must be taken first and includes the start of an Administrative Portfolio Skills Assessment.
   - ELS 610  School Community Relations and Politics 3
   - ELS 621  Curriculum Development and Assessment 3
   - ELS 753  Public School Finance 3
   - ELS 754  Human Resource Development and Evaluation 3
   - ELS 787  Pupil Personnel Services for Diverse Populations 3
   - ELS 657  Public School Law 3

3. Clinical Experiences: (9 credits)
   - ELS 626  Instructional Supervision and Assessment 3
   - ELS 668  Internship in Educational Leadership 3
   - ELS 669  Field Observation and Practicum 3

4. Research Component: (6 credits)
   - ELS 660  Program Evaluation, Research and Planning 3
   - ELS 673  Critical Issues Research 3

Licensure-Only
(Non-Degree Student)

http://education.odu.edu/elc/academics/educational/ed_leadership_phd.shtml

William A. Owings, Graduate Program Director

The Department of Educational Leadership and Counseling encourages students to obtain their PreK-12 administration and supervision licensure as part of an educational leadership degree program. All licensure-only students must have a bachelor’s and master’s degree from an accredited university, three years of educational experience, and completion of the state-approved licensure-only course work to obtain PreK-12 administration and supervision licensure. The graduate program director in educational leadership must receive licensure-only students’ official transcripts and proof of three years of educational experience prior to the end of the first semester of course work. A non-degree status student awaiting admission to a degree program should submit materials directly to the Office of Admissions. Only 12 hours of course
work can be transferred from non-degree status. Students must successfully complete the School Leaders Licensure Assessment (SLLA).

Education Specialist–Educational Leadership

110 Education Building
757-683-4954
http://education.odu.edu/elc/academics/educational/ed_leadership_phd.shtml

William A. Owings, Graduate Program Director

The Education Specialist (Ed.S.) program is designed to provide further opportunities for holders of master’s degrees to develop expertise at a higher professional level. Emphasis is on continued development for leadership in policy formulation, planning, and executive action related to educational and training institutions and human service organizations. Individuals who aspire to advance in educational leadership will find in this program a meaningful base for building toward their professional objectives. The Ed.S. program in educational leadership includes emphasis areas in administration and supervision and in higher education.

Admission. Students must:
1. meet all University requirements;
2. provide two letters of recommendation;
3. hold a master’s degree from an accredited institution (minimum 3.25 graduate grade point average on a 4.00 scale);
4. provide a one-page essay explaining why he/she should be admitted into the program; and,
5. have an acceptable score on the general aptitude section of the Graduate Record Examination or the Miller Analogies Test.

Exit. Students must successfully complete:
1. a written comprehensive examination;
2. the required course of study; and,
3. have a 3.00 grade point average or above.

Education Specialist Program Requirements

The Ed.S. requires the completion of a minimum of 30 approved semester credit hours consisting of at least 18 hours at the 800 level. Prerequisite courses required prior to admission to the Ed.S. emphasis in educational leadership are ELS 600, 610, 621, 657, and 668 (or equivalent).

Course Requirements: (18 credits)

- ELS 653 Public School Finance 3
- ELS 654 Human Resource Development and Evaluation 3
- ELS 671 Educational Systems, Planning and Futures 3
- ELS 876 Ethics, Integrity, and Social Justice in Education 3
- ELS 878 Leadership for Teaching and Learning 3
- ELS 879 Field Research in School Administration and Supervision 3

Elective Courses: (Select 4, total 12 credits)

- ELS 855 Political Systems, Legislation and Urban Education 3
- ELS 864 History and Philosophy of American Public School Reform 3
- ELS 877 Staff Development 3
- ELS 880 Seminar in Curriculum Leadership 3
- ELS 883 Contemporary Issues in Urban Educational Leadership 3

Education Specialist with Licensure Program

http://education.odu.edu/elc/academics/educational/ed_leadership_phd.shtml

William A. Owings, Graduate Program Director

Under special conditions, exceptional students may be accepted into the Ed.S. program who have a master’s degree in another area and do not have a license in administration supervision PreK-12. These students would complete the following 39 semester hours of coursework to lead to licensure as an administrator. The classes marked with an asterisk are required classes for licensure.

Prerequisite Courses: (12 credits)

- ELS 600 Principal Orientation and Instructional Leadership Seminar* 3
- ELS 610 School Community Relations and Politics* 3
- ELS 621 Curriculum Development and Assessment* 3
- ELS 657 Public School Law* 3

Course Requirements: (18 credits)

- ELS 853 Public School Finance* 3
- ELS 854 Human Resource Development and Evaluation* 3
- ELS 871 Educational Systems, Planning and Futures 3
- ELS 876 Ethics, Integrity, and Social Justice in Education 3
- ELS 878 Leadership for Teaching and Learning 3
- ELS 879 Field Research in School Administration and Supervision 3

Elective Courses: (9 credits)

- ELS 626 Instructional Supervision and Assessment* 3
- ELS 668 Internship* 3
- ELS 787 Pupil Personnel Services for Diverse Populations* 3

* Denotes licensure requirement courses. Students must successfully complete the School Leaders Licensure Assessment (SLLA).

Doctor of Philosophy in Education–Educational Leadership Concentration

William A. Owings, Graduate Program Director

http://education.odu.edu/elc/academics/educational/ed_leadership_phd.shtml

The Ph.D. in educational leadership prepares educational leaders for a wide variety of professional positions including K-12 administration and supervision, research, teaching in higher education, education association leadership, and state and national policy making. This program is designed to prepare students to become change agents in educational organizations by exercising knowledge and skills needed for educational leaders and professionals from related fields who have experience working in educational contexts. This degree is for those who wish to become practitioners in public schools, those who aspire to senior administrative roles in these institutions and faculty in American colleges. This degree can also provide entry into business, government, research, and other leadership positions.

Admission. Criteria for admission to the Ph.D. in educational leadership program are as follows:

1. A completed master’s degree in an appropriate discipline from a regionally accredited university;
2. A minimum GPA of 3.5 (on a 4.0 scale) overall for the master’s degree and in the major area of study in the master’s degree;
3. Acceptable scores on the GRE (verbal, quantitative, and analytical scores) taken within the last five years. Prospective students must score a minimum of 4.5 on the analytical writing portion of the GRE;
4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600;
5. Applicants must submit two original essays. The first essay should be approximately 1500 words (including citations) discussing a current topic in educational leadership. The second essay of approximately 500 words should be a statement of the candidate’s qualifications, professional and career goals, and reasons for seeking admission to this program;
6. Three letters of reference from sources qualified to assess the candidate’s suitability for study at the doctoral level. One reference should be from a graduate advisor or professor and one should be from a supervisor at work;
7. Official transcripts of all undergraduate and graduate courses and degrees completed. To be considered for the program, applicants must have completed bachelor’s and master’s degrees from accredited colleges and universities;
8. Prior course work is assumed in statistics, student development, and leadership theory. If this assumption is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisites and additions at the bottom of the curriculum description for specifics.
Program Requirements

The Ph.D. program in educational leadership is comprised of courses totaling a minimum of 48 academic credit hours beyond the master’s degree and a minimum of 12 credits for the dissertation. The curriculum includes four parts: an introductory course (3 credits) and elective (3 credits), the research core (15 credits), the ELS concentration specific courses (24 hours), and the capstone course (3 credits). The dissertation will include a minimum of 12 credit hours. Students entering the program may also need to complete one or more introductory statistics course if they have not had such a course or cannot demonstrate competency at a satisfactory level. Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to educational leadership and/or who have not completed courses to develop competency in specified areas may need to complete other courses in lieu of electives.

Under normal circumstances, admissions will be offered once a year in order to build efficient cohort groups for this type of advanced study. In order to enhance the experience of the students and to increase the efficiency by which courses are offered, a cohort of 15-25 students will be admitted each year.

Applicants must submit completed applications and all related material no later than February 1 of each year, and students will be admitted for study beginning in May of the same year.

Program Completion and Exit. In order to complete the program students must fully comply with the curriculum below and achieve a GPA of 3.00 or higher.

Educational Leadership Curriculum - 48 credits

1. Prerequisites (6 credits)
The following two courses (six credits) are required for all students who did not have them as part of a master’s degree program.

ELS 660  Program Evaluation, Research, and Planning 3
ELS 732  Statistics Applied to Research in Educational Leadership - Data Driven Decision Making I 3

2. Introductory Course (3 credits)
ELS 876  Ethics, Integrity, and Social Justice in Education 3

3. Research Core (15 credits)
ELS 831  Accountability Systems in Educational Leadership 3
ELS 832  Statistics Applied to Research in Educational and Human Services II 3
ELS 833  Advanced Research Design and Analysis 3
ELS 890  Qualitative Research Design 3
ELS 891  Program Evaluation in Education 3

4. Educational Leadership Concentration (24 credits)
ELS 811  Visionary Leadership for Educational Improvement* 3
ELS 821  The Political Context of Education 3
ELS 835  Organizational Behavior in Education* 3
ELS 873  Communication and Employee Relations* 3
ELS 874  Advanced School Law, Finance, and Operations 3
ELS 878  Leadership for Teaching and Learning 3
ELS 880  Seminar in Curriculum Leadership 3
ELS 887  Leadership for Exceptional Needs 3

5. Elective (3 credits)
*To be approved by the advisor*

6. Capstone Course (3 credits)
ELS 881  Dissertation Seminar 3

7. Dissertation (Minimum 12 credits)
ELS 899  Dissertation 12 (min)

Higher Education

The department offers emphasis areas in higher education in the M.S.Ed. and Ed.S. degrees as well as the Ph.D. in higher education.

Master of Science in Education - Higher Education Emphasis

110 Education Building
757-683-3702

Dennis E. Gregory, Graduate Program Director

The purpose of the master’s program is to prepare individuals to assume professional administrative positions in institutions of postsecondary education. The program is focused upon student affairs, international, and other higher education programs. The program features a mix of theory and practice and offers students the opportunity to gain expertise in both administrative and counseling skills. The program is among those listed as meeting the requirements for graduate programs of the American College Personnel Association (ACPA) and is also listed among programs provided by the National Association of Student Personnel Administrators (NASPA). The program meets standards established by the Council for the Advancement of Standards in Higher Education (CAS).

Admission, Continuance, and Exit Requirements

Admission - Prospective students seeking admission to the master’s degree program in higher education must:
1. meet all University admission requirements as listed in the Old Dominion University Catalog;
2. have an undergraduate grade point average of 2.80 overall and 3.00 in the major;
3. provide two letters of recommendation from an administrator or faculty member at the student’s undergraduate institution (one letter should come from a person who has supervised the student in a student leadership position or who can comment on the student’s potential for work in a higher education setting, the other may come from another person);
4. provide a one page essay on why the student is requesting admission to this program; and
5. have an acceptable score on the Graduate Record Examination (GRE) [National Mean scores (1995) V-450, Q-498, Analytical Writing – 4.0] or Miller Analogies Test (MAT) [National Mean of 400] for admission.

Continuance - Regularly accepted students and those who become “regular” students must:
1. meet all University and program requirements;
2. maintain a 3.00 grade point average; and
3. complete internship requirements in a timely manner.

Exit. In order to graduate from the program, students must successfully complete:
1. the required course of study for a total of at least 42 credit hours of coursework*;
2. either a satisfactory demonstration of computer competency as determined by the program coordinator or completion of ELS 760 (three semester credit hours) Computer Applications in Educational Administration and Supervision; and,
3. a written comprehensive examination.

Program Requirements - In order to complete the course of study for the degree of Master of Science in Education with an emphasis in higher education, a student must fulfill the requirements noted above. This course of study includes satisfactory completion of 27 hours of required courses, nine hours of cognate courses and six hours of internship credit*.

Curriculum - Higher Education - Student Affairs Administration

Required Courses - 27 credits

COUN 635  Research Methods and Program Evaluation in Counseling 3
COUN 707  College Student and Adult Development Theory 3
HIED 708  Contemporary Issues in Higher Education 3
HIED 710  Introduction to Student Affairs Administration 3
HIED 733  Professional Helping Skills in Higher Education 3
HIED 745  Today’s College Student and Diversity 3
HIED 752  The Law of Higher Education 3

DARDEN COLLEGE OF EDUCATION 139
HIED 757  The Multicultural University  3
HIED 761  Higher Education Capstone  3

Cognate Courses - 9 credits
COUN 648  Foundations of Career Development  3
COUN 655  Social and Cultural Issues in Counseling  3
ELS 732  Statistics Applied to Research in Education and Human Services I  3
HIED 712  Strategic Planning and Institutional Effectiveness  3
HIED 720  The Private College and University  3
HIED 730  Seminar in Student Affairs Administration  3
HIED 731  Group Dynamics in Higher Education  3
HIED 743  Introduction to International Higher Education Administration  3
HIED 744  Comparative Higher Education Systems  3
HIED 756  Higher Education Finance  3
HIED 757  The Multicultural University  3
HIED 758  Higher Education Leadership  3
HIED 759  Higher Education Curriculum  3
HIED 762  Development and Fund-Raising  3
HIED 764  The College and University Presidency  3
HIED 766  The Contemporary Community College  3
HIED 777  Advanced Program Assessment and Evaluation  3
HIED 793  History of Higher Education in the U.S.  3
HIED 794  Organization and Administration of Higher Education  3
CCL 820  Community College Leadership  3
CCL 824  Community College Finance  3
CCL 826  Community College Curriculum  3

Internships - 6 credits
HIED 668  Internship One  3
HIED 668  Internship Two  3

Higher Education - General Administration
Required Courses - 27 credits
COUN 635  Research Methods and program Evaluation in Counseling  3
HIED 708  Contemporary Issues in Higher Education  3
HIED 710  Introduction to Student Affairs Administration  3
HIED 752  The Law of Higher Education  3
HIED 756  Higher Education Finance  3
HIED 757  The Multicultural University  3
HIED 761  Higher Education Capstone  3
HIED 793  The History of Higher Education  3
HIED 794  Organization and Administration of Higher Education  3
Cognate Courses - 9 credits
COUN 633  Counseling and Psychotherapy Techniques  3
COUN 648  Career Development  3
COUN 655  Social & Cultural Issues in Counseling  3
COUN 707  Adult and College Student Development  3
ELS 732  Statistics Applied to Research in Education and Human Services I  3
HIED 712  Strategic Planning and Institutional Effectiveness  3
HIED 720  The Private College and University  3
HIED 730  Seminar in Student Affairs Administration  3
HIED 731  Group Dynamics in Higher Education  3
HIED 733  Professional Helping Skills in Higher Education  3
HIED 743  Introduction to International Higher Education Administration  3
HIED 744  Comparative Higher Education Systems  3
HIED 745  Today’s College Student and Diversity  3
HIED 758  Leadership in Higher Education  3
HIED 759  Higher Education Curriculum  3
HIED 762  Development and Fund-Raising  3
HIED 764  The College and University Presidency  3
HIED 766  The Contemporary Community College Advanced Program Assessment and Evaluation  3
HIED 795  Special Topics in Higher Education  3
CCL 820  Community College Leadership  3
CCL 824  Community College Finance  3
CCL 826  Community College Curriculum  3

Internships - 6 credits
HIED 668  Internship One  3
HIED 668  Internship Two  3

Higher Education - International Higher Education
Required Courses - 27 credits
COMM 600  Intercultural Communication or Across Cultures  3
ENGL 677  Language and Communication  3
COUN 635  Research Methods and Program Evaluation in Counseling  3
COUN 707  Adult and College Student Development  3
HIED 708  Contemporary Issues in Higher Education  3
HIED 743  Introduction to International Higher Education Administration  3
HIED 744  Comparative Higher Education Systems  3
HIED 752  The Law of Higher Education  3
HIED 757  The Multicultural University  3
HIED 761  Higher Education Capstone  3
Cognate Courses – 9 - Choose three courses:
HIED 711  Higher Education and Society  3
HIED 712  Strategic Planning and Institutional Effectiveness  3
HIED 733  Professional Helping Skills in Higher Education  3
HIED 745  The Contemporary College Student  3
HIED 756  Higher Education Curriculum  3
HIED 758  Leadership in Higher Education  3
HIED 759  Higher Education Curriculum  3
HIED 777  Advanced Program Assessment and Evaluation  3
HIED 793  History of Higher Education in the U.S.  3
COUN 633  Counseling and Psychotherapy Techniques  3
COUN 655  Social and Cultural Issues in Counseling  3
ELS 732  Statistics Applied to Research in Education and Human Services I  3
HIST 633  Studies in International History  3
PYS 653  Personality Psychology  3
IS 705  The Euro-Atlantic Community  3
IS 713  Global Political Economy  3
IS 741  Globalization and Social Change in the World System  3
ECON 650  International Economics  3
MKTG 640  Global Marketing Management  3

Education Specialist – Emphasis in Higher Education

Dennis E. Gregory, Program Director

The Education Specialist program is designed to provide further opportunities for holders of master’s degrees to develop expertise at a higher professional level. Emphasis is on continued development for leadership in policy formulation, planning, and executive action related to educational and training institutions and human service organizations. Individuals who aspire to advance in higher education administration will find in this program a meaningful base for building toward their professional objectives.

Admission, Continuance, and Exit Requirements

Admission. Students must (1) meet all University requirements; (2) provide two letters of recommendation; (3) hold a master’s degree from an accredited institution (minimum 3.25 graduate grade point average on a 4.00 scale); (4) provide a 1500 word essay explaining why he/she should be admitted into the program; and (5) have an acceptable score on the general aptitude section of the Graduate Record Examination or the Miller Analogies Test. Applicants whose admission credentials are slightly below the required minimum will be considered for provisional admission. Performance in classes as a non-degree student will not be taken into consideration in the admission process.

Continuance. Students must meet all University requirements and maintain a 3.00 or higher grade point average.

Exit. Students must successfully complete (1) a written comprehensive examination; (2) the required course of study; and (3) have a 3.00 grade point average or above.
Program Requirements

The Education Specialist study in higher education requires the completion of a minimum of 30 approved semester credit hours beyond the master’s degree. Because of the wide variation of backgrounds among students seeking this degree, the curricular requirements will be determined based upon the applicant’s background. Required courses, if they have not been taken at the 700 level within a master’s degree program include COUNS 807, HIED 808, HIED 852, and HIED 894.

Education Specialist in Higher Education

Higher Education Core - 18 credits

Students will choose, with the assistance of their advisor, six courses from the following, which do not repeat courses taken for the master’s degree:

- HIED 808 Contemporary Issues in Higher Education 3
- HIED 810 Introduction to Student Affairs Administration 3
- HIED 812 Strategic Planning and Institutional Effectiveness 3
- HIED 820 The Private College and University 3
- HIED 830 Seminar in Student Affairs Administration 3
- HIED 831 Group Dynamics in Higher Education 3
- HIED 833 Professional Helping Skills in Higher Education 3
- HIED 843 Introduction to International Higher Education Administration 3
- HIED 844 Comparative Higher Education Systems 3
- HIED 845 Contemporary Community College Student 3
- HIED 852 The Law of Higher Education 3
- HIED 856 Higher Education Finance 3
- HIED 857 The Multicultural University 3
- HIED 858 Leadership in Higher Education 3
- HIED 859 Higher Education Curriculum 3
- HIED 861 Higher Education Capstone 3
- HIED 862 Development and Fund-Raising 3
- HIED 864 The College and University Presidency 3
- HIED 866 The Modern Community College 3
- HIED 868 History of Higher Education in the U.S. 3
- HIED 894 Organization and Administration of Higher Education 3
- HIED 895 Special Topics in Higher Education 3
- CCL 820 Community College Leadership 3
- CCL 824 Community College Finance 3
- CCL 826 Community College Curriculum 3

Research Courses - 9 credits

- ELS 732 Statistics Applied to Research in Education and Human Services I 3
- HIED 877 Advanced Program Assessment and Evaluation 3
- ELS 833 Research Design 3

Internship - 3 credits

- HIED 868 Internship 3

Doctor of Philosophy in Education - Higher Education Concentration

Dennis E. Gregory, Program Director

The Doctor of Philosophy is the degree most often desired for those who wish to become faculty in American colleges and universities and those who aspire to senior administrative roles in these institutions. Possession of this degree also provides those who have earned it with entry into business, government, research and other leadership positions. The Ph.D. in higher education is intended to prepare individuals for these administrative and faculty positions and to provide these students with the skills to carry out scholarly research, lead organizations, and create new knowledge. The curriculum described below contains elements that will, if completed successfully, provide research expertise, administrative skills and experience, and the ability to serve the nation’s colleges and universities and contribute to higher education elsewhere in the world.

Admission, Continuance, and Exit Requirements

Admission: - Criteria for admission to the Ph.D. in higher education are as follows:

1. A completed master’s degree in an appropriate discipline from a regionally accredited university. Degrees that are equivalent to a master’s degree such as L.L.B., J.D., and D.D.S. are also acceptable;
2. A preferred minimum GPA of 3.5 (on a 4.0 scale) overall for the master’s degree and in the major area of study in the master’s degree;
3. A minimum of 1000 overall total score on the GRE and a preferred score of 500 or above on both the verbal and quantitative sections of the GRE. Prospective students must score a minimum of 4.5 on the analytical writing portion of the GRE. GRE scores expire after five years; however, candidates who have completed the exam prior to five years before the application deadline may submit those scores for consideration if the scores meet the minimum expectations and they are provided from an official source such as a transcript or form provided by the Educational Testing Service. Old Dominion University reserves the right to determine what an “official source” is. While these scores are minimums, other portions of the total application package will be strongly considered to balance lower scores;
4. Applicants whose native language is not English must submit a current score for the Test of English as a Foreign Language (TOEFL) of at least 600;
5. Applicants must submit a 1500 word statement of their academic and professional goals with an emphasis on how the Ph.D. degree in higher education will contribute to the achievement of the stated goals;
6. Three letters of reference from sources capable of commenting on the applicant’s readiness for advanced graduate study. At least one of these letters must be from a senior-level administrator in a college or university;
7. An interview with the Higher Education Program Committee. This committee will also review applications for admission; and,
8. Prior course work is assumed in statistics, student development, and leadership theory. If this assumption is not met, then additional course work will be added to the candidate’s graduate program of study. Please see prerequisites and additions at the bottom of the curriculum description for specifics.

Continuance. Students must meet all University requirements and maintain a 3.00 or higher grade point average. Students must be continuously enrolled in at least two courses each semester until all courses prior to the dissertation are completed. After completion of all such coursework, students must be enrolled in either a dissertation credit course or Higher Education 999 until graduation. Please see the Ph.D. in Education Handbook for more details.

Program Requirements - The Ph.D. program in higher education is comprised of courses totaling a minimum of 60 academic credit hours beyond the master’s degree. The curriculum includes four parts: a content concentration totaling 33 credit hours (including the higher education core – 21 credits and a cognate – 12 credits, a research component including 12 credit hours, and the dissertation seminar for three hours and the dissertation which will include a minimum of 12 credit hours. The dissertation will often include more than 12 credit hours depending on the length of time necessary for completion. Students entering the program may also need to complete one introductory statistics course and one research methods course if they have not had such courses or cannot demonstrate competency at a satisfactory level. If students have not yet served in an administrative or other leadership position in a college or university for a minimum of three years, they will also need to complete a six credit hour internship (HIED 868). Students who come into the Ph.D. program with a master’s degree in an academic field that is unrelated to higher education administration and/or who have not completed courses to develop competency in specified areas may need to complete these courses in lieu of electives.

Under normal circumstances, admissions will be offered once a year in order to build efficient cohort groups for this type of advanced study. In order to enhance the experience of the students and to increase the efficiency by which courses are offered, a cohort of 10-15 students will be admitted each year. This limited number of students is necessary to assure that there is an adequate number of full-time faculty members to serve the students through advising and other duties, particularly when the cohorts reach the dissertation stage of the program.

To build a cohesive cohort group, a series of intensive courses will be offered on the Old Dominion University campus each summer. It will be expected that all newly admitted students will come to campus for one of these seminars during the summer after they are admitted to the program and complete two courses together as a group. These courses will be selected from within the “content concentration” or “research” requirements. A third course will be available for regular study during the summer so that students may comply with one of the residency requirements. Residency at a second intensive seminar the following summer is recommended but not required.
A minimum of two semesters of full-time study is required of students in the program to meet University residency requirements. One of the semesters of full-time study (defined as completion of nine credit hours) must be accomplished by the completion of the intensive seminar noted above. The second semester of residency can be accomplished in several ways. Students may complete nine credit hours during Fall or Spring or three hours in the summer or may attend a second summer residency. Courses taken via TELETECHNET or other distance education methodologies are considered “resident” courses, so that taking three TELETECHNET courses during a semester may complete the second residency requirement.

Applicants must submit completed applications and all related material no later than February 1 of each year, and students will be admitted for study beginning in June or July of the same year.

Exit - In order to complete the program students must fully comply with the curriculum below and all requirements noted elsewhere in the University catalog for graduate students and within the Ph.D. in Education Handbook. It is the responsibility of the student to obtain these materials and complete required portions.

Curriculum

Prerequisites - (6 credits)
COUN 635 Research Methods and Program Evaluation in Counseling (or equivalent) 3
ELS 732 Statistics Applied to Research in Education and Human Services I (or equivalent) 3

Content Concentration (33 credits)
1. Higher Education Core (Minimum 21 credits)
The following seven courses (21 credits) are required for all students who did not have them as part of a master’s degree program. If some or all of these courses were taken as part the student’s master’s program, they and his or her advisor may choose alternate courses from those listed below.
HIED 845 The Contemporary College Student – A Global Perspective 3
HIED 852 The Law of Higher Education 3
HIED 856 Higher Education Finance 3
HIED 857 The Multicultural University 3
HIED 893 History of Higher Education in the U. S. 3
HIED 894 Organization and Administration of Higher Education 3
COUN 807 Adult and Student Development Theory 3

2. Cognate (minimum of 12 credits from one of these areas)*
2a. Higher Education Policy and Administration
HIED 808 Contemporary Issues in Higher Education 3
HIED 811 Higher Education and Society 3
HIED 812 Strategic Planning and Institutional Effectiveness 3
HIED 820 The Private College and University 3
HIED 837 Academic Issues in Higher Education 3
HIED 858 Higher Education Leadership 3
HIED 859 Higher Education Curriculum 3
HIED 862 Development and Fund-Raising 3
HIED 864 The College and University Presidency 3
HIED 865 Adult and Continuing Education 3

2b. Student Affairs
HIED 810 Introduction to Student Affairs Administration 3
HIED 830 Seminar in Student Affairs Administration 3
HIED 831 Group Dynamics in Higher Education 3
HIED 833 Professional Helping Skills in Higher Education 3

2c. Community Colleges
HIED 866 The Contemporary Community College 3
CCL 820 Community College Leadership 3
CCL 824 Community College Finance 3
CCL 826 Community College Curriculum and Program Development 3

* The graduate program director may allow other cognate areas to be developed and implemented by students and advisors upon request if a particular justification is made in writing.

3. Research and Statistics (12 credits)*
ELS 832 Statistics Applied to Research in Education and Human Services II 3
ELS 833 Advanced Research Design and Analysis 3
ECI 890 Qualitative Research Design 3
HIED 877 Advanced Program Evaluation and Assessment 3

* Some courses may be waived based on previous study.

4. Dissertation Seminar - (3 credits)
HIED 881 Dissertation Seminar 3

5. Dissertation (Minimum 12 credits)
HIED 899 Dissertation 12 (min)

Additions
HIED 868 Internship in Higher Education Administration (6 credits) is required for all doctoral students who have not served in a full-time administrative position for at least three years prior to admission. Those students interested in community colleges may substitute CCL 868 – Internship in Community College Administration. It is expected that each intern will work with an administrator at the dean level or higher.

Special Courses
These courses may be used for a variety of specialized topical seminars and may fill requirements in one or more of the cognate areas noted above.
HIED 895 Special Topics in Higher Education 3

Department of Exercise Science, Sport, Physical Education and Recreation

111 Spong Hall
757 683-4995, 757 683-4270

Bob Spina, Chair

The Department of Exercise Science, Sport, Physical Education, and Recreation offers programs leading to the Master of Science in Education with a concentration in physical education, and the Doctor of Philosophy in human movement science. The Master of Science in Education with a concentration in physical education includes emphasis areas in athletic training, athletic training with initial Virginia Licensure in physical education and health education, curriculum and instruction, and recreation and tourism studies. 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 the catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://education.odu.edu/.

Individual programs are described on the following pages:

Master of Science in Education Physical Education
• Athletic Training
• Athletic Training with Initial Licensure in Physical Education and Health Education
• Exercise Science and Wellness
• Curriculum and Instruction
• Curriculum and Instruction with Initial Licensure in Physical Education and Health Education
• Recreation/Tourism Studies
• Sport Management

Doctor of Philosophy in Human Movement Science

Master of Science in Education – Physical Education

The department offers a varied graduate program that includes three separate tracks and seven emphasis areas. The three tracks are as follows: (1) thesis research (30 credit hours minimum, including a six-credit-hour thesis); (2) research problem (33 credit hours minimum, including a three-credit-hour research problem); (3) non-research (36 credit hours minimum). The sport management, recreation and tourism studies, exercise science and wellness, and curriculum and instruction emphasis areas contain a minimum of 36 credit hours to graduate. The athletic training emphasis area contains a minimum of 39 credit hours to graduate and the athletic training with initial Virginia
Licensure in physical education and health education could contain up to 73 credit hours to graduate in order to fulfill both area requirements. The curriculum and instruction emphasis area includes a program for currently licensed teachers as well as a program that leads to initial PK-12 health/physical education teacher licensure in the Commonwealth of Virginia.

**Athletic Training**

229 Spong Hall
757-683-3516

Bonnie L. Van Lunen, Graduate Program Director

This emphasis is designed to prepare athletic trainers for advanced study in the areas of research, clinical application, and education. The associated course work will involve exploration of biomechanical concepts, advanced clinical practice techniques, and preparation of the entry level educator.

**Admission and Entrance Requirements.** Students must have (1) a bachelor’s degree from an accredited institution with a cumulative undergraduate GPA of 3.0 and a GPA of 3.00 in the undergraduate major courses; (2) the Board of Certification credential for certification as an Athletic Trainer, OR eligibility to take the Board of Certification examination; and (3) a score of at least 900 between quantitative and verbal on the Graduate Record Examination (GRE) for admission to regular status. Students who have either a low GPA or a low GRE score may be considered for admission to provisional status. GRE scores are required for consideration of admittance. Acceptance into the graduate school does not imply automatic acceptance into this emphasis area. All applicants must complete separate application materials for the Office of Graduate Admissions and for the graduate athletic training education program. The graduate athletic training education program application materials can be found on the web page. The application deadline is February 1, however applications will be reviewed as soon as they are complete. Interviews are required and scheduled through invitation from the program director.

**Continuing and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) have a GPA of 3.00 in the major; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination; (6) complete a research project or thesis; (7) have an exit interview with the program director; and (8) file the necessary paperwork for graduation.

**Curriculum. Requirements for the athletic training emphasis are as follows (39 credits):**

**Core courses - 20 credits**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ESPR 628</td>
<td>The Spine: Evaluation and Rehabilitation</td>
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<td>ESPR 647</td>
<td>Education in Athletic Training</td>
<td>4</td>
</tr>
<tr>
<td>ESPR 649</td>
<td>Clinical Methods in Athletic Training</td>
<td>3</td>
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<tr>
<td>ESPR 691</td>
<td>Gross Anatomy for Sports Medicine Clinicians</td>
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<td>ESPR 711</td>
<td>Analysis of Human Motion</td>
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<tr>
<td>ESPR 725</td>
<td>Clinical Biomechanics for Rehabilitation Professionals</td>
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**Research Core - 6 credits**

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<tr>
<td>ESPR 634</td>
<td>Statistics in Health, Physical Education, Recreation, and Sports</td>
<td>3</td>
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<tr>
<td>ESPR 635</td>
<td>Research Methods in Health, Physical Education, Recreation, and Sports</td>
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**Requirements for different tracks are as follows:**

**Thesis Track - 13 credits**

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<td>ESPR 699</td>
<td>Thesis</td>
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<td>Electives</td>
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**Research-Problem Track (13 credits)**

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<tr>
<td>ESPR 636</td>
<td>Research Problems in Health, Physical Education, Recreation, and Sports</td>
<td>3</td>
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<tr>
<td>Electives</td>
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</tbody>
</table>

**Athletic Training with Initial Virginia Licensure in Physical Education and Health Education Emphasis**

229 Spong Hall
757-683-3516

Bonnie L. Van Lunen, Graduate Program Director

This emphasis is designed to prepare athletic trainers for advanced study in the areas of research, clinical application, and education. The associated course work will involve exploration of biomechanical concepts, advanced clinical practice techniques, and preparation of the teacher for teaching licensure (PK-12) within the state of Virginia for physical education and health education.

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor’s degree from an accredited institution with a cumulative undergraduate GPA of 3.0 and a GPA of 3.00 in the undergraduate major courses; (2) the Board of Certification credential for certification as an Athletic Trainer, OR eligibility to take the Board of Certification examination; (3) a score of at least 900 between quantitative and verbal on the Graduate Record Examination (GRE) for admission to regular status; and (4) a composite score of 532 on the PRAXIS I (PPST in reading, writing, and mathematics) or State Board approved equivalent SAT or ACT for admission to the program and acceptance into teacher education. Students who have either a low GPA or a low GRE score may be considered for admission to provisional status. GRE scores are required for consideration of admittance. Acceptance into the graduate school does not imply automatic acceptance into this emphasis area. All applicants must complete separate application materials for the Office of Graduate Admissions and for the graduate athletic training education program. The graduate athletic training education program application materials can be found on our web page. The application deadline is February 1st; however, applications will be reviewed as soon as they are complete. Interviews are required and scheduled through invitation from the program director.

**Continuing and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) have a GPA of 3.00 in the major; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination; (6) complete a research project or thesis; (7) have an exit interview with the program director; and (8) file the necessary paperwork for graduation and teacher licensure.

**Curriculum. Requirements for the emphasis are as follows (73 credits):**

**Core courses - 25 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 601</td>
<td>Adapted Physical Education Design and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 606</td>
<td>Planning and Administration of an Effective HPE</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 649</td>
<td>Clinical Methods in Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 691</td>
<td>Gross Anatomy for Sports Medicine Clinicians</td>
<td>4</td>
</tr>
<tr>
<td>ESPR 711</td>
<td>Analysis of Human Motion</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 720</td>
<td>Curriculum Development in Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 739</td>
<td>Current Research in Motor Development</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 745</td>
<td>Assessment and Evaluation in Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Research Core - 6 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 634</td>
<td>Statistics in Health, Physical Education, Recreation, and Sports</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 635</td>
<td>Research Methods in Health, Physical Education, Recreation, and Sports</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 667</td>
<td>Internship in Health, Physical Education, Recreation, and Sports: Teacher Candidate Internship</td>
<td>1-6</td>
</tr>
<tr>
<td>HPE 587</td>
<td>Teacher Candidate Seminar</td>
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</tr>
<tr>
<td>Elective</td>
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**Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 618</td>
<td>Current Research in Athletic Training</td>
<td>1</td>
</tr>
<tr>
<td>ESPR 623</td>
<td>Athletic Training Practicum I</td>
<td>1</td>
</tr>
<tr>
<td>ESPR 628</td>
<td>The Spine: Evaluation and Rehabilitation</td>
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<td>ESPR 633</td>
<td>Athletic Training Practicum II</td>
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</tr>
<tr>
<td>ESPR 643</td>
<td>Athletic Training Practicum III</td>
<td>1</td>
</tr>
<tr>
<td>ESPR 653</td>
<td>Athletic Training Practicum IV</td>
<td>1</td>
</tr>
<tr>
<td>HE 581</td>
<td>Teaching Sex Education in the Schools</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 605</td>
<td>Principles of Movement Analysis in Team Sports</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 607</td>
<td>Principles of Movement Analysis in Individual Sports</td>
<td>3</td>
</tr>
</tbody>
</table>

DARDEN COLLEGE OF EDUCATION 143
### Curriculum and Instruction Emphasis

123G Spong Hall  
757-683-3545

**Linda Gagen, Graduate Program Coordinator**

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor's degree from an accredited institution with a cumulative undergraduate grade point average (GPA) of 2.80 and a GPA of 3.00 in the undergraduate major courses; (2) a score of at least 900 in the quantitative and verbal portions of the Graduate Record Examination (GRE) - GRE scores are required for consideration of admission for all candidates. (In some circumstances, students who have either a low GPA or a low GRE score may be considered for admission with provisional status); and (3) demonstrated computer literacy.

**Continuance and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) achieve an overall GPA of 3.00 and a GPA of 3.00 in the major courses; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination when required; (6) complete an internship, research project, or thesis as a culminating experience; (7) hold an exit interview with the program coordinator; and (8) file the necessary paperwork for graduation.

**Curriculum. Requirements for the emphasis are as follows (36 credits):**

#### Core Courses - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 601</td>
<td>Adapted Physical Education Design and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 606</td>
<td>Planning and Administration of an Effective Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Physical Education Program</td>
<td></td>
</tr>
<tr>
<td>ESPR 720</td>
<td>Curriculum Development in Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 739</td>
<td>Current Research in Motor Development</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 740</td>
<td>Principles and Concepts of Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 745</td>
<td>Assessment and Evaluation in Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Research Core - 6 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 634</td>
<td>Statistics in Physical Education, Recreation, and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Research Methods in Physical Education, Recreation, and Sports</td>
<td></td>
</tr>
</tbody>
</table>

#### Thesis Track Courses - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 698</td>
<td>Thesis</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 699</td>
<td>Thesis</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 709</td>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Research-Problem Track - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 636</td>
<td>Research Problems in Health, Physical Education,</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Recreation, and Sports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
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</table>

#### Non-Research Track - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 667</td>
<td>Internship in Health, Physical Education, Recreation, and Sports: Teacher Candidate Internship</td>
<td>6</td>
</tr>
<tr>
<td>HPE 857</td>
<td>Teacher Candidate Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>9-20</td>
</tr>
</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 680</td>
<td>Problems in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 739</td>
<td>Current Research in Motor Development or HPE 581</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 740</td>
<td>Principles and Concepts of Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>HE 581</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 509</td>
<td>Principles of Movement Analysis in Team Sports for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 605</td>
<td>Principles of Movement Analysis in Individual Sports for Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Curriculum and Instruction with Initial Virginia Licensure in Physical Education and Health Education**

Linda Gagen, Graduate Program Coordinator

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor's degree from an accredited institution with a cumulative undergraduate grade point average (GPA) of 2.80 and a GPA of 3.00 in the undergraduate major courses; (2) a score of at least 900 in the quantitative and verbal portions of the Graduate Record Examination (GRE) - GRE scores are required for consideration of admission for all candidates; (3) a composite score of 532 on the PRAXIS I (PPST in reading, writing, and mathematics) or State Board approved equivalent SAT or ACT score for admission to the program and acceptance into teacher education; and (4) demonstrated computer literacy. (In some circumstances, students who have either a low GPA or a low GRE score may be considered for admission with provisional status)

**Continuance and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) achieve an overall GPA of 3.00 and a GPA of 3.00 in the major courses; (2) demonstrate writing proficiency; (3) satisfy all course competencies; (4) pass a comprehensive examination when required; (5) complete an internship, research project, or thesis as a culminating experience; (6) hold an exit interview with the program coordinator; and (7) file the necessary paperwork for graduation.

**Curriculum.** Specific requirements for the program are as follows (36 total credits with additional credits up to 54 as needed to satisfy Virginia licensure requirements):

#### Core Courses - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 601</td>
<td>Adapted Physical Education Design and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 606</td>
<td>Planning and Administration of an Effective Health</td>
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<td></td>
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<td>ESPR 720</td>
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<td>ESPR 739</td>
<td>Current Research in Motor Development</td>
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<tr>
<td>ESPR 740</td>
<td>Principles and Concepts of Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 745</td>
<td>Assessment and Evaluation in Physical Education</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Research Core - 6 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 634</td>
<td>Statistics in Physical Education, Recreation, and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Research Methods in Physical Education, Recreation, and Sports</td>
<td></td>
</tr>
</tbody>
</table>

#### Thesis Track Courses - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 698</td>
<td>Thesis</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 699</td>
<td>Thesis</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 709</td>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Research-Problem Track - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 636</td>
<td>Research Problems in Health, Physical Education,</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Recreation, and Sports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

#### Non-Research Track - 16 to 34 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 667</td>
<td>Internship in Health, Physical Education, Recreation, and Sports: Teacher Candidate Internship</td>
<td>6</td>
</tr>
<tr>
<td>HPE 857</td>
<td>Teacher Candidate Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>9-20</td>
</tr>
</tbody>
</table>

**A passing score on the PRAXIS II test of Content Knowledge in Physical Education and Health (Form 0856) must be on file in the Teacher Education Services office before the teacher candidate internship can begin. Passing scores on the Virginia Communication and Literacy Assessment will be required by the Virginia Department of Education for licensure.

**Elective Courses (at least 9 credits)**

All students must complete nine hours of electives chosen from the following courses or substituted from relevant courses in ECI, ELS, or ESSE with permission of the advisor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 680</td>
<td>Problems in Health Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 739</td>
<td>Current Research in Motor Development or HPE 581</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 740</td>
<td>Principles and Concepts of Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>HE 581</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 509</td>
<td>Principles of Movement Analysis in Team Sports for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 605</td>
<td>Principles of Movement Analysis in Individual Sports for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>ESPR 740</td>
<td>Principles and Concepts of Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>HE 581</td>
<td>Teaching of Sex Education in the School/Community</td>
<td>3</td>
</tr>
<tr>
<td>EXSC 509</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 605</td>
<td>Principles of Movement Analysis in Team Sports for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 607</td>
<td>Principles of Movement Analysis in Individual Sports for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ESPR 609</td>
<td>Principles of Movement Analysis in Dance for Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 608</td>
<td>Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>ECI 680</td>
<td>Reading to Learn Across the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>HE 230</td>
<td>Personal and Community Health</td>
<td>3</td>
</tr>
<tr>
<td>HE 224</td>
<td>Advanced First Aid and Emergency Care</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 108N</td>
<td>Life Science I or</td>
<td>4</td>
</tr>
<tr>
<td>BIOL115N</td>
<td>General Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 250</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 322</td>
<td>Anatomical Kinesiology/Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>EXSC 308</td>
<td>Driver Foundations of Traffic Safety</td>
<td>3</td>
</tr>
<tr>
<td>PE 309</td>
<td>Principles and Methods Class in Car</td>
<td>3</td>
</tr>
</tbody>
</table>

**Exercise Science and Wellness Emphasis**

104E Spong Hall  
757-683-4514  
Elizabeth A. Dowling, Graduate Program Director

This emphasis is designed for the student who desires to pursue advanced study in the scientific areas of health and physical education. The course work will help to strengthen the background of those individuals already involved in conducting fitness programs for various age groups or to prepare individuals for careers in other health-related fields that utilize exercise as preventive medicine.

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor's degree from an accredited institution with a cumulative undergraduate GPA of 2.8 and a GPA of 3.00 in the undergraduate major courses; and (2) a score of at least 900 between quantitative and verbal on the Graduate Record Examination (GRE). Students who have either a low GPA or a low GRE score may be considered for admission to provisional status. GRE scores are required for consideration of admittance. Additionally, students must be computer literate.

**Continuance and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) have a grade point average of 3.00 in the major; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination; (6) complete an internship or research project/thesis; (7) have an exit interview with the program director; and (8) file the necessary paperwork for graduation.

**Curriculum. Requirements for the emphasis are as follows (36 credits):**

<table>
<thead>
<tr>
<th>Core Courses - 15 credits</th>
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</thead>
<tbody>
<tr>
<td>EXSC 528</td>
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<tr>
<td>ESPR 630</td>
</tr>
<tr>
<td>ESPR 642</td>
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<tr>
<td>ESPR 661</td>
</tr>
<tr>
<td>ESPR 725</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Core - 6 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 634</td>
</tr>
<tr>
<td>ESPR 635</td>
</tr>
</tbody>
</table>

**Requirements for different tracks are as follows:**

<table>
<thead>
<tr>
<th>Thesis Track - 15 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 698</td>
</tr>
<tr>
<td>ESPR 699</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Research-Problem Track - 15 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 636</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-research Track (15 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 667</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Recreation and Tourism Studies Emphasis**

209A Spong Hall  
757-683-6309  
Edwin Gomez, Graduate Program Coordinator

This emphasis is designed to prepare students and practitioners for advanced study in the research, management, and administration of managed recreation and tourism services. These individuals will be provided with the ability to implement social and economic impact research as well as pursue diverse careers within the global tourism industry.

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor’s degree from an accredited institution with a cumulative undergraduate GPA of 2.8 and a GPA of 3.00 in the undergraduate major courses; and (2) a score of at least 900 between quantitative and verbal on the Graduate Record Examination (GRE). Students who have either a low GPA or a low GRE score may be considered for admission to provisional status. GRE scores are required for consideration of admittance. Additionally, students must be computer literate.

**Continuance and Exit Requirements.** Students must meet all requirements for continuance as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) have a grade point average of 3.00 in the major; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination; (6) complete an internship or research project/thesis; (7) have an exit interview with the program coordinator; and (8) file the necessary paperwork for graduation.

**Curriculum. Requirements for the emphasis are as follows (36 credits):**

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<tr>
<th>Core Courses - 21 credits</th>
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<tr>
<td>RTS 561</td>
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<td>RTS 357</td>
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<td>RTS 616</td>
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<td>RTS 619</td>
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<td>RTS 638</td>
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<tr>
<td>RTS 650</td>
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<tr>
<td>RTS 660</td>
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</table>

<table>
<thead>
<tr>
<th>Research Core - 6 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPR 634</td>
</tr>
<tr>
<td>ESPR 635</td>
</tr>
</tbody>
</table>

**Requirements of the different tracks are as follows:**

<table>
<thead>
<tr>
<th>Thesis Track - 9 credits</th>
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</thead>
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<tr>
<td>ESPR 698</td>
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<td>ESPR 699</td>
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<th>Research-Problem Track - 9 credits</th>
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<td>ESPR 636</td>
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<th>Non-research Track (9 credits)</th>
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**Sport Management Emphasis**

129C Spong Hall  
757-683-5962  
Robert Case, Graduate Program Director

DARDEN COLLEGE OF EDUCATION  145
The emphasis is designed to prepare students for roles in sport management and administration. 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).

**Admission and Entrance Requirements.** Students applying for admission with regular status must have (1) a bachelor’s degree from an accredited institution with a cumulative undergraduate GPA of 2.8 and a GPA of 3.00 in the undergraduate major courses; and (2) have a score of at least 900 between quantitative and verbal on the Graduate Record Examination (GRE). Students who have either a low GPA or a low GRE score may be considered for admission on a provisional status. GRE scores are required for consideration of admittance. Additionally, students must be computer literate.

**Continuing and Exit Requirements.** Students must meet all requirements for continuation as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) a grade point average of 3.00 in the major; (3) demonstrate writing proficiency; (4) satisfy all course competencies; (5) pass a comprehensive examination; (6) complete an internship or research project/thesis; (7) have an exit interview with the program director; and (8) file the necessary paperwork for graduation.

**Curriculum.** Requirements for the emphasis are as follows (36 credits):

**Core Courses - 24 credits**
- SMGT 550 Ethics in Sport Management 3
- SMGT 553 Sport Sponsorship and Event Planning 3
- SMGT 555 Sport in Contemporary Society 3
- SMGT 638 Fiscal Planning and Management in Sport and Recreation 3
- SMGT 646 Sport Marketing 3
- SMGT 652 Sport Facility Management 3
- SMGT 660 Legal Aspects of Sport 3
- SMGT 675 Leadership and Management in Sport 3

**Research Core - 6 credits**
- ESPR 634 Statistics in Health, Physical Education, Recreation, and Sports 3
- ESPR 635 Research Methods in Health, Physical Education, Recreation, and Sports 3

**Requirements for the different tracks are as follows:**

**Thesis Track Course - 6 credits**
- ESPR 698 Thesis 3

**Thesis-Problem Track - 6 credits**
- ESPR 699 Thesis 3

**Research-Problem Track - 6 credits**
- Electives 3

**Non-Research Track Courses**
- SMGT 664 Fieldwork Experience in Sport Management 6

**Doctor of Philosophy in Human Movement Science**

229 Spong Hall 757-683-3516

Bonnie L. Van Lunen, Graduate Program Director

The Department of Exercise Science, Sport, Physical Education and Recreation offers a Ph.D. in human movement science, with emphases in curriculum and instruction, and applied kinesiology concepts. The degree is intended to prepare individuals for faculty research and administrative positions within departments that offer programs such as athletic training, health and physical education, exercise science, curriculum and instruction, physical therapy, and biomechanics.

**Admission and Entrance Requirements.** Criteria for admission into the Ph.D. in Education concentration human movement science are as follows: (1) a completed application form (contact the Office of Graduate Admissions for application materials); (2) official transcripts of all undergraduate and graduate courses and degrees completed. To be considered for the program, applicants must have completed bachelor’s and master’s degrees in an appropriate discipline from accredited colleges or universities. (3) official report scores from the Graduate Record Examination (verbal, quantitative, and analytical scores) taken within the last five years; (4) submission of additional materials as outlined in the Graduate Student Handbook for the concentration (found on web page); (5) completion of prerequisite or equivalent coursework - Research Methods (ESPR 635) and Statistics Applied to Research in Educational Leadership – Data Driven Decision Making I (ELS 732). A screening committee will review the submitted application materials and determine eligibility for the program. An interview with the screening committee will be required of all candidates. Admission is competitive and the number of openings is limited.

**Continuing and Exit Requirements.** Students must meet all requirements for continuation as outlined in the graduate continuance policy for the University. Students completing the program of study must (1) have an overall grade point average of 3.00; (2) satisfy all course competencies; (3) pass comprehensive examinations; (4) meet all benchmarks set forth by the director; (5) complete a dissertation; (6) have an exit interview with the program director; and (7) file the necessary paperwork for graduation.

**Curriculum.** Requirements for the concentration are as follows (minimum of 60 credits):

**Degree Prerequisite:** A master’s degree in an appropriate field related to this concentration is required for regular admission to the Ph.D. in human movement science.

**Prerequisite Coursework:** Students who do not have equivalent coursework or appropriate educational experiences must complete the following prerequisite courses:

- ESPR 635 Research Methods in Health, Physical Education and Recreation 3
- ELS 732 Statistics, Applied in Educational Leadership – Data Driven Decision Making I 3
- **Introductory Core - 6 credits**
  - ESPR 814 Readings and Research in Content Area 3
  - ESPR 815 Introduction to Doctoral Study Seminar 3
- **Research Core - 15 credits**
  - ELS 832 Statistics Applied in Educational Leadership – Data Driven Decision Making I 3
  - ELS 833 Advanced Research Design and Analysis 3
  - ECI 890 Qualitative Research Design 3
- **Choose two additional courses:**
  - CHP 773 Developing Grants/Contract in Health Professions 3
  - HLSC 846 Epidemiology 3
  - HASC 815 Decision Analysis – Health Care 3
  - HIED 877 Advanced Program Assessment and Evaluation 3

* Substitute other courses by permission of advisor

**Human Movement Science concentration (24 credits, 15 required credits + choice of cognate area)**

- ESPR 811 Analysis of Human Motion 3
- ESPR 895 Topics: Research Experience I 3
- ESPR 896 Topics: Research Experience II 3

* Choose two of the following:

- ESPR 840 Principles and Concepts of Motor Learning 3
- ESPR 839 Current Research in Motor Development 3
- ESPR 855 Neuroanatomical Basis of Human Movement 3

**Curriculum and Instruction Emphasis - 9 credits**

(HPE Teacher Prep only: Elective from stats, ESPR 845, additional course below)

- HIED 808 Contemporary Issues in Higher Education 3
- HIED 837 Academic Issues in Higher Education 3
- HIED 858 Higher Education Leadership 3
- HIED 859 Higher Education Curriculum or ESPR 820 Curriculum Development in Physical Education 3
- ESPR 845 Assessment and Evaluation in Physical Education 3

**Applied Kinesiology Concepts Emphasis (9 credits)**

- ME 842 Fatigue and Fracture 3
- ME 846 Computational Methods in Multibody Dynamics 3
- ME 848 Kinematic Synthesis of Mechanisms 3
- PSYC 831 Human Cognition 3
- PSYC 871 Ergonomics 3
- ESPR 825 Clinical Biomechanics for Rehabilitation Professionals 3

*Substitutions can be made with approval from the graduate program director

**Dissertation Capstone Courses - 15 credits**

- ELS 881 Dissertation Seminar 3
- ESPR 899 Dissertation 12 (minimum)
Department of Occupational and Technical Studies

228 Education Building
757-683-4305

John M. Ritz, Chair

The Department of Occupational and Technical Studies is an academic leader in graduate studies related to career and technical education teaching, including marketing education and technology education, community college teaching, and human resources training. It offers the M.S. and the Ph.D. in Education with a concentration in occupational and technical studies. The department also offers licensure and teaching endorsement programs. 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 the catalog. Students should obtain current program information from their advisors and the Darden College of Education website at http://education.odu.edu/.

Individual programs are described on the following pages.

Master of Science

- Occupational and Technical Studies
- Career and Technical Education Teaching
- Business and Industry Training
- Community College Teaching

Endorsement Program in Occupational and Technical Studies

Licensure Program in Marketing Teacher Education

Licensure Program in Technology Education through M.S. Degree

Endorsement Program in Vocational Special Needs Education

Endorsement Program in Vocational Evaluation

Master of Science in Engineering-Modeling and Simulation

- Concentration, Simulation-Based Instruction

Education Specialist

Doctor of Philosophy in Occupational and Technical Studies

Master of Science

Occupational and Technical Studies
- 32 credit hour program
- Preparing students to teach in the field of occupational and technical studies
- Focus on educational leadership, curriculum development, and professional development
- Completion of 33 semester hours with a non-degree application
- All applicants must: (1) hold an undergraduate degree in a related field or have work experience in an occupational/technical area, (2) have an overall grade point average of 2.80, (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 level courses may be applied toward professional technical studies in this component of the degree.

Licensure Program in Marketing Teacher Education

Licensure Program in Technology Education through M.S. Degree

Endorsement Program in Vocational Special Needs Education

Endorsement Program in Vocational Evaluation

Master of Science in Engineering-Modeling and Simulation

- Concentration, Simulation-Based Instruction

Education Specialist

Doctor of Philosophy in Occupational and Technical Studies

Common Core – 9 credits

OTED 785 Curriculum Development in Occupational Education and Training 3
OTED 788 Instructional Strategies and Innovations in Training and Occupational Education 3
OTED 789 Instructional Technology for Education and Training 3

Concentration Specific Courses – 6 credits, select one specialization

Career and Technical Education Teaching
- OTED 760 Trends and Issues in Occupational Education 3
- OTED 762 Administration and Management of Education and Training Programs 3

Business and Industry Training
- OTED 761 Foundation of Adult Education and Training 3
- OTED 762 Administration and Management of Education and Training Programs 3

Community College Teaching
- OTED 760 Trends and Issues in Occupational Education 3
- OTED 761 Foundation of Adult Education and Training 3

Research Core 6-9 credits

OTED 635 Research Methods in Occupational and Technical Studies 3
OTED 636 Problems in Occupational and Technical Studies, or OTED 698 Thesis in Occupational Education 3-6

Professional Technical Specialty - 12-18 credits

Career and Technical Education Teaching - 12 credits, approved by advisor

Business and Industry Training - 12 credits, approved by advisor

Community College Teaching - 18 credits in teaching specialty

Licensure/Endorsement Programs

Endorsement Program in Industrial Cooperative Training

David L. Netherton, Coordinator

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. Students may enroll in this teaching endorsement program as a non-degree student. If an M.S. degree is sought, graduate level courses may be applied toward professional technical studies in this component of the degree, admission should be sought into the M.S. program in occupational and technical studies with a concentration in career and technical education teaching. Graduate students can complete up to 12 graduate hours with a non-degree application. Students should contact the program coordinator to discuss admissions options. 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.

Continuance and Exit. Students must (1) complete the following courses: ENGL 110C, OTED 305/400/500, OTED 401/503, 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 level courses may be applied toward the Master of Science in occupational and technical studies, career and technical education teaching concentration.

Licensure Program in Marketing Teacher Education

David L. Netherton, Coordinator

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.** Students can complete this licensure program through an undergraduate degree program, second undergraduate degree, graduate non-degree seeking level, or through the M.S. program. Students should meet with the program coordinator to discuss these options. Graduate students can complete up to 12 graduate hours with a non-degree application. 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. Finally, students must attain or exceed the minimum score required by Virginia on the PRAXIS I examination or equivalent SAT or ACT score. The PRAXIS I exam (or equivalent SAT/ACT score) must be passed prior to admittance into teacher education and taking OTED 408/508.

**Continuation and Exit.** Students must (1) complete the following courses: OTED 297, ESSE 413/513, ECI 408 or 608, OTED 400/500, 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; (3) document at least 4000 clock hours of occupational work experience completed within the past five years or complete OTS 405; (4) earn passing scores on PRAXIS II and the Virginia Communication and Literacy Assessment Test before teacher internship; and (5) complete a university graduate student assessment if enrolled in the M.S. degree program. Twelve hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, career and technical education teaching concentration.

**Licensure Program in Technology Education through M.S. Degree**

John M. Ritz, Graduate Program Director

The licensure program in technology education is designed to prepare a person who has a baccalaureate degree and industrial/military related technical experience to be a technology education teacher. Participants who successfully complete this program will qualify to apply for a Virginia teaching license to teach technology education and also receive a Master of Science degree.

**Admission Information.** To earn the M.S. with Virginia licensure to teach technology education, candidates have to be accepted into the M.S. concentration in career and technical education teaching. Graduate students can complete up to 12 graduate hours with a non-degree application. Student must meet with the graduate program director to have military and other technical content courses reviewed to determine their applicability toward licensure requirements. Prior to entering this program students must hold a baccalaureate degree with a major related to technology/engineering or have completed military schools equating to a minimum of 18 credits in industrial technology areas as evaluated by the American Council on Education (ACE Guide). 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 graduate program director. Finally students must attain or exceed the minimum score required by Virginia on the PRAXIS I examination or equivalent SAT or ACT score. The PRAXIS I exam (or equivalent SAT or ACT score) must be passed prior to admittance into teacher education and taking OTED 508, Advanced Classroom Issues and Practices.

**Continuation and Exit.** Students must (1) complete the following courses: ESSE 513; ECI 560 (Foundations and Practicum in Education); 680 (Reading to Learn Across the Curriculum); 616 (Design for Effective Instruction); OTED 508, 586, 596, 635, 636, 730, 788, 789; OTS 112, 231, 250, 320, 351; (2) earn a 2.75 cumulative grade point average on undergraduate level courses and a 3.00 cumulative grade point average at the graduate level, (3) earn passing scores on PRAXIS II and Virginia Communication and Literacy Assessment Test before the teacher internship, and (4) complete the graduate student University assessment program. Completing this licensure program and other departmental requirements will allow the candidate to earn the Master of Science in occupational and technical studies, career and technical education teaching concentration.

**Endorsement Program in Vocational Special Needs Education**

David L. Netherton, Coordinator

The endorsement program in vocational special needs education is designed to prepare a person who holds a teaching license in a secondary education career and technical education program to teach vocational special needs education courses in Virginia. Students who successfully complete this program may apply for the Vocational Special Needs Add-on Endorsement.

**Admission.** Students may enroll in this teaching endorsement program as a non-degreed student. If an M.S. degree is sought, so graduate level courses may be applied toward professional technical studies in component of the degree, admission should be sought into the M.S. program in occupational and technical studies with a concentration in career and technical education teaching. Graduate students can complete up to 12 graduate hours with a non-degree application. Students should contact the program coordinator to discuss admissions options. Prior to entering this program students must be endorsed to teach career and technical education or special education in the public schools. Secondly, they must have completed a course in English composition. Finally, they must be interviewed and accepted by the coordinator for the program.

**Continuation and Exit.** Students must (1) complete the following courses: OTED 408/508, OTED 603, and OTED 604; (2) earn a 3.00 cumulative grade point average; and (3) document at least 4000 clock hours of occupational work experience completed within the past five years or complete OTS 405. Nine hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, career and technical education teaching concentration.

**Endorsement Program in Vocational Evaluation**

David L. Netherton, Coordinator

The endorsement program in vocational evaluation is designed to prepare applicants to be endorsed as a vocational evaluator for employment in Virginia public schools.

**Admission.** Students may enroll as a non-degree seeking graduate student or apply to the M.S. program in occupational and technical studies, career and technical education teaching concentration. Students should contact the program coordinator to discuss these options. Prior to entering this program students must have or be working toward a master’s degree in career and technical education evaluation, vocational education, special education, rehabilitation counseling, or related area. Secondly, they must be interviewed and accepted by the program coordinator.

**Continuation and Exit.** Students must (1) complete the following courses: OTED 550, OTED 603, OTED 604, OTED 606, and (2) earn a 3.00 cumulative grade point average. 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.

**Emphasis in Simulation-Based Instruction**

[Master of Science in Engineering Modeling and Simulation Concentration]

The Department of Occupational and Technical Studies offers the simulation-based instruction emphasis in the Master of Science in Engineering degree offered through the Batten College of Engineering and Technology. Working with subject matter experts and modeling/simulation technical experts, trainers play an important role in the design, development, and testing of training simulations. The professional trainer’s role in simulations is to provide the training framework and pedagogy for the systematic development of training simulations. After the model or simulation has been designed, developed, and tested, the trainer becomes the prime user of the model or simulation as it is integrated into the trainer’s instructional strategies.

The simulation-based instruction emphasis helps students understand the training process that should be followed in planning, designing, testing, and implementing a training simulation so that it solves a predetermined performance problem. The courses in the emphasis include:

- OTED 761 Foundations of Adult Education/Training 3
- OTED 789 Instructional Technology in Education and Training 3
- OTED 750 Training Issues and Problems in Modeling and Simulation 3
The Ph.D. in occupational and technical studies has three emphases: technology education, career and technical education, and human resources - training. The Ph.D. will be delivered on campus and through the University’s distance learning system. It requires two summers where students enroll in nine credit hours for residency. All students must be on the Norfolk campus for two, two-week summer sessions. The focus of the degree is to prepare university faculty, directors/supervisors of career and technical education, and directors of training departments in business, industry, and government.

The Department of Occupational and Technical Studies has the faculty and expertise to support this concentration. It has five doctoral degree faculty, all of whom have expertise in occupational and technical education: four with expertise in technology education, five with expertise in career and technical education, and four with expertise in human resources – training.

The curriculum associated with Old Dominion University’s Ph.D. in occupational and technical studies is intended to accomplish the following learning outcomes:
- Every individual who completes this doctoral program, regardless of his/her concentration emphasis, will develop competencies for understanding and using research methods and statistics to make data-based decisions.
- The concentration emphasis will offer courses that enable graduates to know and apply their knowledge in today’s complex educational environments and emerge as leaders in their chosen careers.

**Admission.** Students may enroll in this program full or part-time. After admittance, students must be enrolled continuously. The program faculty reviews all applicants as their application packages are completed. The following are the admitted criteria for admission. If students meet the requirements for admittance, they will be offered admission. The Graduate Record Examination is required for admission. It is available at the University of Virginia Graduate School. The departmental Graduate Studies Committee will be responsible for evaluating the applicants' credentials for admission.

**Entrance:** To be admitted to the Ed.S. program, an applicant must:
- Hold a master’s degree in career and technical education or related field;
- Have a successful experience as an administrator or teacher;
- Hold a teaching license or equivalent; and
- Have taken ELS 600 or its equivalent as a prerequisite.

**Exit:** Students must successfully complete (1) a written comprehensive examination, (2) the required course of study, (3) have a 3.00 grade point average or above, and (4) complete a university graduate student assessment.

**Curriculum - 33 credits**
Requirements for the Ed.S. with a specialty in occupational and technical studies include 30-33 semester hours (18 hours must be completed in 800-level courses in ELS), as follows:

**Prerequisites – 3-12 credits**
- ELS 600 Principal Orientation and Instructional Leadership 3
- ELS 610 School Community Relations and Politics 3
- ELS 621 Curriculum Development and Assessment 3
- ELS 657 Public School Law 3

Note: ELS 610, 621, 765 are prerequisites for principalship endorsement.

**Educational Leadership – 18 credits**
- ELS 853 Public School Finance 3
- ELS 854 Human Resource Development and Evaluation 3
- ELS 871 Educational Systems Planning and Futures 3
- ELS 876 Ethics, Integrity and Social Justice in Education 3
- ELS 877 Staff Development 3
- ELS 878 Leadership in Teaching and Learning and Supervision or 3
- ELS 879 Field Research – School Administration 3

**Occupational and Technical Studies – 15 credits**
- OTED 860 Trends and Issues in Occupational Education 3
- OTED 862 Administration and Management of Educational and Training Programs 3
- OTED 885 Curriculum Development in 3
- OTED 888 Occupational Education and Training 3
- OTED 889 Instructional Strategies and Innovations in Training and Occupational Education 3
- OTED 889 Instructional Technology Education and Training and/or other courses approved by the candidate’s advisor.

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**Doctor of Philosophy in Education with a concentration in Occupational and Technical Studies**

John M. Ritz, Graduate Program Director

The Department of Occupational and Technical Studies jointly offers the education specialist (Ed.S.) with the Department of Educational Leadership and Counseling. The program offers a cohesive sequence of academic studies designed to help graduates deal effectively with administrative problems encountered in urban schools and agencies. Principalship can be planned into the educational specialist degree.

**Admission.** To be admitted to the Ed.S. program, an applicant must:
- Hold a master’s degree in career and technical education or related field;
- Have a successful experience as an administrator or teacher;
- Hold a teaching license or equivalent; and
- Have taken ELS 600 or its equivalent as a prerequisite.

**Entrance:** Students must (1) meet all University requirements, (2) provide two letters of recommendation; (3) hold a master’s degree from an accredited institution (minimum 3.25 grade point average); (4) complete the program in the Department of Educational Leadership and Counseling.

**Exit:** Students must successfully complete (1) a written comprehensive examination, (2) the required course of study, (3) have a 3.00 grade point average, (4) complete the one-page essay explaining why he/she should be admitted to the program; and (5) have an acceptable score on the GRE or Miller Analogies Test.

**Continuance:** Students must meet all University requirements and maintain a 3.00 or higher grade point average.

**Curriculum - 33 credits**
Requirements for the Ed.S. with a specialty in occupational and technical studies include 30-33 semester hours (18 hours must be completed in 800-level courses in ELS), as follows:

**Prerequisites – 3-12 credits**
- ELS 600 Principal Orientation and Instructional Leadership 3
- ELS 610 School Community Relations and Politics 3
- ELS 621 Curriculum Development and Assessment 3
- ELS 657 Public School Law 3

Note: ELS 610, 621, 765 are prerequisites for principalship endorsement.

**Educational Leadership – 18 credits**
- ELS 853 Public School Finance 3
- ELS 854 Human Resource Development and Evaluation 3
- ELS 871 Educational Systems Planning and Futures 3
- ELS 876 Ethics, Integrity and Social Justice in Education 3
- ELS 877 Staff Development 3
- ELS 878 Leadership in Teaching and Learning and Supervision or 3
- ELS 879 Field Research – School Administration 3

**Occupational and Technical Studies – 15 credits**
- OTED 860 Trends and Issues in Occupational Education 3
- OTED 862 Administration and Management of Educational and Training Programs 3
- OTED 885 Curriculum Development in 3
- OTED 888 Occupational Education and Training 3
- OTED 889 Instructional Strategies and Innovations in Training and Occupational Education 3
- OTED 889 Instructional Technology Education and Training and/or other courses approved by the candidate’s advisor.

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**Doctor of Philosophy in Education with a concentration in Occupational and Technical Studies**

John M. Ritz, Graduate Program Director

The Ph.D. in occupational and technical studies has three emphases: technology education, career and technical education, and human resources - training. The Ph.D. will be delivered on campus and through the University’s distance learning system. It requires two summers where students enroll in nine credit hours for residency. All students must be on the Norfolk campus for two, two-week summer sessions. The focus of the degree is to prepare university faculty, directors/supervisors of career and technical education, and directors of training departments in business, industry, and government.

The Department of Occupational and Technical Studies has the faculty and expertise to support this concentration. It has five doctoral degree faculty, all of whom have expertise in occupational and technical education: four with expertise in technology education, five with expertise in career and technical education, and four with expertise in human resources – training.

The curriculum associated with Old Dominion University’s Ph.D. in occupational and technical studies is intended to accomplish the following learning outcomes:
- Every individual who completes this doctoral program, regardless of his/her concentration emphasis, will develop competencies for understanding and using research methods and statistics to make data-based decisions.
- The concentration emphasis will offer courses that enable graduates to know and apply their knowledge in today’s complex educational environments and emerge as leaders in their chosen careers.

**Admission.** Students may enroll in this program full or part-time. After admittance, students must be enrolled continuously. The program faculty reviews all applicants as their application packages are completed. The following are the admitted criteria for admission. If students meet the requirements for admittance, they will be offered admission. The Graduate Record Examination is required for admission. It is available at the University of Virginia Graduate School. The departmental Graduate Studies Committee will be responsible for evaluating the applicants’ credentials for admission.

**Entrance:** To be admitted to the Ed.S. program, an applicant must:
- Hold a master’s degree related to this field or have worked in occupations related to the degree’s outcomes; (2) complete the graduate application with necessary fee; (3) submit an essay statement of academic and professional goals with an emphasis on how the Ph.D. degree in occupational and technical studies will contribute to the achievement of career goals; (4) submit three letters of reference from sources capable of commenting on readiness for advanced graduate study; (5) submit a resume that shows your educational and professional background; (6) submit academic transcripts from all undergraduate and graduate institutions previously attended or currently being attended with a minimum 3.00 graduate grade point average; (7) submit scores from the Graduate Record Examination that have been earned within the past five years with a minimum score of 300 in the verbal component; and, (8) if the applicant’s primary language is not English, submit a current score for the Test of English as a Foreign Language (TOEFL) that meets the University’s current standard. Applications for admission are accepted according to the Department of Occupational and Technical Studies schedule for cohort admissions. Cohorts begin study during the summer session. For admittance to adhere to this start, applications should be submitted by November. Candidates are notified by February of acceptance into the program. Graduate assistanceships are awarded in February annually.

**Continuance:** Students must (1) have their Ph.D. program approved; (2) meet residency requirements; (3) successfully complete annual progress reviews; (4) meet continuous enrollment requirements; (5) meet faculty and University program expectations; (6) complete the departmental Graduate Writing Proficiency Examination prior to the completion of nine credit hours; and (7) meet professional development and career preparation expectations.

**Exit:** Students must (1) complete a minimum of 60 credit hours beyond the master’s degree; (2) complete all competencies listed on course syllabi; (3) achieve an overall grade point average of 3.00; (4) pass the written comprehensive examination, (5) select a dissertation committee; (6) prepare and defend a dissertation prospectus; (7) successfully complete a dissertation with an oral defense; and (8) complete the graduate student University assessment.

**Prerequisites:** A master’s degree in an appropriate field related to this concentration is required for admission to the Ph.D. program. Students who do not have equivalent coursework or appropriate educational experiences must complete the following prerequisite courses:
- OTED 635 Research Methods in Occupational and Technical Studies 3
- ELS 732 Statistics Applied to Research in Educational Leadership – Data Driven Decision Making 1

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*DARDEN COLLEGE OF EDUCATION*
Teacher Education Services

152 Education Building
757-683-6448
Leigh Butler, Director

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 Science, 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, 6-12 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).

1. 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:
   • academic advisement of prospective teacher candidates pursuing an undergraduate or graduate degree with either a professional education or human services emphasis, including development of appropriate academic plans;
   • promotion of professional education and human services programs, including informing candidates of scholarship and study abroad opportunities, as well as credentialing requirements;
   • communication with prospective teacher candidates regarding admissions, continuance, and exit requirements for their respective education degree and initial licensure programs; and
   • 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 Research and Evaluation in Public Schools

David Blackburn, Director
137 Education Building
757-683-5449
http://education.odu.edu/preps

Programs for Research and Evaluation in Public Schools (PREPS) was established within the Darden College of Education in 2004 to assist school divisions within the Commonwealth of Virginia to meet the requirements of PL 107-110, the No Child Left Behind Act of 2001. Those requirements include research-based education programs, program evaluation, using data to guide and direct instruction, and developing research capacity in schools. As of Spring 2006, PREPS is working with nine of the 16 school districts in Hampton Roads on a variety of research and evaluation projects to include high school reform, standard language proficiency and student assessment for learning. PREPS has a team of researchers who have over 60 years of qualitative and quantitative research experience at various levels to include RAND, Edison Schools, the federal government, school districts, and metropolitan research centers. The PREPS Director serves on the Virginia Governor’s Education Leadership Development Team as the co-chair of the “Commonwealth Collaborative” for Virginia. The collaborative, a Wallace Foundation funded initiative, is currently developing Virginia’s first Education Leadership Academy scheduled to open in October 2006. The director also serves on the “Education Partnership Action Team” sponsored by the Governor and the State Council for Higher Education in Virginia. Interested parties may contact David Blackburn, PREPS Director, Darden College of Education, Old Dominion University, 137 Education Building, Norfolk, Virginia, 23529-0156 [voice – 757-683-5449; fax – 757-683-5716; e-mail – dblackbu@odu.edu].

Virginia Troops to Teachers/Spouses to Teachers Programs

Joseph Wargo, Director
113 Education Building
757-683-3327
http://www.odu.edu/troopstoteachers

Troops to Teachers (TTT) was established in 1994 as a Department of Defense program and is managed by the Defense Activity for Non-Traditional Education Support (DANTES) in Pensacola, Fl. Old Dominion University is the headquarters for Virginia TTT with all Commonwealth of Virginia institutions of higher learning participating in the program. The primary objective of TTT is to help recruit quality teachers for schools that serve low-income families throughout the United States. TTT helps relieve the teacher shortages, especially in math, science, special education and other high-need subject areas, and assists military personnel in making a successful transition to a second career in teaching.

TTT provides a $5,000 stipend to assist military personnel who are (1) retired, (2) within one year of retiring with an approved retirement date, or (3) honorably discharged with six or more years of service and willing to obligate herself on a three-year contract. The stipend may be used to pay for any approved teacher licensure program in any state above the required bachelor’s degree at any accredited college. The stipend may not be used for...
training principals, guidance counselors or ROTC instructors. The stipend may not be used at private schools and colleges. TTT participants are obligated to teach for three years in a high-need school district. Eligible districts must have 20% or more of the students below poverty level.

Participants hired to teach in a setting where 50% or more of the students are on free or reduced lunches or their Individual Disability Education Act (IDEA) percentage is 12.8% or more are eligible for a $10,000 bonus. Acceptance of any monies obligates the Troops to Teachers participant to teach for three years in a poverty-level school. Currently, 23% of Virginia school districts meet these criteria.

Spouses to Teachers (STT) is a pilot project in selected states (CA, CO, FL, GA, KS, LA, NE, NV, NM, NC, SC, TX, UT, VA) designed to assist spouses of active duty military in their pursuit of K-12 teaching positions in both public and private schools in the U.S. STT provides information, counseling and guidance to eligible spouses regarding teacher certification requirements, routes to certification, employment potential, financial assistance, and assistance with employment searches. Eligible participants are (1) spouses of active duty personnel, (2) members of the Selected Reserve, National Guard, or (3) spouses of members of the Individual Ready Reserve recalled to active duty. Limited funding will be provided to eligible spouses to reimburse the cost of tests required for state teacher licensure/certification. Maximum available funds for this reimbursement is $600.00 per person.

Career Switcher Program

122 Education Building
757-683-4686
http://education.odu.edu/pts/
Fran Puchalski, Director

The Darden College of Education offers the Career Switcher Program within its Programs for Continued Learning unit as an alternative pathway to teaching, which would positively impact Virginia’s teacher shortages. Old Dominion University created and ran the state’s pilot Career Switcher Program. Since its beginning, hundreds of career switchers have become valued educators in school districts across the Commonwealth of Virginia.

Varied program formats allow for accelerated training in accommodating participants who wish to remain employed in their current jobs while pursuing licensure. The Career Switcher Program, while offered in a non-credit format, will transfer six hours of experiential graduate academic credit toward a Master of Science in Education degree through the college. Career switchers who engage in additional coursework to qualify for the program may transfer more than six hours toward the degree.

Level One preparation in instructional skills and classroom management is specific to content area and focuses on the “survival skills” of everyday classroom teaching, grades PreK-12. In-school observation offers participants the opportunity to make contacts in school districts while gaining knowledge about teacher responsibilities and instructional strategies.

Upon completion of Level One preparation, ODU Career Switchers receive an Eligibility License, which qualifies them to teach in Virginia. The renewable Collegiate Professional License will be issued upon completion of Level II.

Programs for Continued Learning

The Programs for Continued Learning Department extends to the community special conferences, workshops, seminars, in-service 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).

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 in-service 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 practicum 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.

DARDEN COLLEGE OF EDUCATION 151
Darden College of Education
Graduate Courses

Course Prefixes

Early Childhood, Speech Language Pathology and Special Education — ESSE
Educational Curriculum and Instruction — ECI
Educational Leadership and Services—ELS
Exercise Science, Sport, Physical Education and Recreation — ESPR
Exercise Science — EXSC
Sport Management — SMGT
Higher Education — HIED
Human Services — HMSV
Occupational and Technical Studies
Occupational and Technical Education — OTED
Instructional Design and Technology — IDT
Interdisciplinary Studies — IDS

College Leadership — CCL

720/820. Community College Leadership. Lecture 3 hours; 3 credits. Prerequisite: acceptance into the doctoral program or permission of the instructor. A doctoral level seminar intended to provide theoretical and practical background on issues related to community college leadership and assist the student to develop the skills necessary to fulfill the responsibilities of a senior community college administrative leadership position. Of particular importance are skills needed for community college deans, vice presidents and presidents.

724/824. Community College Finance. Lecture 3 hours; 3 credits. Prerequisite: acceptance into the doctoral program or permission of the instructor. A doctoral level seminar intended to provide information about the financing and budgeting process and the role of financial management in community colleges. This will be accomplished by examining the budget development and budget planning process and a survey of sources and uses of funds as well as the functions and techniques of responsible management of resources.

726/826. Community College Curriculum and Program Development. 3 credits. Prerequisite: acceptance into the doctoral program or permission of the instructor. A doctoral- level seminar intended to assist students to understand the development and management of the community college curriculum. It will do this by (1) examining processes practiced in the identification of courses and degree programs, (2) the review and approval processes of individual programs and courses, (3) assessment and other accountability activities, and (4) the authorizing processes and procedures for establishing or terminating courses or programs.

768/868. Internship in Community College Leadership. 3 to 6 credits. Prerequisite: acceptance into the doctoral program or permission of the instructor. The purpose of this course is to allow students to obtain hands-on experience in a leadership role at a community college setting. The student will learn about leadership skills at the community college by observing his or her mentor/site supervisor and by being given leadership tasks associated with the site he or she has chosen.

999. Community College Leadership. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Counseling — COUN

601. Principles of Professional Counseling and Ethics. Lecture 3 hours; 3 credits. Aligned with a spiral approach to learning, students will be introduced to theory, practice, methods, basic principles, and concepts used by counselors in educational settings and community agencies. In subsequent courses, these topics will be revisited in depth. The course will emphasize professional and ethical issues related to counseling.

630. Growth Group. Laboratory 2 hours; 1 credit. Corequisites: COUN 601 and 633. Students will participate as a member of a self-awareness small group. The group's goals are to promote self-understanding, self-analytical skills, and interpersonal relationship skills.

631. Counseling for Lifespan Development. Lecture 3 hours; 3 credits. A study of phase and stage theories of lifespan development with applications to counseling. Current research findings on major developmental issues (e.g., gender) will be emphasized.

633. Counseling and Psychotherapy Techniques. Lecture 3 hours; 3 credits. Corequisite: COUN 601. The course focuses on development of attitudes and skills essential to effective professional counseling. Emphasis is on conducting the helping interview, as well as conducting an intake interview, a mental status evaluation, a biopsychosocial history, a mental health history, and a psychological assessment for treatment planning and caseload management.

635. Research and Program Evaluation. Lecture 3 hours; 3 credits. Introduction to qualitative and quantitative research and program evaluation.

642. Structured Counseling Groups. Lecture 3 hours; 3 credits. Prerequisites: COUN 630, 633 and 650. This course is designed to prepare students to facilitate structured counseling groups for children, adolescents and adults in a variety of settings.

644. Group Counseling and Psychotherapy. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645, 650. Developing effective group leadership competencies is the focus for the course. Identification of group dynamics, use of group level process, and the self-development of the leader are some major topics.

645. Testing and Client Assessment. Lecture 3 hours; 3 credits. Corequisites: COUN 601, 633. This course examines individual and group approaches to formal and informal assessment techniques, including diagnosis. It includes an examination of: the history of assessment; basic test statistics; test worthiness (reliability, validity, and cross-cultural issues); the selection, administration, and interpretation of assessment instruments; and ethical and legal issues relative to assessment. The focus of this class is on major concepts and principles of psychological testing and evaluation and use of standardized instruments with differing populations.

647. Addictive Disorders. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645 and 650. Examines the etiology, risk factors, assessment, treatment, and prevention of substance misuse and treatment of alcoholism and other addictions.

648. Foundations of Career Development. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645, 650. Principles and theories of career development, occupational and educational information, employment trends, concepts and principles for effective work in educational and career planning and development are considered.

650. Theories of Counseling and Psychotherapy. Lecture 3 hours; 3 credits. Corequisites: COUN 601, 633. A study of major theories of counseling and psychotherapy. The primary focus is on providing students with a theoretical foundation upon which to develop their own approach for providing counseling and psychotherapy.

655. Social and Cultural Issues in Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645 and 650. Designed to engage helping professionals in cultural self-awareness and in search of solutions to the group experience to promote self-understanding, self-analytical skills, and interpersonal relationship skills.

668. Internship in Mental Health Counseling. 3 credits. Prerequisite: departmental permission. This course provides an opportunity to provide individual supervision to students with a planned program of supervised clinical instruction in mental health counseling in an appropriate professional setting, including provision of direct service and performance of indirect professional activities under appropriate clinical supervision of a site supervisor. Course is offered in cooperation with local internship providers. The course includes 450 hours of counseling field placement work at a supervised service setting in each of two semesters of enrollment.

669. Practicum in Counseling. 3 credits. Prerequisites: COUN 601, 630, 633, 644, 645, 650 (See Program Handbook for other prerequisites based on specialty area). This supervised experience will enable students to practice basic and intermediate individual and group counseling skills with clients while integrating knowledge and skills learned in previous coursework. The course provides an opportunity to learn one’s personal style for supervision, to have supervised field supervision experiences and to gain an understanding of the different models of supervision.

676. Professional Issues in School Counseling K-12. Lecture 3 hours; 3 credits. Prerequisites: completion of 13 credits and admission to regular status. A professional seminar that emphasizes the contemporary role of the school counselor as leader and advocate in delivering school counseling programs to all students. Emphasis is...
placed on acquiring the awareness, knowledge and skills necessary to negotiate the cultural, educational, and contextual forces that impact the lives and academic achievement of students in a pluralistic society.

678. Counseling Children and Adolescents in School Settings. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 631, 633, 645, and 650. This course will provide an overview of theories and techniques of counseling children and adolescents in school settings. Emphasis will be placed upon the counselor’s role as a facilitator of normal developmental processes to promote academic success.

679. School Counseling Program Development K-12. Lecture 3 hours; 3 credits. Prerequisites: COUN 631, 644, 648, 655, 676 and 678. This course is designed as a capstone experience that synthesizes graduate course work into a practical school counseling program manual. Emphasis is placed on assessment, data collection and analysis, design and development, implementation and evaluation of systemic school counseling programs K-12. Specific emphasis is given to the integration of assessed needs, the National Standards for School Counseling Programs and the Standards of Learning.

680. Mental Health Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645, and 650. This course will examine the broad range of roles and functions of the mental health counselor within contemporary professional practice settings.

681. Topics Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 644 and 650. Couples counseling focuses on development of effective counseling skills in working with couples.

685. Diagnosis and Treatment Planning in Mental Health Counseling. Lecture 3 hours; 3 credits. A course focused on developing knowledge, attitudes, and skills essential to effective DSM-IV diagnosis, client conceptualization assessment, and clinical treatment planning. Emphasis on the use of client conceptualization models as a basis for treatment planning in mental health counseling.

691. Family Systems and Family Development. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645, and 650. The course offers a study of the family as a system, family life cycle stages, tasks, and difficulties that families may experience as they move through their developmental stages. Concepts and principles applicable to helping people within a systems perspective will also be discussed.

695. Topics in Counseling. Lecture 1-6 hours; 1-6 credits. The study of selected topics in counseling.

707/807. Adult and College Student Development. Lecture and discussion 3 hours; 3 credits. This course is an exploration of ways adults construct meaning, including intellectual, moral, and personality development. Gender and culture are highlighted as they affect knowing. The course has applications to counseling, college student affairs work, administration, and leadership. The course is intended to develop a working knowledge of the major developmental theories and conceptual approaches associated with college student personnel work and college student counseling.

742/842. Advanced Counseling Theory and Practice. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645 and 650. An in-depth study of selected counseling theories through the study of cases.

744/844. Advanced Group Counseling. 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 644, 645, and 650. Development of group leadership skills through group experiences in class and in the field.

747/847. Chemical Dependency Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 601, 630, 633, 645, and 650. This course will be a skills-based, technique-focused class geared toward the counseling professional who works with chemically dependent clients. Current theories and models of diagnosis and treatment will be the central themes with practical applications.


795/895. Topics in Counseling. Lecture 1-6 hours; 1-6 credits. The study of selected topics in counseling.

797/897. Independent Study. Consultation 1-6 hours; 1-6 credits. Individual study under the supervision of a graduate faculty member.

801. Current Issues in Counseling and Counseling Education. Lecture and discussion 3 hours; 3 credits. The course will focus on the current issues in counseling to include the role of ethical and legal considerations in counselor education and supervision, social and cultural issues to include social change theory and advocacy action planning, and developmental counseling.

826. School Counseling Teaching and Practice. Lecture 3 hours; 3 credits. Prerequisites: three or more seminars presented by campus Instructional Support Services to include Blackboard, Development of Syllabi, Televised Instruction and Classroom Assessment. This course prepares students to teach counseling and related courses. Topics covered are learning theories, retention of material, motivation, classroom instructional strategies and techniques, and assessment of learning from the core learning expectations. Students will teach a semester course under supervision of the instructor.

835. Advanced Counseling Research and Preparatory Evaluation. Lecture 3 hours; 3 credits. Prerequisites: ELS 832, 833, and ECI 890. The doctoral-level course examines advanced topics and controversies in qualitative and quantitative counseling research; this integration of theoretical with applied counseling material will augment the department’s standard doctoral research offerings.

840. Advanced Diagnosis and Treatment Planning. Lecture 3 hours; 3 credits. Prerequisites: COUN 801 and 742/842. A course on advanced knowledge, advanced clinical skills, and highly defined clinical attitudes essential to proficient DSM-IV diagnosis, accurate client conceptualization and assessment, and advanced clinical treatment planning. Emphasis on the use of client conceptualization models as a basis for advanced treatment planning.

846. Supervision in Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 670, 801, 842, 844, and 869. This course provides advanced training and skill development in supervision. Specific topics in supervision will also be examined. These include ethical and legal issues, multicultural competency in supervision; theories of counselor development; theories/models, processes, and skills in supervision. Students will conduct the COUN 669 practicum classes under faculty supervision.

850. Advanced Issues and Practices in School Counseling. Lecture 3 hours; 3 credits. Prerequisites: COUN 801 and ELS 833. This course has a focus on advanced theory, practice, and research in school counseling. Specific topics include: advocacy; leadership; systems analysis and organizational development; supervision and training; development of multicultural competency; ethical and legal issues; curriculum development; coordination, collaboration, and consultation; and program development and evaluation.

868. Internship in Counseling. 3-12 credits. This internship is designed to provide individual students with a planned program of advanced on-the-job professional experience in a college or community/agency setting. Internship assignments will be controlled and coordinated by a university instructor. Direct supervision is given by an experienced professional in the setting.

869. Advanced Supervised Practicum in Counseling. 3 credits. Prerequisites: COUN 801, 820, 742/842, 744/844. This advanced supervised practicum in counseling experience will enable doctoral-level students to develop and/or refine advanced counseling skills and conceptually link counseling practice and theory.

898. Dissertation Seminar. Lecture 3 hours; 3 credits. Prerequisites: COUN 801, ELS 832, 833, ECI 890, COUN 820, 835, 742/842, 744/844, 846, 869, and at least one specialty course. This seminar is designed to assist students in making substantive progress in identifying and developing their dissertation proposal. Students will critically examine the current literature associated with their research interests and examine applicable conceptual constructs and methodologies.

899. Dissertation. 1-12 credits.

Early Childhood, Speech Language Pathology and Special Education — ESSE

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, scoring and interpretation of standardized/norm-referenced assessments of exceptional learners. Administering formal and informal assessment tools and the development of an IEP are emphasized. The use of assessment data to improve instruction and student performance is discussed.

403/503. Directed 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 or educational setting with individuals with special needs. The course includes specific skills oriented toward 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 classroom instruction.

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 aspects 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. Prerequisite: ESSE 400/500 or 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 (ABA) 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 intellect, social 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, 402/502, 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. Cognitive Assessment. 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 intervention services, educational transition services 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: Transition. 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 family roles, family processes, family support, family functioning, and family stress.

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 construction 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 450/550 and 460/560. The emphasis of this course is on the organization and administration of 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 the nature and etiology of communication disorders and the 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, phonetics, speech perception, and clinical laboratory 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 of the deaf.

462W/562. Sign Language: 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. Emphasis is on routine-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. 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.

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/S84. Internship with Mentor. 3-9 credits. Prerequisite: department approval and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. This preservice alternative will be offered to student teacher candidates who have completed all their coursework and who have been offered a teaching contract. The requirement will be the same as that of student teaching.

486/S86. Teacher Candidate Internship for Special Endorsement. Five days per week; half-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/S87. 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 NCIM & 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.

617. Collaboration and Consultation for Students with Diverse Learning Needs. Lecture 3 hours; 3 credits. Prerequisites: ESSE 400/500 and 415/515 or equivalent and passing scores on PRAXIS I or equivalent. This course addresses collaboration and consultation for students at-risk and students with disabilities. Emphasis is on interpersonal and communication skills, problem solving in dyads or groups, and the selection, implementation, and evaluation of various collaborative arrangements.

618. Characteristics and Advanced Procedures: Emotional and Behavioral Disorders. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and 415/515 or equivalent and passing scores on PRAXIS I or equivalent. This course addresses characteristics and advanced procedures to support students with behavior problems. It is designed to provide students with the knowledge of the behavior, physical and environmental determinants of the behavior, and the process of developing interventions that match the characteristics. This course will provide a theoretical basis for developing and implementing behavior intervention programs. Focus will be on instructional strategies for students with behavior disorders. Students will gain an appreciation of the instructional, behavioral, and social/emotional development of individuals with behavior disorders.

621. Effective Interventions for Children and Youth with Challenging Behavior. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and 411/511 or equivalent and passing scores on PRAXIS I or equivalent. Students with challenging behavior pose a tremendous challenge to school personnel. Along with the growing incidence of behavior problems, there has been a dramatic increase in the number of research-supported interventions. Emphasis is on the structural and functional properties of problem behavior to facilitate development of interventions that are matched to the characteristics of the behavior. Students will gain an appreciation of the instructional, behavioral, and social/emotional development of individuals with behavior disorders. This course will provide a theoretical basis for developing and implementing behavior intervention programs. Focus will be on instructional strategies for students with behavior disorders. Students will gain an appreciation of the instructional, behavioral, and social/emotional development of individuals with behavior disorders.

624. Characteristics and Assessment of Learning Disabilities. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and 415/515 and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. This course will present professional educators the history of the field, federal and state definitions, and current issues related to the characteristics of learning disabilities, including the academic and social characteristics of LD, as well as informal and formal assessment procedures. Placement options and related services will be covered.

625. Teaching Students with Autism Spectrum Disorders. Lecture 3 hours; 3 credits. Practicum of 45 hours required. This course includes a review of characteristics and intervention strategies for students on the autism spectrum, including those with autism, Asperger disorder, & PDD-NOS.

626. Characteristics and Advanced Procedures: Learning Disabilities. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500, 411/511 and passing scores on PRAXIS I or State Board of Education-approved SAT scores. This course addresses teaching students with learning disabilities. This course has an applied emphasis and includes a 45-hour practical experience with students with learning disabilities.

630. Teaching Preschoolers with Disabilities. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500, 415/515 and passing scores on PRAXIS I or State Board of Education-approved SAT scores. The purpose of this course is to prepare students to work with preschoolers who have disabilities, including diagnostic assessment, causal nature, and research based instructional strategies for teaching students with learning disabilities. This course has an applied emphasis and includes a 45-hour practical experience with students with learning disabilities.

631. Developmental and Ecological Assessment Strategies. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 or the equivalent and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. This course will provide students with the skills necessary for assessment of atypical early development as well as best practices in assessing functional skills in students with severe disabilities. Students will explore and give assessments to children from birth to 9 years of age in addition to students with severe disabilities.

632. Sensomotor Development and Intervention Strategies. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: ESSE 400/500 and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. This course covers typical and atypical development during infancy and intervention approaches for individuals, regardless
of age, who function at developmental levels between birth and two years. Emphasis is on techniques for working with students having physical disabilities.

634. Capstone Seminar. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course aids the student in reviewing and integrating current research in both general and special education and in the particular area of emphasis.

635. Research Methods in Education. Lecture 3 hours; 3 credits. Types of research, selection of problems, location of educational information, collection and classification of data, organization, presentation and interpretation of materials.

636. Problems in Education. Lecture 3 hours; 3 credits. Prerequisite: ESSE 635 and/or permission of the instructor. Application of research procedures culminating in student study of selected topics.

637. Infant/Family Intervention and Teamwork. Lecture 3 hours; 3 credits. Practicum of 45 hours required. Prerequisites: 400/500 and 630 and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. This course places emphasis on providing a cross-discipline background to serve families with children who are at-risk and disabled from birth through age three. Emphasis is placed on the development of the IFSP, procedures, materials and curriculum for this population. A family-centered approach is stressed.

650. Deafness and Speech-Language Disorders. Lecture 3 hours; 3 credits. The content of this course focuses upon the structural and neurological bases of speech and language disorders, particularly those related to laryngeal and central nervous system pathologies.

651. Language Development and Language Disorders. Lecture 3 hours; 3 credits. Prerequisite: ESSE 553 or equivalent, or permission of the instructor. This course provides a detailed analysis of current literature pertinent to language development, diagnosis and intervention.

652. Articulation and Phonological Disorders. Lecture 3 hours; 3 credits. Prerequisite: ESSE 451. The principal emphasis of this course is clinical intervention for phonological and articulation disorders including motor speech disorders.

654. Advanced Clinical Techniques in Speech Pathology. Lecture 3 hours; 3 credits. This course emphasizes current techniques in the management of voice, language, stuttering and articulation disorders.

655. Cleft Palate. Lecture 3 hours; 3 credits. The purpose of this course is to investigate the etiologies, communicative disorders, diagnostic methods, and therapeutic techniques related to cleft palate and related disorders.

656. Theories and Therapies in Stuttering. Lecture 3 hours; 3 credits. This course emphasizes current etiological theories, research, diagnostic procedures and therapeutic techniques related to stuttering.

657. Aphasia. Lecture 3 hours; 3 credits. The objective of this course is to investigate the etiologies, communicative disorders, diagnostic methods and therapeutic techniques related to aphasia.

658. Swallowing Disorders. Lecture 3 hours; 3 credits. This course reviews the structures and neural bases of swallowing, common etiologies that cause dysphagia, and clinical techniques used in assessment and management of swallowing disorders in pediatric and adult populations.

660. Procedures in Audiology. Lecture 3 hours; 3 credits. Prerequisite: ESSE 440.

660. Directed Field Project in Early Childhood, Special Education, Language and Special Education. 1-6 credits; 50 hours per credit. Prerequisite: two of the following - ESSE 618, 621, 623, 624, 626, 628, 630 and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. The course provides supervised involvement of the student in a practicum setting where the student and the instructor work together closely to develop curriculum and gain expertise in teaching specific topics of importance to special educators.

670. Assessment and Evaluation. Lecture 3 hours; 3 credits. Measurement and evaluation principles and procedures for assessing and promoting children’s learning and development will be addressed with an emphasis on the PK-6 age child. Program evaluation and interpretation of standardized tests will also be emphasized.

677. Advanced Child Theory and Research. Lecture 3 hours; 3 credits. This course focuses on developing an in-depth understanding of major theoretical perspectives and their application in the classroom. The course requires that students learn the concepts and terminology associated with each theory and be able to use them in analyzing, interpreting, promoting, and evaluating children’s growth and learning in the classroom. Related to the classroom application of these theories is examined and evaluated through principles of research design and interpretation.

679. Advanced Classroom Management and Practicum in Pre-K. Lecture 3 hours; 3 credits. Prerequisite: ECI 436/536 for students in the Pre-K-6 curriculum. This course will examine advanced methods for educators to use in order to make their classroom teaching and management more efficient and effective. This will include supervised involvement of the student in a practicum setting where the student, instructor and classroom teacher work together closely to develop knowledge and gain expertise in teaching children in a positive and effective learning environment. A weekly seminar is required.

688. Practicum in Early Childhood. 1-6 credits. Supervised involvement of the student in a practicum setting where the student and the instructor work together closely to develop curriculum and gain expertise in teaching specific topics of importance to early childhood educators. A weekly seminar is required.

690. The Child and the Family. Lecture 3 hours; 3 credits. This course will examine children in the context of the families in which they live. Family systems theory provides the basis for study, and students do an in-depth examination of their own families of origin. The stages of the family life cycle are taught; principles of healthy family functioning are emphasized to promote healthy growth for children.

695. Topics in Education. Lecture 1-3 hours; 1-3 credits each semester. Prerequisite: permission of the instructor. This course offers selected topics designed to permit small groups of qualified students to work on subjects of mutual interest in the special education field.

698/699. Thesis. 3-6 credits. Prerequisite: permission of instructor.

700/800. Social/Emotional Aspects of Child Development. Lecture 3 hours; 3 credits. The emphasis of this course will be on the theoretical approaches to the social/emotional development of the child that include the psychodynamic, humanistic, cognitive, behavioral, and social learning models as applied to responsive practices that promote the healthy emotional well being of children.

701/801. Historical and Contemporary Research in Special Education. Lecture 3 hours; 3 credits. This course covers contemporary and historical topics related to problem issues in special education. This is a course of study that will enable participants to examine various research topics in special education and take and defend a position on an issue.

702/802. Cognitive Processes and Learning Strategies for Students with Special Needs. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. The intent of this course is to provide an overview of research and critical issues related to the cognitive and affective development of individuals with disabilities. Research-based interventions that address deficits of cognitive processes will be discussed and specific learning strategies will be presented.

707/807. Advanced Instructional Procedures in Special Education. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. This course provides students with the skills necessary to design educational planning, development and implementation for students with learning problems. Techniques focus on inclusive and self-contained classroom arrangements.

710/810. Models of Parent, Child, Social Interaction. Lecture 3 hours; 3 credits. This course will examine the family with an emphasis on parent/child interactions. In addition, a model for ecological intervention will be discussed.

714/814. Alternative Strategies for Secondary Students. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. This course is designed to provide students with an opportunity to examine and develop curriculum strategies and adaptations which may be used to meet the needs of students with diverse learning needs.

715/815. Alternative Strategies for Elementary Students: Prevention and Intervention. Lecture 3 hours; 3 credits. Prerequisites: ESSE 400/500 and 415/515. The intent of this course is to guide students in the development of in-service teachers with the knowledge and skill to collaborate with other professionals to identify and remediate students who are-at-risk for school problems due to academic challenges and/or behavior, and to effectively support students with identified mild disabilities in general education classrooms. The course focuses on developing proactive pre-referral interventions and working with general educators to develop and implement effective interventions, accommodations, modifications and supports for students with mild difficulties in general education classes.

720/820. Curriculum and Instruction: Research Into Practice. Lecture 3 hours; 3 credits. Prerequisites: two of the following - ESSE 618, 621, 623, 624, 626, 628, 630. This course provides an overview of research methods employed in the field of special education. Current trends related to curriculum and instruction in general and special education will be investigated. Strategies and procedures for identifying learner characteristics and application of that knowledge will be included. Implementation of quality curricular modifications and/or instructional accommodations for students with diverse needs in a variety of educational settings and evaluation of instruction will be addressed.
730/830. Single Subject Research. Lecture 3 hours; 3 credits. This course is designed to provide the student knowledge and skills that relate to single subject research methodology in special education. It includes an overview of historical and philosophical foundations, basic issues in behavioral assessment, and single subject research design and methodology, including trend and statistical analysis in single subject research. Students will analyze critically research and be able to plan, implement, and evaluate original research conducted with children and youth.

735/835. Connecting Research In Early Developmental Practice in Early Childhood Education. Lecture 3 hours; 3 credits. This seminar will explore philosophical orientations toward early childhood education, current research in the field, and the implication of this research for policy and practice. Students will focus on research within a community of practice orientation by linking current research and policy to current practices and issues in the field.

736/836. Working with At-Risk Children and Families: An Ecological Approach. Lecture 3 hours; 3 credits. The influence of the home, the community, and the school in the achievement of at-risk children is examined. Successful teaching strategies and behavioral interventions also are discussed as well as the need to search for viable alternatives to strategies of past school reforms.

737/837. Schools and Families: Enriching the Partnership. Lecture 3 hours; 3 credits. A critical examination of current trends in education as they affect the family and school will be addressed. Emphasis will be placed on the need for parent involvement and support in the child’s education.

739/839. Cross Cultural Perspectives in Early Childhood Education. Lecture 3 hours; 3 credits. This course will address the socialization process as a component of the broad perspective of a child’s life. Curriculum development and how it is affected by the cultural context of an educational system will be discussed, as well as the impact of current trends on research and pedagogy in early childhood education.

740/840. Issues in Early Childhood Language and Literacy. Lecture 3 hours; 3 credits. This course follows a theory into practice philosophy, examining language acquisition and early literacy teaching practice and learning. Students examine, develop and use advanced instructional strategies, materials, technologies, and activities to promote language and literacy development. The impact of formative assessment on instruction and curricular decision-making as well as cultural, social, familial, and multilingual issues will be addressed.

772/872. Advanced Developmental Process. Lecture 3 hours; 3 credits. This course is designed to examine the theoretical basis for alternative views of the nature of human development. Students’ understanding of topical areas in child development will be enhanced through an examination of current research in child development and relevant findings from cross-cultural study.

774/874. Constructivist Teaching. Lecture 3 hours; 3 credits. This course addresses Piaget’s theory of cognitive and moral developments. Students will learn techniques for studying the behavior and development of young children. Analysis of constructivist research, replicated empirical work, and implications for planning learning environments and education programs for young children will be emphasized.

795/895. Topics in Education. Lecture 1-3 hours; 1-3 credits each semester. Prerequisite: permission of instructor. The advanced study of selected issues related to research concerning issues that permits small groups of qualified students to study subjects of mutual interest, which, due to their specialized nature, may not be offered regularly.

821. Critical Issues I: Readings in Special Education and Professional Writing. Lecture 3 hours; 3 credits. The intent of this course is to provide doctoral candidates an opportunity to do the following: (a) become thoroughly involved in the literature relating to current critical issues in special education and (b) begin the process of developing writing skills suitable for positions and tenure in higher education. The course stresses APA writing guidelines and style, conducting literature searches, and beginning development of a writing product that is suitable for publication. The course provides an introduction to the skills necessary for advancement in higher education and professional institutions.

822. Critical Issues II: Research and Professional Development. Lecture 3 hours; 3 credits. Prerequisite: ESSE 821. This course provides doctoral candidates an opportunity to read, analyze and synthesize research in special education with the intent to contributing to the literature. The course emphasizes skills necessary for developing writing skills suitable for positions and tenure in higher education. In APA writing guidelines and style, analyzing research/literature, and producing a lengthy written product suitable for publication are stressed. The course is designed to build skills necessary for advancement in higher education and professional institutions.

869. Internship: Urban Child Study/Special Education. 3 credits. This course provides doctoral students an opportunity to gain practical experience in human service agencies, in educational settings in urban school administration, and in other community education training projects.

869. Practicum/Field Experience. 6-12 credits. Supervised involvement of the doctoral-level student in a practicum setting, where the student and the instructor work together closely to develop curriculum and gain expertise in teaching specific topics of importance to early childhood educators. A weekly seminar is required.

893. Professional Seminar: Teaching, Research, and Service. Lecture 3 hours; 3 credits. Prerequisites: ESSE 821 and 822. This course prepares doctoral candidates to meet professional standards in teaching, research and service in special education in higher education institutions. Teaching includes an understanding of adult learning and the design, delivery, evaluation of content, and use of technology in college teaching. Research includes recognizing and critically discussing scholarly work, systematically planning and preparing for research, and developing research proposals. Service includes identifying professional organizations and agencies and creating integrated professional development programs. The course is designed to build skills necessary for advancement in higher education and professional institutions.

899. Dissertation. 1-12 credits. Prerequisite: Completion of candidacy examination.

999. Early Childhood/Special Education 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Educational Curriculum and Instruction — ECI

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.

430/530. Instructional Technology and the Classroom. Lecture 3 hours; 3 credits. Prerequisite: functional competency (see here) in 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 materials and issues in 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 NCTE 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 Practice 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. 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 national instructional standards and the Virginia Standards of Learning; 30 hours of teaching practicum required. (Prerequisites for MCTP students are ECI 569 and 616.)

455/555. Developing Instructional Strategies for Teaching in the Middle/High School: Social Studies. 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 social studies, grades 6-12, informed by national instructional standards and the Virginia Standards of Learning; 30 hours of teaching practicum required. (Prerequisites for MCTP students are ECI 569 and 616.)

461/561. The Teaching of Reading in the Content Areas. Lecture 3 hours; 3 credits. Prerequisite: junior or graduate standing. Develops understanding of the process of reading to learn in the content areas. Emphasis is placed on classroom techniques, development of materials, and practice in the techniques of reading for elementary and secondary classroom teachers are provided.

469/569. Foundations and Observation in Education. Lecture and practicum; 3 credits. For MCTP students only. Prerequisite: senior standing/graduate standing. Course is designed to expose students to the historical and current foundations of school practices, current developments, and projected future so that students can make informed decisions about entering education and the profession of teaching. Emphasis will be placed on the role of the profession, the history of education, selection processes of American youth with exposure to the importance of (1) planning, (2) teaching, (3) student learning, and (4) reflections and professional growth in education. Additionally, problems, innovations, and issues affecting today’s schools, as well as the legal status of teachers and students, and the school as an organizational/cultural center will be examined. The course includes analysis of instructional practice through a 30-hour clinical observation and resulting journal.

486/586. Student Teaching for Special Endorsement. Five days per week; 7-8 weeks; 3-6 credits. Prerequisites: Collegiate Professional Certificate and/or completion of an approved program in teacher education, successful completion of exit writing examination, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, 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)
school guidance, exploratories, scheduling, and parent-school relations. A 30 hour practicum in a middle school is required.

616. Design for Effective Instruction. Lecture 3 hours; 3 credits. Assists students in the organization and planning of effective teaching for application in diversified classroom settings. Decision-making in the areas of content, learner behavior, and teacher behavior is stressed. Students learn the fundamentals of lesson design and basic instruction through a unit plan project and teaching vignettes.

618. Approaches to Teaching Literature and Writing K-12. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Students admitted to elementary/middle school education prior to July 1, 2000 must take this course with either ECI 667 or ECI 669. Students will learn research techniques such as designs and data collection by conducting their own research studies with pupil in grades K-12. Measurement and evaluation principles and procedures for assessing and promoting children’s learning and development will be addressed as will the interpretation of standardized tests.

639. Seminar in Education. Hours to be arranged; 3 credits. Prerequisite: 15 hours in graduate education, including all core courses. Explores in depth a variety of current topics, trends and concerns in K-12 education.

640. The Management of Learning and Instruction. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Explores problems and develops individual projects in many aspects of education and describes learners—how they learn and how teachers can facilitate their learning.

641. Children’s Literature Across the Curriculum, PK-8. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Students examine, evaluate, discuss, and use literature and related nonprint materials for children and young adolescents and explore strategies for using trade books across the curriculum and for introducing children to literature. Materials for adolescents and adults with limited reading abilities are also covered.

642. Literature in Secondary Schools. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Provides analysis of young adolescent books and their appeal to youth. Methodologies for capitalizing on this appeal and incorporating such selections to teach the classics are developed and evaluated. Professional resources and multicultural selections are emphasized along with traditional choices from the Western Canon.

646. Distance Education. Lecture 3 hours; 3 credits. Introductory overview to the theory, practices, and trends in distance education used by diverse sectors including business, military, and K-12. Topics include the history of the field, unique instructional models associated with distributed education, technical requirements for differing modes of delivery, and instruments used for evaluation. This class will be delivered using compressed video conferencing, and will give applied experience in the requirements of teaching and learning in this medium.

648. Digital Media for Educators. Lecture 3 hours; 3 credits. Course surveys a variety of tools, techniques and technologies, as well as strategies and common practices in the design and development of digital learning products using contemporary software such as Acrobat, Flash, Graphic Converter along with standard productivity tools. Students will gain hands-on experience in the creation of digital media elements suitable for use in traditional and distributed learning environments. Includes design and technical considerations of graphics manipulation and design, sound and video elements, and animation credits.

652. Language Arts in the Elementary/Middle School. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Examines the teaching of oral and written expression, reading, spelling, and handwriting and describes conditions necessary for children's optimum development in the language arts.

653. Mathematics in the Elementary/Middle School. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Presents an overview of the content and structure of the various mathematics curricula. Methods of teaching mathematics in the elementary and middle school are introduced with special emphasis on technology in the mathematics classroom.

654. Science in the Elementary/Middle School. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Covers developments and educational research applied to instructional methodology with an emphasis on hands-on activities in the school science curriculum.

655. Social Studies in the Elementary/Middle School. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Includes advanced preparation of instructional objectives, evaluation procedures, instructional resources, classroom activities, and lesson development, and describes current social studies curriculum projects as well as current trends in the teaching of social studies.

656. Developing Instructional Strategies for Elementary Education. Lecture 3 hours; 3 credits. For MCTP students only. Prerequisite: graduate standing. This course will focus on the selection of appropriate skills and objectives students require in their learning. Emphasis will be on how to determine which concepts should be taught and on which method/methods best suit both the objectives and the student. Information from previous courses will be taken to the next level of difficulty, with particular emphasis placed on analyzing the standards of learning for both disciplines, and the planning, development, and implementation of interdisciplinary units of study for middle and secondary school students.

658. Math Methods for Middle School. Lecture 3 hours; 3 credits. For MCTP students only. Prerequisite: graduate standing. Course will explore the basic building blocks necessary to develop effective teaching skills in the mathematics classroom. These skills, including a thorough knowledge of the appropriate level of content, relevancy, pedagogy-based research on how learning takes place, opportunities to use interactive technology, manipulative tools, technology, and other resources vital to creating a learning community in the classroom, will be emphasized in academic discussion, observation and application. Exploration of effective, research-based mathematical teaching methodology and evaluation standards. Emphasis placed on strategies including cooperative learning, technology, manipulatives, cultural influences and cross content teaching strategies.

659. Science Methods for Middle and Secondary School. Lecture 3 hours; 3 credits. For MCTP students only. Prerequisite: graduate standing. This course will be designed to give prospective science teachers practical applications of current science instructional theories. The student will engage in the investigative nature of science through the exploration of philosophies, the use of research, laboratory experimentation, interactive technology, instructional methods, and assessment/evaluation techniques.

660. Cognition and Instructional Design. Lecture 3 hours; 3 credits. Students will be introduced to the theoretical frameworks that form the basis of instructional systems theory and design. Focus will be on learning theories, instructional psychology, and instructional system theory. Recent developments in cognition,
learning, and instruction for educators will also be considered. Topics include perspectives of behaviorism, socio-historical constructivism, cognitive science, situated cognition, and cultural influences on cognition.

662. Special Methods for Middle and Secondary School. Lecture 3 hours; 3 credits. For MCTP students only. Prerequisite: graduate standing. Course will provide pre-service teachers the opportunity to learn and make application of teaching methodologies appropriate for the secondary and middle school classrooms. Embracing the purpose of the social studies, the course will emphasize the integrated study of the social sciences and humanities, drawing upon such disciplines as anthropology, archaeology, economics, geography, history, law, philosophy, political science, psychology, religion, and sociology, as well as appropriate content from the humanities, mathematics, and the natural sciences.

665. Digital Video Materials Development. Lecture 3 hours; 3 credits. Design, development, and production of digital video and the use of video as an instructional component. Students will utilize teaching and learning theory to determine the effective use of video, and how to create video segments, develop understanding of appropriate knowledge chunks. In addition, technical aspects of digital media delivery in contemporary transmission systems will be explored.

666. Internship/Student Teaching and Seminar. Five days per week for 14 weeks; 9 credits. Prerequisites: completion of an approved program in teacher education, 6-8, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, 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. Provides practice in teaching in grades 6-8 and in analyzing teaching approaches and behaviors. Examines instructional problems and concerns.

668. Internship/Student Teaching and Seminar. Five days per week for 14 weeks; 9 credits. Prerequisites: completion of an approved program in teacher education PreK-6, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, 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. Provides practice in teaching in grades PK-6 and in analyzing teaching approaches and behaviors. Examines instructional problems and concerns.

669. Internship/Student Teaching and Seminar. Five days per week for 6-14 weeks; 3-9 credits. Prerequisite: Completion of an approved program in teacher education or alternative licensure program, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, no grade less than C in content area and professional education core, minimum major and overall GPA of a least 2.75. Available for pass/fail grading only. Provides practice in teaching and in analyzing teaching approaches and behaviors. Examines instructional problems and concerns.

670. Capstone in Research, Evaluation, and Application in Instructional Technology. Lecture 3 hours; 3 credits. Prerequisites: successful completion of three-credit research proposal and study the appropriate statistical references. Evaluation methodologies leading to this research are explored (portfolio/rubrics). Instructional technology and its classroom applications are interwoven into research and evaluation.

675. Administration, Management, and Evaluation of Libraries. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Entry-level course dealing with the planning, organization, and management of the school library media center. Includes professionalism and ethics in librarianship, facilities planning to impact student learning, and management of human resources.

676. Library Media Services and the Curriculum. Lecture 3 hours; 3 credits. Prerequisites: graduate standing and ECI 685. Emphasis is on library services/programs and the curriculum of the school. Includes techniques for creating school library services and developing information skills instruction, instructional partnerships, advocacy, implementation of an integrated library-media instructional program and public relations programs.

677. Technical Services in Libraries. Lecture 3 hours; 3 credits. Prerequisites: graduate standing and ECI 677. Describes the fundamentals of description, cataloging, processing, organizing, and accessing of materials. This includes on-line circulation systems, descriptive cataloging using AACR2R and MARC, Dewey Decimal Classification, and Sears Subject Headings. Also discusses bibliographic networks and utilities in technical services and the relationship of technical services procedures to the overall mission of the SLMC.

678. Selection, Evaluation and Utilization of Materials NK-12. Lecture 4 hours; 4 credits. Prerequisites: graduate standing. ECI 675 and 642 or equivalent. Emphasis is on reading and evaluating current materials for children and young adults. Research, reading/viewing/listening preferences, analyzing studies dealing with literature/media, and selecting materials. Also includes collection analysis and development.

679. Theory and Management of Reference and Information Retrieval. Lecture 3 hours; 3 credits. Prerequisites: graduate standing and ECI 675. Students evaluate, select, and use reference sources; explore strategies for teaching reference skills across the curriculum; use curriculum information to evaluate reference collections and prepare bibliographies; and explore issues related to reference services. Utilizes print as well as existing and emerging technologies.

680. Reading to Learn Across the Curriculum. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. This class has an emphasis on advanced techniques in reading for classroom teachers who are not reading specialists. Students develop an understanding of the process of reading to learn across the curriculum including a wide variety of comprehension strategies and an understanding of the complex nature of reading throughout the disciplines. Lecture, demonstrations, development of materials, and practice in the techniques of reading for elementary and secondary classroom teachers and library media specialists are provided.

683. Diagnostic Teaching of Reading in the Classroom. Lecture 3 hours; 3 credits. Prerequisite: graduate standing and ESSE 468/568 or equivalent. Provides classroom teachers with strategies/techniques to employ for ongoing diagnosis and remediation through the use of informal and standardized tests to select appropriate instructional strategies for pupils’ existing reading capabilities.

685. Organizing and Supervising Reading Program Development. Lecture 3 hours; 3 credits. Prerequisite: 9 graduate hours in reading. Presents an overview of the total school reading program (K-12), and not only prepares the prospective reading supervisor to make decisions pertaining to the procurement of materials for the program but also explores models for integrating reading into the general curriculum.

686. Language Development and Reading. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Surveys the linguistic, psychological, sociological, philosophical, and historical foundations of current reading pedagogy.

693. Practicum in Reading I. Hours to be arranged; 3 credits. Prerequisite: 15 hours in graduate reading to include ECI 683 and permission of the instructor. This course provides graduate teachers with opportunities to practice and further refine their understandings of the reading process in clinical and classroom settings. Graduate teachers provide both individual and group reading lessons with students from the local community. Advanced diagnostic tests of learning processes and intellectual capacity are covered. These advanced diagnostic techniques are in addition to those covered in the initial diagnostic reading course.

694. Practicum in Reading II. Hours to be arranged; 3 credits. Prerequisite: ECI 693 and permission of the instructor. Provides opportunities for graduate students to explore current topics, trends and issues related to curriculum, instructional strategies, and evaluation.

695. Topics in Education. Lecture 1-3 hours; 1-3 credits. Prerequisite: graduate standing. Provides opportunities for graduate students to explore current topics in education. Prerequisites: introductory research and permission in topics related to curriculum, instructional strategies, and evaluation in educational settings.

697. Topics in Secondary School Instruction. Lecture 1-3 hours; 1-3 credits. Prerequisite: graduate standing. Provides opportunities for graduate students to explore current topics, trends and issues related to curriculum, instructional strategies, and evaluation in educational settings.

698, 699. Thesis. 6 credits. Prerequisites: graduate standing and permission of the instructor. Master’s-level research and thesis in topics related to curriculum, instructional strategies, and evaluation in educational settings.

701/801. Seminar in Education: Theories of Learning and Instruction. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Provides an overview and investigation of theories of learning and models of teaching.

721/821. Advanced Curriculum Design and Development. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Focuses on the process of building a curriculum, historical
developments in curriculum design, alternative curricula, current and future trends in curriculum innovations, and research in curriculum development.

722/822. Curriculum Seminar in Content Areas. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Investigates the role and nature of the curriculum for particular subject-matter specialties — e.g., math, social studies, science, English, school librarianship, reading, etc. Objectives are tailored to specific content areas.

724/824. Readings in Contemporary Society. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Surveys the literature related to the issues and trends in contemporary society and provides educators with a substantive base in the philosophy, history, theory, strategies and multicultural perspectives relevant to curriculum development.

726/826. Advanced Supervision of Reading Programs. Lecture 3 hours; 3 credits. Prerequisites: ECI 693. Explores various models of supervision and relates them to the administration and supervision of reading programs. Also prepares the prospective administrator/supervisor to make decisions relative to the methods used to teach reading. Teaching strategies will include human resources issues such as hiring and supervising distance learning staff, and support issues such as admission and registration, financial aid, testing, assessment and evaluation, and instructional material access. In addition, marketing strategies will be discussed and the costs for operating a distance learning network covered.

740/840. Critical Issues in Curriculum. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Explores the relationship between the historical, philosophical, and sociopolitical influences on curriculum development and evaluation. Historical and cultural approaches to designing and implementing current models, curriculum reform, and understanding the politics of conceptualizing the curriculum process are highlighted. An examination of major issues concerning educational curriculum reform are addressed and reviewed.

741/841. Change Issues in Curriculum and Instruction. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Explores questions and issues related to the evolving nature of curriculum and instruction and the design of the contemporary curriculum. Through readings and projects, students will examine new discoveries in research and technology, the effect of these and other changes and the challenges of life-long learning as an influence on change.

748/848. Assessment and Evaluation in Content Areas. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. This course will provide an overview of assessment and evaluation issues as they apply to specific content areas, e.g., math, social studies, science, English, school librarianship, reading, etc. Topics will include evaluating the effectiveness of instructional programs, building survey instruments, assessing students, reporting practices and designing research and evaluation in the content areas. The unique demands of evaluating learning environments within specific content areas will be emphasized.

752/852. Curriculum Problems in Urban Schools and Society. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Studies major curriculum problems and issues in urban education today and discusses how the changing urban environment affects curriculum planning and decision making.

771/871. Instructional Technology Trends in Curriculum and Instruction. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Examines selected issues and trends involving the use of technology in curriculum and instruction. Students develop a critical awareness of contemporary technology, an understanding of current research regarding the successful implementation of technology in curriculum and instruction, and strategies for using new technology in the future.

732/832. Visual Communication and Design for Instructional Environments. Lecture 3 hours; 3 credits. Course focuses on visual literacy and the language of graphics. Students will learn to design visual messages, including text, graphics, and data displays. The theoretical underpinnings of various computer media and their efficacy in instructional environments will be studied and applied through graphics, textual, and multimedia software and components.

735/835. Technology and the Management of Curriculum and Instruction. Lecture 3 hours; 3 credits. Surveys computing and telecommunication technology and issues with a focus on technical, budgetary, social, reform and regulatory trends in educational settings. Purchase and implementation issues will be included to enhance management and decision-making.

737. Managing Distance Learning Networks. Lecture 3 hours; 3 credits. Students will explore the development of policies and procedures that lead to the successful management of a distance learning initiative. Training and supporting faculty to utilize the technology, workload considerations, and support of the student at a distance will be the major focus of the course. Topics will include human resources issues such as hiring and supervising distance learning staff, and support issues such as admission and registration, financial aid, testing, assessment and evaluation, and instructional material access. In addition, marketing strategies will be discussed and the costs for operating a distance learning network covered.

790/890. Qualitative Research Design. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Covers basic characteristics of qualitative research; identification of ways to collect and analyze qualitative research; examination of ethical issues; development of proposals; and writing up studies.

795/895. Topics in Education. Lecture 1-3 hours; 1-3 credits. Prerequisite: graduate standing. Provides opportunities for Ed.D./doctoral students to explore topics related to curriculum, instructional strategies, and evaluation.

797/897. Independent Study in Curriculum Development. Hours to be arranged; 1-3 credits. Prerequisite: graduate standing. Provides opportunities for the Ed.D./doctoral student to do independent research in an area of his/her particular interests and needs.

891. Dissertation Seminar. Lecture 3 hours; 3 credits. This seminar helps ECI doctoral students develop their skills and knowledge about the research process and assists them in developing a dissertation proposal. Students engage in debate and critique their oral and written dissertation proposals. Successful defense of theses does not guarantee a successful dissertation proposal. Dissertation proposals are approved by the student’s dissertation committee.

899. Dissertation. 1-12 credits. Prerequisites: graduate standing, successful completion of candidacy exam and permission of the instructor.

Education. Curriculum and Instruction 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Educational Leadership and Services-ELS

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.

600. Principal Orientation and Instructional Leadership. Lecture 3 hours; 3 credits. An introduction to educational leadership to develop a capacity for reflective practice which unifies theory and knowledge for the improvement of instruction. Students will begin to understand their leadership potential through reflection, self-analysis, and instructor feedback via diagnostic assessment and case studies for principals. Students develop an administrative portfolio skills assessment. Required entry level course.

610. School Community, Relations and Politics. Lecture 3 hours; 3 credits. Prerequisite: ELS 600. An introduction for prospective administrators to the social, political context in which they work. Emphasis will be placed on: understanding and using leadership skills in designing programs around the needs and problems of the school and its special pupils; relating with the media; improving communication skills; and using skills in negotiations and conflict management.

611. Advanced Educational Psychology. Seminar 3 hours; 3 credits. A study of the
elements of human motivation, learning and mental health techniques in various learning environments. A thematic approach is utilized to guide individual and group activities. Primary focus is upon improving one’s understanding of affective and cognitive functioning, management skills, and mental health practices to enhance personal delivery and supervisory skills as a human service provider.

615. Advanced Human Development. Lecture 3 hours; 3 credits. The study of human development from the prenatal origin to adulthood. An interdisciplinary approach involving the psychological, biological, sociological and the educational facets of life and their impact upon the individual. Essential informational systems are discussed.

621. Curriculum Development and Assessment. Lecture 3 hours; 3 credits. Prerequisite: ELS 600. A cooperative course designed to create a basic understanding of the comprehensive nature of the curriculum development process K-12, from a school leadership perspective. Students will explore theoretical, strategic, and organizational issues associated with curriculum development including multiculturalism, cognitive development, curricular patterns and connections, and assessment and evaluation.

626. Instructional Supervision and Assessment. Lecture 3 hours; 3 credits. Prerequisites: ELS 600, 610, and 621. Through site-based projects, scripts, enactments, case study analysis, and reflection, course participants apply theories and best practices to develop the strategies that leaders use with individuals and groups to facilitate excellence in teaching and learning.

657. Public School Law. Lecture 3 hours; 3 credits. Prerequisite: ELS 600. This course is an introduction to law, particularly with respect to federal and state statutes and court decisions dealing with the public schools. The topics span the full spectrum of law-related concerns. By necessity, it is first a theoretical course; however, the outcomes are intended to be practical by providing the legal understanding necessary for a school administrator to negotiate his or her way through the maze of difficult legal matters commonly faced each day by school and district leaders.

660. Program Evaluation, Research and Planning. Lecture 3 hours; 3 credits. Prerequisite: ELS 600. In this course principal licensure candidates learn to identify organizational needs, develop research-based strategies to address those needs, and use data-driven planning to implement, monitor, and manage processes involved in implementing change strategies.

668. Internship in Educational Leadership. 3-6 credits. Prerequisites: ELS 600, 669, passing scores on the appropriate PRAXIS II content examination or permission of instructor. The university and site supervisor will work with the educational leadership candidate in PreK through 12 and central office settings to provide the candidate with appropriate experiences to demonstrate competencies required by the Educational Leadership Constituent Council and the Virginia Department of Education.

669. Field Observation and Practicum. 3 credits. Prerequisite: ELS 600. A cooperative field-based experience in schools and the community with emphasis on observation and performance of planned administrative task areas. The student must complete 12 separate experiences with two of the experiences outside of education, two focused on technology, and two focused on supervision.

673. Critical Issues Research. Lecture 3 hours; 3 credits. Prerequisites: ELS 600, 610, 621, 626, and 660. The student completes an in-depth study of a critical issue in his/her profession and documents the work in a critical issue paper. Student must be able to demonstrate written and oral communication skills and critical and analytical skills in dealing with a major issue in educational leadership. Course to be taken near completion of program.

697. Topics in Educational Leadership 1-6 credits. The study of selected topics in educational leadership. Arranged individually with students.

698-699. Thesis. 3-6 credits. Prerequisite: permission of advisor. Research and writing of the master’s thesis and scheduled conferences with the candidate’s advisor.

732. Statistics. Applied to Research in Education and Human Services I. Lecture 3 hours; 3 credits. This course focuses on how inferential statistics and multivariate analysis is used in the analysis of educational and human services research.

753/853. Public School Finance. Lecture 3 hours; 3 credits. Prerequisites: ELS 600 and 610. This course includes the study of the way today’s public schools are financed, including an analysis of the sources of revenues, the distribution of revenue, and the budgeting and expenditure of revenue. Students will learn the fiscal management skills and understandings necessary to manage the finances of a school or school system, including the study of system and school procedures related to budget planning, budget management, and purchasing procedures. Students will learn how investment in education develops human capital.

754/854. Human Resource Development and Evaluation. Lecture 3 hours; 3 credits. Prerequisite: ELS 600. This course focuses on the development of various staff personnel functions. Collaborative staff development and performance evaluation are linked to organizational goals, culture and learner achievement. Application of knowledge and skills via case study, simulation, and written demonstration projects is included.

755/855. Political Systems, Legislation and Urban Education. Lecture 3 hours; 3 credits. An advanced doctoral seminar relating and applying urban educational leadership styles to state political environments. Examines the extent to which urban systems impact diverse residents’ lives.

811. Visionary Leadership for Educational Improvement. Lecture 3 hours; 3 credits. This course provides the necessary knowledge to become an integral part of the educational improvement process at the school, division, and state levels. Students will analyze and relate the significant educational trends of the past 20 years to the political process, analyzing the impact on school planning. Students will take an active and vocal role in the discourse and debate about educational policy and practice. Emphasis will be placed on analyzing the context and implementing planning systems to develop mission, goals and programs that result in educational improvement.

815. Leadership for Equity and Inclusive Education. Lecture 3 hours; 3 credits. This course focuses on the theories and practices that help educational leaders ensure that students with special needs receive an equitable and inclusive education. Emphasis is on perspectives of difference versus deviance, historical foundations of marginalized groups, current social and legal concerns that influence policy, questions of social justice, and possibilities for the inclusion of all students. While this course addresses the needs of all students, concentration is on individuals with disabilities and the laws that safeguard their rights.

821. The Political Context of Education. Lecture 3 hours; 3 credits. Prerequisite: ELS 811. This course focuses on the theories and practices needed to build relationships and support from the state political process, the local community, businesses, and media. Emphasis will be placed on the use of influence, and its impact on relationships, policies, and programs. Focus is placed on developing a shared vision to bring schools and communities together as partners in improving student learning. Two-way communication mechanisms for school improvement using political influence and power are examined.

831. Accountability Systems in Public Education. Lecture 3 hours; 3 credits. Prerequisites: ELS 660, 672, and 800. This course addresses the design, development, implementation, and alignment of public education accountability systems at the federal, state, and local levels. Particular attention is given to how the design and implementation of accountability
systems affects educational equity and school reform efforts.

832. Statistics Applied to Research in Education and Human Services II. Lecture 3 hours; 3 credits. Prerequisite: ELS 732. This is an advanced course on how inferential statistics and multivariate analysis are applied in urban education, human services and educational technology research.

833. Advanced Research Design and Analysis. Lecture 3 hours; 3 credits. This course focuses on the application of advanced research design as it is applied to education, human services, and educational technology.

835. Organizational Behavior in Education. Lecture 3 hours; 3 credits. This course includes the psychology of organizational behaviors, theories of managing people, individual and organizational learning, individual motivation and organizational behavior, interpersonal communications and perceptions, group dynamics, problem management, managing multigroup work, managing diversity, leadership and organizational culture, leadership and decision making, the effective exercise of power and influence, supervision and employee development, organizational analysis and managing change.

850. Advanced Educational Measurement and Assessment. Lecture 3 hours; 3 credits. The advanced study of selected measurement topics related to educational research and evaluation. Topics include sociocultural factors affecting test performance, issues in reliability and validity, and using test information for evaluation and planning.

868. Internship: Urban Educational Leadership. 3 credits. Prerequisite: passing scores on the appropriate PRAXIS II content examination. This internship provides Education Specialist and doctoral students an opportunity to gain practicum experience in mid-level or senior administrative settings in higher education.

871. Educational Systems Planning and Futures. Lecture 3 hours; 3 credits. The course covers the theoretical framework of strategic, operational, cooperative and future planning in education, leading to the development of a cyclic planning process which includes the appropriate tasks, steps and skills to effect administrative and policy change.

873. Communication and Employee Relations in Education. Lecture 3 hours; 3 credits. Prerequisite: ELS 835. This course is designed to provide school leaders with skills in human relations for the workplace environment. Emphasis is placed on the individual in the organization and on the interactions between managers and employees. Topics include establishing effective employee relations, organizational and interpersonal communications, conflict resolution, approaches to employee counseling and disciplinary techniques, professional organization relations, and intercultural relations. Role-play simulations and case studies are utilized.

874. Advanced School Law, Finance, and Operations. Lecture 3 hours; 3 credits. Prerequisite: ELS 657, 753/853 or equivalent. This course examines social justice issues related to the legal, financial, political, and operational aspects of America’s public schools. The politics of current legislation, court cases, finances, and operations of the school system are included.

876. Ethics, Integrity, and Social Justice in Education. Lecture 3 hours; 3 credits. In this course, students study and engage in dialogue related to the critical role of education in a democratic society in a rapidly changing and increasingly complex world. Through a focused discussion of theories and concepts such as democratic schools, social justice, critical theory and power, feminism, critical race theory, and diversity in education, students come to understand the possible roles education can play in society and their need to continuously reflect on their vision for leadership in public schools.

877. Staff Development. Lecture 3 hours; 3 credits. Systematic inquiry into staff development; philosophy, objectives, planning, implementation, administration, and evaluation. Special emphasis on urban educational delivery systems, and application of research concepts via case study and demonstration projects.

878. Leadership for Teaching and Learning. Lecture 3 hours; 3 credits. In this course, participants examine what is currently known and explore what needs to be known about pedagogy in a context of school renewal. The foundational perspective for the course is social justice in which course participants seek ways to transform teaching/instruction so that all schools work for all students particularly those students who historically have been disenfranchised from receiving an equitable education.

879. Field Research in School Administration and Supervision. 3 credits. Prerequisite: a master’s degree. Field study approach to problems related to school administration and supervision.

880. Seminar in Curriculum Leadership. Lecture 3 hours; 3 credits. Prerequisite: admission to the Ph.D. program. This course examines social justice issues related to the curriculum leadership aspect of America’s public schools. This course is designed to provide advanced understanding of the curriculum development process from conception to implementation and evaluation. Theoretical and philosophical bases of curriculum development and the attendant issues of brain-based learning, organizational thinking and the strategic change process will be studied.

881. Dissertation Seminar. 3 credits. A seminar that focuses on the design, implementation and evaluation of higher education under real-life conditions in the field. Students and faculty work with higher education decision makers utilizing problem-solving skills and analysis.

896. Topics in Urban Educational Leadership. 1-3 credits. Prerequisite: master’s degree and permission of the instructor.

899. Dissertation. 1-12 credits. Prerequisite: permission of faculty advisor.

Exercise Science, Sport, Physical Education and Recreation

I. 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.

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 free and appropriate education, and working with the child with disabilities within an ecosystem. A vital component of the course will be the practical application of theory.

475/575. Tourism and Cultural Heritage Management. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the 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.

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.

II. Health Education — HE

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.

III. Health and Physical Education — HPE

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.

IV. Recreation and Tourism Studies — RTS

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.

441/541. Service and Operations Strategies in Tourism/Recreation. Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to introduce students to theories and concepts related to successful service-oriented tourism and commercial recreation businesses. The course provides a solid foundation in the important aspects of hospitality and tourism organization operations including human resources, guest services, psychographics, demographics, marketing, and the assessment of industry trends.

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.

499. 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.

616. Theory and Application in Recreation and Tourism. Lecture 3 hours; 3 credits. Course examines concepts, theories, and applications in recreation and tourism. The role of recreation/tourism from the local to the global level is explored. Focus is placed on principal factors influencing the distribution of recreation and tourism and their impact on development.

619. Strategic Marketing in Recreation and Tourism. 3 credits. Course is designed to examine the principles and practices of strategic marketing as it pertains to tourism planning and development. The course will explore market analysis in segmenting and identifying specified tourist markets.

638. Fiscal Planning and Management in Sport and Recreation. Lecture 3 hours; 3 credits. This course is designed to examine the principles and practices of financial management in diverse sport and recreation service settings. This course will explore the basic concepts of financial planning and analysis required to effectively manage a successful operation. (cross-listed with SMGT 634).

650. Readings in Contemporary Issues in Recreation, Sport, Health and Physical Education. Lecture 3 hours; 3 credits. Literature and research on ethical issues in sport, recreation, and wellness settings. Emphasis will be placed on administrative ethical decision-making skills and practices.

660. Legal Aspects of Sport. Lecture 3 hours; 3 credits. Prerequisite: graduate student standing. Course will introduce students to various aspects of the legal system as it relates to the management and supervision of sport facilities, programs, participants, spectators, and events. (cross-listed with SMGT 660)

V. Exercise Science, Sport, Physical Education and Recreation — ESPR

607. Principles of Movement Analysis in Individual Sports for Physical Education. Lecture 3 hours; 3 credits. The course is designed to help teachers and coaches improve their skills in analyzing movement skills in individual sports activities. Students will learn techniques to effectively diagnose movement deficiencies, prescribe techniques for improving performance, and modifying activities for the adaptive program.

609. Principles of Movement Analysis in Dance and Rhythmic Activities for Physical Education. Lecture 3 hours; 3 credits. The course is designed to help teachers and coaches improve their skills in analyzing movement skills in dance and rhythmic activities. Such skill analysis is necessary to effectively diagnose movement deficiencies, prescribe techniques for improving performance, and modifying activities for the adaptive program.

617. Athletic Training - Physical Assessment of the Human Body. Lecture 3 hours; 3 credits. Prerequisite: students must be admitted into graduate athletic training program. The assessment of the bodily functions/systems as they relate to the care of the athlete. Major areas of concentration include ears, eyes, nose, throat, heart, lungs, g-i tract and urinary.

618. Current Research in Athletic Training, 1 credit. Designed to provide exposure to the scientific review of evidence-based research.

621. Strength and Conditioning Applications. Lecture 3 hours; 3 credits. A study of the principles and techniques utilized in optimizing physical performance and reducing injury through proper and effective strength and conditioning programs. Special emphasis will be placed on current research findings, breakthrough techniques and advanced weight training techniques, and popular conditioning practices.

622. Contemporary Issues in Athletic Training. Lecture 2 hours; 2 credits. Designed to expose the student to current and up to date ideas and techniques in the area of athletic training.

623. Athletic Training Practicum I. 1 credit. Designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in the sports medicine setting.

627. Advanced Orthopaedic Evaluation and Assessment. Laboratory 2 hours; 1 credit. Advanced techniques in the assessment of the extremities.

628. The Spine: Evaluation and Rehabilitation. Lecture 3 hours; 3 credits. A course designed to provide information relative to the recognition, evaluation and rehabilitation of athletic injuries involving the spine.

630. Exercise Physiology. 3 credits. Prerequisite: EXSC 409/509 or equivalent. Review of current physiological literature related to muscular exercise including the cardiovascular-respiratory system, metabolic effects of exercise, neuromuscular relationships, and the effects of training or diet, environment, ergogenic aids, temperature, altitude, and other factors on performance and health.

633. Athletic Training Practicum II. 1 credit. Designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in the sports medicine setting.

634. Statistics in Health, Physical Education, Recreation, and Sports. Lecture 3 hours; 3 credits. Prerequisite: ESPR 635. This applied course is designed to introduce the graduate student to statistical techniques commonly used in exercise science, physical education, recreation and sport management research.

635. Research Methods in Health, Physical Education, Recreation and Sports. 3 credits. Types of research, selection of problems, location of research and availability of resources; research design and methodology; design and implementation of inventories, surveys and questionnaires; research interpretation; research collection and classification of data, organization, presentation and interpretation of materials.

636. Research Problems in Health, Physical Education, Recreation and Sports. 3 credits. Prerequisite: ESPR 635. Taken in the last semester of graduate work. Practice in the use of statistical and analytical techniques in solving problems in education; supervised student research.

642. Clinical Exercise Testing and Prescription. Lecture 3 hours; 3 credits. Prerequisite: ESPR 630. Principles of diagnostic exercise assessment, cardiovascular physiology, electrocardiography, ACSM guidelines to exercise testing and prescription for symptomatic and asymptomatic populations.

643. Athletic Training Practicum III. 1 credit. Designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in the sports medicine setting.

647. Education in Athletic Training. Lecture 3 hours; 3 credits. Designed to introduce the current concepts of curriculum development, evaluation methods, course construction, management of learning and instruction and aspects of testing as related to the athletic training didactic and clinical experience.

649. Clinical Methods in Athletic Training. Lecture 3 hours; 3 credits. Stresses clinical techniques involved in the use of therapeutic modalities, muscle energy, and various rehabilitative concepts.

653. Athletic Training Practicum IV. 1 credit. Designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in the sports medicine setting.

655. Supervised Teaching Internship. 2 credits. Individualized practical experience in the area of athletic training education.

667. Internship in Health, Physical Education, Recreation and Sports. 1-6 credits. Prerequisite: completion of 75 percent of graduate work. Designed to provide detailed practical experience (400 clock hours) in one of the areas of health education, physical education, recreation and sports. Required of all students entering the administrative emphasis areas without a minimum of one year full-time administrative experience.

670. Administrative Principles for Recreation, Sport, Health and Physical Education. Lecture 3 hours; 3 credits. Director responsibility in recreation, sport, health and physical education; development of an understanding of the administrative and supervisory competencies required of directors in health, physical education, recreation and sport.

680. Problems in Health Education. Lecture 3 hours; 3 credits. Problems in teaching health education on the elementary and secondary level; family life education, substance use and abuse, and mental and emotional health.

691. Gross Anatomy for Sports Medicine Clinicians. Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: introductory anatomy or permission of instructor. Dissection of human cadavers with emphasis placed on the functional and clinical aspects of the upper and lower extremities, neck, and back as related to athletic injuries.
695. Topics in Health, Physical Education, Recreation and Sport. 1-3 credits. Selected topic courses in health and physical education, sport management, and exercise science and wellness.

697. Independent Study. 1-3 credits. Investigative study in health, physical education, recreation and sport. Problems approved in advance are investigated under the supervision of the faculty advisor.

698-699. Thesis. 3-6 credits. Prerequisite: permission of the advisor and committee.

711/811. Analysis of Human Motion. Lecture 3 hours; 3 credits. This course will include theories and applications of techniques concerning the analysis of human motion. It is designed to provide opportunities for the advanced study of motion analysis techniques for the study of human movement. The intent of this course is to provide students with an extensive knowledge concerning quantitative analysis of human motion and the concepts and equipment to collect objective quantifiable data to be used for clinical or research purposes. Lecture and laboratory concepts will be utilized to instruct students on the foundations of biomechanical data collection and major emphasis will be placed on using 2-D and 3-D motion analysis, videography, and electromyography equipment for the analysis of human motion. As is the case in any biomechanical analysis of human motion instrumentation course, each student should expect to spend several additional hours each week in the laboratory over and above those scheduled as class time.

720/820. Curriculum Development in Physical Education. Lecture 3 hours; 3 credits. A course designed to acquaint the student with the basic principles and practices in curriculum development. Curriculum development methodologies for both K-12 and college curricula will be addressed.

725/825. Clinical Biomechanics for Rehabilitation Professionals. Lecture 3 hours; 3 credits. This course will include advanced theories of biomechanics, pathomechanics, and clinical anatomy relevant to the rehabilitation process of the physically active. Specific rationale will be discussed concerning mechanical properties of musculoskeletal tissues including structure, function, mechanical properties, healing process, and factors affecting mechanical and healing properties. Participants will examine current and traditional literature from various academic disciplines, including biomechanics, engineering, neuroscience, exercise science, physical education, neurology, and rehabilitation to identify ways this information may be applied to athletic training and related orthopaedic rehabilitation disciplines. Application is stressed as related to the biomechanics, pathomechanics, and functional anatomy for dimensions of movement and athletic performance.

739/839. Current Research in Motor Development. Lecture 3 hours; 3 credits. This course will examine the current theories and research relating to qualitative and quantitative changes in motor skills. Attention will be given to structuring learning experiences to maximize development. The perspective will include the entire lifetime to the old age population.

740/840. Principles and Concepts of Motor Learning. Lecture 3 hours; 3 credits. This course will include analysis of motor learning theories and selected factors as they affect the development of motor skills. Practical application and research potential will be included throughout the course to enhance the depth and breadth of motor learning knowledge. The course is designed to teach students the advanced principles and concepts of motor learning so they might apply it to their clinical and research endeavors.

815. Introduction to Doctoral Study Seminar. Lecture 3 hours; 3 credits. This course explores current issues and trends in all aspects of human movement science and relates theory to practice.

855. Neuroanatomical Basis of Human Movement. Lecture 3 hours; 3 credits. This course will include advanced theories of anatomy, biomechanics, motor control, and movement disorders. It will emphasize neuroanatomical mechanisms that apply to the processes of voluntary movement. The select topics include: basic functional anatomy, physical and chemical factors affecting reflexes and spinal connections, muscle contraction mechanics, and sensorimotor system overview.

897. Readings and Research in Content Area. 3 credits. Independent study with a faculty member. A guided review of the literature to determine the history, development, and issues of areas within human movement sciences, curriculum, and instruction and applied kinesiology.

898. Dissertation Research. 1-3 credits. Determination of a research project through the review of literature. Course encompasses formulation of a topic along with the design of a research study.


999. Exercise Science, Sport, Physical Education and Recreation 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

VI. Exercise Science — EXSC

408/508. Nutrition for Fitness and Sport. Three classes per week; 3 credits. Prerequisite: BIOL 250 or equivalent. Emphasizes the role of nutrition as a means to enhance health and performance in sport. Topics covered include energy metabolism and nutrients, regulation of metabolism by vitamins and minerals, and weight control.

409/509. Physiology of Exercise. Three classes per week; 3 credits. Prerequisites: BIOL 250. An investigation into the physiological adjustments of the human organism to exercise including systematic as well as biochemical molecular changes. Major areas of concern include neuromuscular, metabolic, and cardiorespiratory changes during exercise and the influence of such variables as nutrition, drugs, environment, age, sex, training, and body weight.

415/515. Exercise Testing for Normal and Special Populations. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: EXSC 409 or 426. The application of different methodologies in the measurement of physiologic responses to exercise. Emphasis is placed on understanding American College of Sports Medicine guidelines, appropriate experimental techniques, and equipment necessary to evaluate changes in body composition and various metabolic, cardiovascular, and respiratory adjustments during exercise.

417W. Advanced Kinesiology and Biomechanics. Lecture 3 hours; laboratory 2 hours; 4 credits. Corequisite: PHYS 111N. Prerequisite: EXSC 322. Advanced study and application of anatomical kinesiology in the study of human movement and biomechanics through videographic analysis and other techniques.

420. Research Methods in Exercise Science. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or permission of instructor. Introduction to the scientific method applied to exercise science research including bioethics, review of the literature, research design, data collection, appropriate statistical analysis, research writing, and peer review.

427W. Exercise Physiology I. Lecture 3 hours; 3 credits. Prerequisite: BIOL 250. An investigation into the metabolic adaptations, neuromuscular, endocrinological, and respiratory responses to acute and chronic exercise endeavors. Implications for enhanced health and physical performance are integrated.

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; 4 credits. Prerequisite: EXSC 409 or 426. An introduction to the principles of administration and implementation of fitness and wellness programs to individuals, groups, centers 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)

VII. Sport Management — SMGT

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.

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 evaluation, 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 instructor. Focuses on the phenomenon of sport as it represents one of the most pervasive social institutions today. The major theme of this course is to demonstrate how sport reflects and enforces the beliefs, values, 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)

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.

638. Fiscal Planning and Management in Sport and Recreation. Lecture 3 hours; 3 credits. This course is designed to examine the principles and practices of financial management in diverse sport and recreation service settings. This course will explore the basic concepts of financial planning and analysis required to effectively manage a successful operation. (cross-listed with ECON 654/754)

640. Sport Marketing. Lecture 3 hours; 3 credits. This course will examine marketing concepts and principles that apply directly to the sport setting. Marketing research as it applies to a better understanding of the sport product and consumer will be analyzed. Special emphasis will be placed on studying and applying the steps in the marketing process.

652. Sport Facility Management. Lecture 3 hours; 3 credits. An examination of the principles and practices of sport facility management. Special emphasis will be placed on the planning and design of sport facilities and specific management functions related to facility supervision, financing, marketing, public relations, risk management, security, operations, maintenance, programming, and scheduling.

660. Legal Aspects of Sport. Lecture 3 hours; 3 credits. Prerequisite: graduate student standing. Course will introduce students to various aspects of the legal system as it relates to the management and supervision of sport facilities, programs, participants, spectators, and events. (cross-listed with RTS 660)

664. Field Experience in Sport Management. 6 credits. Prerequisite: permission of internship coordinator. Directed study; provide detailed practical experience (400 clock hours) in a sport management field setting.

675. Management and Leadership in Sport. Lecture 3 hours; 3 credits. This course will examine various management principles that relate to sport settings. Special emphasis will be placed on training, leadership theories, human resource management, strategic planning, decision making, problem solving, policy development, and governance in sport.

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.

Health, Physical Education and Recreation—See Exercise Science, Sport, Physical Education and Recreation

Higher Education — HIED

668. Internship in Higher Education Administration. 3-6 credits. Prerequisites: permission of instructor, COUN 633, 635, 707/807 and HIED 708/808 and 745/845. The university advisor and site supervisor will work with the student to develop and implement a set of objectives intended to familiarize the student with the operation of an administrative area within an institution of higher education, to assist the student to acquire practical skills in the operation of that office and to develop skills that are transferable to other administrative areas.

708/808. Contemporary Issues in Higher Education. Lecture and discussion 3 hours; 3 credits. This course is intended to present a broad exploration and generate greater understanding of contemporary issues influencing higher education that will involve discussion, written and oral reports and the integration of knowledge across the spectrum of issues relating to higher education.

710/810. Introduction to Student Affairs Administration. Lecture 3 hours; 3 credits. Prerequisite: COUN 707/807. This course is intended to be an introduction to the practice of student affairs work in American Higher Education. It will introduce students to the theoretical foundations of student affairs. It will also provide students with a structural framework for student affairs organization, problems, issues and ideas.

712/812. Strategic Planning and Institutional Effectiveness. Lecture 3 hours; 3 credits. Strategic Planning and institutional effectiveness is becoming more and more important to institutions as funding sources change and students demand quality. This course will examine how these processes can be carried out on American campuses.

720/820. The Private College and University. Lecture 3 hours; 3 credits. The U.S. Higher Education system contains great diversity due to the inclusion of private institutions. This course will examine the structure and organization of Higher Education in the U.S. as well as differences and similarities between private and public institutions.

730/830. Seminar in Student Affairs Administration. Lecture 3 hours; 3 credits. Prerequisite: HIED 710/810. This course is intended to follow HIED 710/810 and will provide a more in-depth discussion of the issues from that course. Special emphasis will be placed on the relationship between student affairs administrators and explore issues such as relationships with other divisions and the focus on learning and student development.

731/831. Group Dynamics in Higher Education. Lecture 3 hours; 3 credits. Prerequisite: HIED 733/833. This course examines the principles and dynamics of group interaction and process while providing strategies for working with groups in higher education settings (i.e., focus groups, task groups, and student, staff, faculty and parent groups). Students will explore and develop leadership skills related to groups.

733/833. Professional Helping Skills in Higher Education. Lecture 3 hours; 3 credits. This course will focus on developing the knowledge, attitude and skills essential to working with individuals seeking assistance with problems that they face while in college. Listening and interviewing skills will be addressed.

737/837. Academic Issues In Higher Education. Lecture 3 hours; 3 credits. Prerequisite: HIED 759/859. This course will focus on the broad academic missions of U.S. higher education and examine various academic program structures and the roles of faculty, department chairs, deans, provosts and other academic administrators.

743/843. Introduction to International Higher Education Administration. Lecture 3 hours; 3 credits. This course surveys key aspects of international higher education administration in an American university setting, including study abroad, recruitment and admission of international students, international student and scholar services, and English language preparation.

744/844. Comparative Higher Education Systems. Lecture 3 hours; 3 credits. This course presents the development of the three primary systems of higher education in the world today: the U.S., British and European (Confidential) systems. It will also, as appropriate, examine other systems of higher education from a comparative perspective.

745/845. Today's College Student and Diversity. Lecture and discussion 3 hours; 3 credits. This course is a sociological survey of theoretical and research literature describing college students from multiple views. These include demographic profiles; undergraduate student growth and development; cognitive and non-cognitive predictors of the impact of the collegiate experience; implications and outcomes of college attendance; and the specific characteristics of particular student populations.

752/852. The Law of Higher Education. Lecture and discussion 3 hours; 3 credits. Legal perspectives related to higher education will be discussed in a major part of the course. Among the topics to be discussed will be the bases from which higher education law comes, current (case, state and regulatory) law, as well as risk management and liability issues for higher education. The remainder of the course will focus upon the ethical issues that must be faced when shaping and implementing institutional policy, curriculum and procedures. Some emphasis will be placed on the areas in which legal and ethical issues come into conflict. This course should be taken near the end of the master’s program.

756/856. Higher Education Finance. Lecture 3 hours; 3 credits. Prerequisites: HIED 708/808
higher education with a concentration on American higher education and its growth and development since the founding of Harvard in 1636. Because of its importance within the spectrum of higher education in the United States, some concentration will be spent on the development of higher education in Virginia as well.

794/894. Organization and Administration of Higher Education in the United States. Lecture and discussion 3 hours; 3 credits. Through lectures, visiting presenters, student presentations of literature, and projects and readings, this course is designed to be an introduction/survey of administration, organization and governance of higher education institutions in the United States. In addition to introducing students to the issues, this experience is intended to help students understand the competencies and training necessary to undertake various operational roles in higher education.

795/895. Topics in Higher Education Administration. 1-3 credits. Prerequisite: permission of the instructor.

868. Internship: Higher Education Administration. 3 credits. This internship provides Education Specialist and doctoral students an opportunity to gain practice experience in mid-level or senior administrative settings in higher education.

881. Dissertation Seminar. 3 credits. A seminar that focuses on the design, implementation, and evaluation of higher education under real-life conditions in the field. Students and faculty work with higher education decision makers utilizing problem-solution skills and analysis.

899. Dissertation. 1-12 credits. Prerequisite: permission of faculty advisor.

999. Higher Education 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Human Services — HMSV

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, telethons, and other fund-raising 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.

Instructional Design and Technology — IDT

475/875. Web Development for Educators. Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the instructor. The study of selected topics in human services.

477/877. Advanced Program Assessment and Evaluation. Lecture 3 hours; 3 credits. Prerequisite: ELS 732. This course provides an in-depth examination of the role played by program assessment and evaluation in higher education and provides the skills and strategies necessary for administrators to prepare and carry out these programs.

793/893. The History of Higher Education in the United States. Lecture and discussion 3 hours; 3 credits. This course is designed to provide a broad overview of the historical development of etiology, risk factors and treatment of alcoholism and other addictions.

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 systemic 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 and 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.

495/595. Topics in Human Services. 1-6 credits. Prerequisite: senior standing or permission of the instructor. The study of selected topics in human services.
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various industries, including K-12, military, industry training, and others.

647. Online Learning. Lecture 3 hours; 3 credits. Theoretical and applied survey of the field of online learning, with an emphasis on asynchronous environments. Students will explore current models, including computer conferencing and virtual reality. Topics will include facilitating online discussion, using interactive simulations, when to use course management products, fostering learning communities, implementing blended or mixed-mode models, synchronous online tools, and future directions. This course will be taught entirely online.

731/831. Distributed Learning Trends. Lecture 3 hours; 3 credits. Prerequisite: IDT 475/575 or instructor’s permission. Students will undertake an intensive study of the main trends and issues shaping distributed learning environments. Focus will be on standards, reusability and quality and their impact on teaching and learning. Students will build a knowledge framework on distributed learning and the interplay of standards, reusability and quality.

746/846. Foundations of Distance Education. Lecture 3 hours; 3 credits. An analysis of the trends, issues, and theories of distance education in education, business, and military applications. Students will examine various distance education systems, policies and lessons from different perspectives.

748/848. Instructional Technology Product Evaluation. Lecture 3 hours; 3 credits. Prerequisite: IDT 749/849. Provides an overview to the science of evaluation, both as a general field and as applied to instruction. Topics will include evaluating the effectiveness of learning technologies; building survey instruments; online and computer-assisted testing; reporting practices; as well as formative, summative program and performance evaluation and assessment. The unique demands of evaluating mediated education and learning environments will be considered.

748/848. Instructional Technology Product Evaluation. Lecture 3 hours; 3 credits. Pre- or corequisite: IDT 749/849. Provides an overview to the science of evaluation, both as a general field and as applied to instruction. Topics will include evaluating the effectiveness of learning technologies; building survey instruments; online and computer-assisted testing; reporting practices; as well as formative, summative program and performance evaluation and assessment. The unique demands of evaluating mediated education and learning environments will be considered.

749/849. Instructional Systems Design. Lecture 3 hours; 3 credits. Students will gain hands-on experience applying a theoretical understanding of instructional design and development to actual projects. Students will learn and use the Instructional Systems Design Process from initial learner profile analysis to design and development through to evaluation. Students will work individually and in teams to gain experience similar to real-world instructional design situations. Students will master the fundamental practices upon which the instructional design process is based.

752/852. Diffusion and Adoption of Instructional Technology Innovations. Lecture 3 hours; 3 credits. This course will explore theories, research, and strategies related to the diffusion and adoption of instructional technology innovations in education and training. The course will explore why and how individuals, groups, and organizations adopt or fail to adopt an innovation or change.

756/856. Instructional Gaming: Theories and Practice. Lecture 3 hours; 3 credits. Provides both a conceptual framework and experience in the design and production of instructional games. The course introduces the student to the history, research, theory, and practice of instructional games. Topics include discussions of relevant learning theories associated with instructional gaming, analysis and design of games and current research in instructional gaming.

760/860. Cognition and Instructional Design. Lecture 3 hours; 3 credits. Students will be introduced to the theoretical frameworks that form the basis of instructional systems theory and design. Focus will be on learning theories, instructional psychology, and instructional system theory. Recent developments in cognition, learning, and constructive theories will also be considered. Topics include perspectives of behaviorism, social-historical constructivism, cognitive science, situated cognition, and cultural influences on cognition.

761/861. Applied Instructional Design. Lecture 3 hours; 3 credits. Prerequisite: IDT 749/849. Provides an overview of the many different perspectives of learning, performance evaluation and assessment. The unique demands of evaluating mediated education and learning environments will be considered.

763/863. Instructional Design Theory. Lecture 3 hours; 3 credits. Students will investigate traditional and contemporary instructional design theories and models. Behavioral, cognitive, generative, problem-based, and constructivist theories will be examined, compared, and applied to various instructional situations.

773/873. Advanced Instructional Design Techniques. Lecture 3 hours; 3 credits. Course delves into the exploration and application of techniques, tools and competencies characteristic of expert designers. Topics may include: instructional strategies, use of design software, program design, advanced analysis techniques, motivation design, rapid prototyping, reducing design cycle time, and designing instruction for diverse learner populations.

795/895. Topics in Instructional Design and Technology. Lecture 3 hours; 3 credits. Provides opportunities for master’s and doctoral students to explore topics related to instructional design.

801. Instructional Design and Technology Seminar. Lecture 3 hours; 3 credits. Introduces new Ph.D. students to the field of instructional design and technology and provides orientation to doctoral level study. The course includes reading, critiquing and analyzing empirical research, theories, and real-world instructional problems. Potential student research agendas consistent with faculty or programmatic research foci will be explored. Academic and technological expectations will be communicated and practiced.

810. Trends and Issues in Instructional Design and Technology. Lecture 3 hours; 3 credits. Prerequisite: 9 hours IDT coursework. Exploration and discussion of trends and issues of current and historical significance to instructional design. Readings will include contributions of key scholars, past and present, in instructional design and related fields. Includes analysis of trends and issues to track and predict their impact on the future of the field.

Occupational and Technical Studies

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 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 students learn to plan instruction, to implement competency-based 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 and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores. 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.

486/586. Middle School Student Teaching for Occupational and Technical Education. Lecture 3 hours; 3 credits. Prerequisites: junior standing and passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and passing scores on the appropriate PRAXIS II content examination. Classroom placement in school systems for students to apply content and methodologies. The student is mentored by a school mentor and university faculty. This course is for newly hired teachers on provisional contracts.
scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and passing scores on the appropriate PRAXIS II content examination are required. Classroom placement for student teaching in a middle school technology laboratory. Students apply selected topics designed to permit small groups of qualified students to work in subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

498. Independent Study in Occupational Education. 1-6 credits. Prerequisite: permission of the instructor.

603. Planning Issues for Vocational Special Needs Programs. Lecture 3 hours; 3 credits. Overview of vocational special needs programs and services including their purposes and practices; characteristics of special populations, including the medical and educational aspects of disability.

604. Implementation and Administration of Vocational Education Programs. Lecture 2 hours; 3 credits. This course includes career/life planning, transitioning, occupational information, and delivery of cooperative education programs, instructional methods, and curriculum modification and resources available to support vocational special needs programs.

605. Vocational Evaluation Processes. Lecture 3 hours; 3 credits. This course includes the basic concepts and skills of planning for and delivering vocational evaluation and career assessment services, the use of vocational interviewing, individualized service planning, report development and communication, and use of modifications and accommodations. Students practice specific assessment techniques and skills and the processes used in vocational evaluation and career assessment, including job and training analysis, work samples and systems, situational and community-based assessment, behavioral observation, and learning and functional skills assessment.

635. Research Methods in Occupational and Technical Studies. 3 credits. Types of research, selection of problems, location of educational information, collection and classification of data, organization, presentation, and interpretation of findings. The focus is on conducting research in the student’s content specialty area.

636. Problems in Occupational and Technical Studies. 3 credits. Prerequisite: OTED 635. Taken in the last semester of graduate work. Practice in the use of statistical and analytical techniques in solving problems in occupational and technical studies related to secondary, community college, and training environments.

695, 696, 795, 895. Topics in Occupational Education. 1-3 credits each semester. The OTS department offers selected topics designed to permit groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

697. Independent Study in Occupational Education. 1-3 credits each semester. Prerequisite: permission of the instructor. Individual study under the supervision of a graduate faculty member.

698. Thesis in Occupational Education. 3-6 credits. Prerequisite: permission of the advisor.

Research and writing of the master’s thesis and scheduled conferences with the candidate's advisor.

730/830. Introduction to Technology. 3 credits. Order and structure the discipline of technology by identifying and analyzing the component parts and examining technical means as critical variables in the affairs of humankind. Based on the Standards for Technological Literacy.

731/831. Technical Systems. 3 credits. Analyze the technical concepts common and unique to the technical systems of technology.

732/832. Program Development for Technology Education. 3 credits. Plan and develop effective program in technology related activities. Focus is on identification and development of resources, activities, and materials for classroom programs.

740/840. Readings in Occupational and Technical Studies. Lecture 3 hours; 3 credits. A guided review of the literature to determine the history, development, and issues of occupational and technical education, including specialization in technology education, career and technical education specialties, and human resources training.

750/850. Trends and Issues in Training: Modeling and Simulation. Lecture 3 hours; 3 credits. This course is designed to explore the issues and trends in developing and implementing technology-based training with emphasis on modeling and simulation.

760/860. Trends and Issues in Occupational Education. Lecture 3 hours; 3 credits. Trends and issues in technology philosophy, workforce needs, curriculum and teaching procedures in occupational and technical education. Analysis of research findings and issues related to tech prep and other articulated programs being established in secondary schools, community colleges, and four-year institutions.

761/861. Foundations of Adult Education and Training. Lecture 3 hours; 3 credits. This course is a study of adult education and training in many settings including the community college, business, industry, labor, government, the military, and social service agencies of many types. An attempt will be made to assess the important trends or directions such activities are taking, including the needs of non-traditional learners and education and labor.

762/862. Administration and Management of Education and Training Programs. Lecture 3 hours; 3 credits. This course deals with organizational policy, human and financial resources, facilities, and the planning process as applied to occupational education and adult training programs.

765/865. Trends and Issues of Economic and Workforce Development. Lecture 3 hours; 3 credits. Prerequisite: student must be accepted into doctoral program or have permission of the instructor. An analysis of economic trends and issues that lead to workforce development decisions. Focus is on planning for educational and training programs to meet workforce needs dictated by local and regional economic issues. This course is designed for community college and school system personnel.

780/880. Administration and Supervision of Occupational Education. Lecture 3 hours; 3 credits. Study of the principles and practices of administering and supervising occupational education programs.

785/885. Curriculum Development in Occupational Education and Training. Lecture 3 hours; 3 credits. A course designed to prepare students to design and develop curriculum for occupational education and training courses and programs. Included is a focus on articulation between secondary and community college and workforce needs.

788/888. Instructional Strategies and Innovations in Training and Occupational Education. Lecture 3 hours; 3 credits. Learning and teaching strategies are considered as a basis for developing instructional strategies to maximize occupational and technical education at all levels, including secondary, the community college, and senior institutions. Relevant learning theories and knowledge of self, learner, and the environment are blended to enhance the participants’ instructional strategies.

789/889. Instructional Technology in Education and Training. Lecture 3 hours; 3 credits. A course that provides insights about trends, needs, and applications of instructional technologies as they may be applied to education and training environments. Topics include selected technological processes and electronic media to solve practical problems in education and training.

790/890. Practicum in Occupational Education. Lecture 3 hours; 3 credits. Prerequisite: permission of the program director. Individually prescribed instruction under the supervision of a graduate faculty member. Study intended to professionally fulfill development of graduate candidates.

797/897. Independent Study in Occupational Education. 1-6 credits. Prerequisite: permission of the instructor. Supervised assignment to an agency operating an occupational educational or training program.

835. Research Design for Occupational and Technical Studies. Lecture 3 hours; 3 credits. Prerequisite: OTED 635 or equivalent. Analyses of current research and needs in occupational and technical studies. Students analyze the literature and develop a research focus for future graduate study.

868. Internship. 3 credits. Prerequisite: permission of the instructor. Supervised assignment to an agency operating an occupational educational or training program.

899. Dissertation in Occupational Education. 1-12 credits. Prerequisite: permission of dissertation committee chair. Work on pre-selected dissertation topics under the direction of dissertation committee chair.

999. Occupational and Technical Education 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Occupational and Technical Studies — OTS

402/502. Training Methods. 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.

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 basic practices and effective strategies in visual display and presentation programs, including creative arrangements and displays, computer graphics and photography, and consumer buying and market analysis.
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 technological advances in the textile/apparel industry and determines consumer preferences 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 fashion 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 to work in subjects of 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.

Physical Education—See Exercise Science, Sport, Physical Education and Recreation

Recreation and Tourism Studies — See Exercise Science, Sport, Physical Education and Recreation
Frank Batten College of Engineering and Technology

www.eng.odu.edu/

Oktay Baysal, Dean
Linda Vahala, Associate Dean
Osman Akan, Associate Dean
Berndt Bohm, Assistant Dean

Ph.D. Aerospace Engineering
      Civil Engineering
      Electrical and Computer Engineering
      Engineering Management
      Environmental Engineering
      Mechanical Engineering
      Modeling and Simulation

Master’s Aerospace Engineering
      Civil Engineering
      Computer Engineering
      Electrical Engineering
      Engineering Management
      Environmental Engineering
      Experimental Methods
      Mechanical Engineering
      Modeling and Simulation
      Motorsports Engineering
      Systems Engineering

Master of Engineering Management (M.E.M)
      Engineering Management

Accelerated Degree Programs
      Accelerated Bachelor’s/Master’s Degree Programs
      Direct Bachelor’s-to-Ph.D. and Integrated Bachelor’s/Ph.D. Programs

Graduate Certificate Programs
      Homeland Security Certificate - College
      Advanced Engineering Certificate - College
      Bioelectrics Certificate - College
      Coastal Engineering Certificate – CEE
      Wireless Communication Certificate – ECE
      Certificate of Professional Study in Engineering Management – EMSE

Commonwealth Graduate Engineering Program (CGEP)
      Virginia Consortium for Engineering and Science Universities (VCES)
Frank Batten College of Engineering and Technology

102 Kaufman Hall
757-683-3789

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 engineering technology. The course of study that leads to engineering degrees is characterized by a solid foundation in theoretical underpinnings of engineering based in mathematics and physics. Graduates are well equipped to pursue graduate education, professional registration, or enter the engineering profession.

The engineering programs at Old Dominion University are specifically designed to take advantage of unique assets in the Hampton Roads area. These assets include: 1) a strong military presence with multiple high technology facilities, particularly 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 Northrop Grumman, 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.

Programs of Study

The college offers the following graduate degrees:

<table>
<thead>
<tr>
<th>Engineering Degree Programs</th>
<th>Master’s</th>
<th>Doctoral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Civil</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Computer</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Design &amp; Manufacturing</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Electrical</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Management</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Experimental Methods</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Mechanical</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Modeling &amp; Simulation</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Motorsports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systems Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Master’s-Level Programs

Admission Information

Special admission requirements in addition to University requirements (see the Admission section) are given in Table 1. The program abbreviations are: AE-Aerospace Engineering; CE-Civil Engineering; EnvE-Environmental Engineering; EE-Electrical Engineering; CpE-Computer Engineering; ME-Mechanical Engineering; ENMA-Engineering Management; MoSp-Motorsports; SYSE-Systems Engineering; MEXM-Experimental Methods; MSIM-Modeling and Simulation.

Table 1. Master of Engineering (M.E), Master of Science (M.S.), and Master of Engineering Management (M.E.M.) Program Admission Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>GPA in major</th>
<th>GPA overall</th>
<th>Special requirements for provisional admission: GPA in major &amp; overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
</tr>
<tr>
<td>CE</td>
<td>3.00</td>
<td>3.00</td>
<td>Not specified</td>
</tr>
<tr>
<td>EnvE</td>
<td>3.00</td>
<td>3.00</td>
<td>Not specified</td>
</tr>
<tr>
<td>EE</td>
<td>3.00</td>
<td>3.00</td>
<td>Not specified</td>
</tr>
<tr>
<td>CpE</td>
<td>3.00</td>
<td>3.00</td>
<td>Not specified</td>
</tr>
<tr>
<td>ME</td>
<td>3.00</td>
<td>3.00</td>
<td>Not specified</td>
</tr>
<tr>
<td>MoSp</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
</tr>
<tr>
<td>MEXM</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
</tr>
<tr>
<td>ENMA</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
</tr>
<tr>
<td>MSIM</td>
<td>3.00</td>
<td>2.80</td>
<td>Not specified</td>
</tr>
<tr>
<td>SYSE</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
</tr>
</tbody>
</table>

Degree Requirements:
Master’s degree requirements in various programs are summarized in Table 2 for non-thesis options and Table 3 for thesis options.

Table 2. Master of Engineering and Master of Engineering Management Degree Requirements

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>AE</th>
<th>CE Project Option</th>
<th>EE Project Option</th>
<th>CpE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credits of Course Work</td>
<td>10</td>
<td>27</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Course Work Semester Credits of Graduate Math/Stat</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Course Work Semester Credits in Major</td>
<td>24</td>
<td>15</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Course Work Semester Credits at 600 Level or Above</td>
<td>24</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Comprehensive Exam</td>
<td>written</td>
<td>written</td>
<td>oral</td>
<td>project exam</td>
</tr>
</tbody>
</table>

Table 2 – Continued

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>ME</th>
<th>MoSp</th>
<th>ENMA</th>
<th>MEXM</th>
<th>MSIM</th>
<th>SYSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credits of Course Work</td>
<td>30</td>
<td>36</td>
<td>31</td>
<td>27</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>Total Credits</td>
<td>31</td>
<td>36</td>
<td>31</td>
<td>30</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>Course Work Semester Credits of Graduate Math/Stat</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Course Work Semester Credits in Major</td>
<td>16</td>
<td>16</td>
<td>21</td>
<td>24</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Course Work Semester Credits at 600 Level or Above</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Comprehensive Exam</td>
<td>written</td>
<td>project exam</td>
<td>project exam</td>
<td>project exam</td>
<td>written</td>
<td>project exam</td>
</tr>
</tbody>
</table>
Admission Information

In addition to general University admission requirements, applicants must have a master’s degree or equivalent and a grade point average of 3.50 in the appropriate field from an accredited institution of higher education. Additional requirements are listed in Table 4. The Graduate Record Examination (GRE) General Test is required of all applicants; the GRE requirement is waived for applicants in the Ph.D. programs of civil engineering and environmental engineering if the applicant holds an ABET-accredited engineering degree or graduate engineering degree from an institution of which the undergraduate degree is ABET-accredited. Each applicant must submit an essay of 500 words or less describing personal and academic goals, professional objectives, preparation for graduate study, and how the chosen program will help the applicant achieve these goals and objectives. All applicants must submit two letters of recommendation. Letters of recommendation must be from current or less describing personal and academic goals, professional objectives, preparation for graduate study, and how the chosen program will help the applicant achieve these goals and objectives. All applicants must submit two letters of recommendation. Letters of recommendation must be from current professors. Engineering management applicants may submit letters from employment supervisors. Civil engineering and environmental engineering applicants are permitted to submit one of the two letters from an employment supervisor.

Table 4. Ph.D. Degree Admission requirement

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>GPA (previous graduate work) for provisional admission</th>
<th>Letter of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE</td>
<td>3.25</td>
<td>2</td>
</tr>
<tr>
<td>CE</td>
<td>3.25</td>
<td>2</td>
</tr>
<tr>
<td>EnvE</td>
<td>3.25</td>
<td>2</td>
</tr>
<tr>
<td>ECE</td>
<td>3.25</td>
<td>2</td>
</tr>
<tr>
<td>ME</td>
<td>3.25</td>
<td>2</td>
</tr>
<tr>
<td>ENMA</td>
<td>3.5</td>
<td>2 (interview required)</td>
</tr>
<tr>
<td>MSIM</td>
<td>3.25</td>
<td>3</td>
</tr>
</tbody>
</table>

Degree Requirements

Table 5 lists requirements that are imposed by the Batten College of Engineering and Technology.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Course Work Credits</th>
<th>Dissertation Hours</th>
<th>Foreign Language Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE</td>
<td>24</td>
<td>24</td>
<td>May apply as research skill</td>
</tr>
<tr>
<td>CE</td>
<td>24</td>
<td>24</td>
<td>None</td>
</tr>
<tr>
<td>EnvE</td>
<td>24</td>
<td>24</td>
<td>None</td>
</tr>
<tr>
<td>ECE</td>
<td>24</td>
<td>24</td>
<td>None</td>
</tr>
<tr>
<td>ME</td>
<td>24</td>
<td>24</td>
<td>May apply as research skill</td>
</tr>
<tr>
<td>ENMA</td>
<td>29</td>
<td>24</td>
<td>None</td>
</tr>
<tr>
<td>MSIM</td>
<td>24</td>
<td>24</td>
<td>None</td>
</tr>
</tbody>
</table>

Interdisciplinary Certificate Programs

Advanced Engineering Certificate

The Advanced Engineering Certificate Program consists of 12 credit hours of graduate level course work. The four courses comprising the certificate program are offered on a regular schedule to enable the completion of the program in two years. The program provides the opportunity for practicing engineers to further their knowledge and become more competent in their profession.

Program Requirements

Admission to the program requires a Bachelor of Science degree (or equivalent) in engineering. With the approval of the graduate program director, students select four graduate courses taught in CEE, ME, ECE, ENMA and AE. An overall grade point average of 3.0 or better is required to earn the certificate.

Bioelectric Certificate

The Bioelectric Certificate Program consists of 12 credit hours of undergraduate level course work. The four courses comprising the certificate program are offered on a regular schedule to enable the completion of the program in two years. The program provides the opportunity for practicing engineers to further their knowledge and become more competent in the field of bioelectric.

Program Requirements

Admission to the program requires a Bachelor of Science degree (or equivalent) in engineering. The program consists of two graduate courses taught in ECE ("Introduction to Bioelectric" and "Plasma and Pulsed Power Technology for Biomedical Applications") and two courses taught in Biological Sciences: BIOL 523 (Cellular and Molecular Biology) and BIOL 524 (Comparative Animal Physiology). An overall grade point average of 3.0 or better is required to earn the certificate.

Homeland Security Certificate

The Homeland Security Certificate Program consists of 12 credit hours of undergraduate level course work that can be taken across colleges. The four courses comprising the certificate program are offered on a regular schedule to enable the completion of the program in two years. The program provides the opportunity for students to further their knowledge and become more competent in their profession.

Program Requirements

Admission to the program requires a Bachelor’s degree (or equivalent). The program will consist of three tracks, with courses taught in the colleges of Business and Public Administration, Batten Engineering and Technology and Arts and Letters. An overall grade point average of 3.0 or better is required to earn the certificate.

Required courses are ENMA 724 (Risk Analysis) and PADM 695 (Disaster Management). Students may elect to take ENMA 714 (Crisis Project Management) in place of ENMA 724 with approval.

Track One: CEE 645 (Contingency Readiness and Facility Management with GIS), ENMN 622 (Remote Sensing)

Track Two: PORT 612 (Port Operations and Management), PORT 614 (Port Planning and Economics)

Track Three: Students may choose any two courses from the following list: IS 701/801 (Global Change and American Foreign Policy), IS 702/802 (Collective Security), IS 706/806 (Causes of War), IS 707/807 (Interdependence, Power and Transnationalism), IS 720/820 (Global Security), IS 740/840 (Political Economy of Development), IS 795/985 (Politics of Middle East), IS 795/895 (Islam, War and National Question on the Russian Frontier), and CRJS 575 (Comparative Justice).

Table 3. Master of Science Degree Requirements

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>AE</th>
<th>CE</th>
<th>EnvE</th>
<th>EE</th>
<th>CplE</th>
<th>ME</th>
<th>ENMA</th>
<th>MSIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credits of Course Work</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>27</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Semester Credits of Research</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>33</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 5 lists requirements that are imposed by the Batten College of Engineering and Technology.

Accelerated Bachelor’s/Master’s Degree Programs

Please refer to the Undergraduate Catalog for more information.

Direct Bachelor’s-to-Ph.D. and Integrated Bachelor’s/Ph.D. Programs

Please refer to the Undergraduate Catalog for more information.
Collaborative Programs

Commonwealth Graduate Engineering Program (CGEP)

Linda Vahala, Director

The Commonwealth Graduate Engineering Program (CGEP) is a unique cooperative agreement. This agreement is among the five largest engineering schools in the Commonwealth of Virginia: Old Dominion University, George Mason University, the University of Virginia, Virginia Commonwealth University and Virginia Polytechnic Institute and State University. The program developed in response to the diverse continuing education needs of engineering graduates working in industry and government.

Graduate engineering courses leading to a Master of Science or Master of Engineering degree or nanotechnology certificate are offered through these universities via a statewide interactive distance-learning network.

Students seeking admission to the various degree programs should request and process their applications through the Commonwealth Graduate Engineering Program Office in the Batten College of Engineering and Technology at Old Dominion University: www.eng.odu.edu/cgep

Virginia Consortium for Engineering and Science Universities (VCES)

Linda Vahala, Director

VCES is a consortium established by the Commonwealth of Virginia consisting of Old Dominion University, the College of William and Mary, the University of Virginia, and Virginia Polytechnic Institute and State University. It is located in Hampton, VA, only a few miles from NASA Langley Research Center. The agreement between these institutions allows students to take courses from any of the participating institutions. For more information: http://www.vces.org

Department of Aerospace Engineering

1300 Engineering and Computational Science Building
757-683-3720
http://www.odu.edu/aero

Collin Britcher, Chair
Brett A. Newman, Graduate Program Director
Collin Britcher, Experimental Methods Program Director

Degree Programs

The department of Aerospace Engineering offers the following graduate degrees:

- Master of Science in Aerospace Engineering
- Master of Engineering in Aerospace Engineering
- Master of Engineering in Experimental Methods
- Master of Engineering in Motorsports Engineering
- Ph.D. in Aerospace Engineering

Degree Description

Graduate degrees in the Department of Aerospace Engineering include the Master of Engineering, Master of Science and Ph.D. degrees and are designed to prepare graduates for professional practice in teaching, research and development, design, and consulting. Graduates are prepared for challenging and rewarding employment in high-technology industries, research organizations, consulting firms and government agencies. These programs are also designed to serve both full-time and part-time graduate students. The department is closely associated with regional industries, consulting firms, government agencies and research laboratories, particularly the NASA Langley Research Center. Aerospace engineering students also benefit from the University’s affiliation with the National Institute of Aerospace, the Virginia Modeling Analysis and Simulation Center, and the college’s own National Center for System of Systems Engineering.

All degree programs offered by the department can be utilized as components within the accelerated Baccalaureate-Master’s and Baccalaureate-Doctoral degree programs offered through the Batten College of Engineering and Technology. For additional information about the educational and research opportunities available, request a departmental handbook from the graduate program director.

Master's Admission Information

To qualify as a candidate for a Master of Science, Master of Engineering, or a Master of Engineering in experimental methods, applicants must have completed undergraduate-level coursework that includes subject matter equivalent to a bachelor’s degree in aerospace engineering, mechanical engineering, or engineering mechanics. A minimum of 30 semester credit hours beyond the bachelor’s degree is also required. The Master of Science degree requires a minimum of 24 semester credit hours of course work beyond the bachelor’s degree with at least a B (3.00) average and a minimum of six semester credit hours of thesis research. The Master of Engineering degree requires a minimum of 30 semester credit hours of course work with at least a B (3.00) average. All master’s degree students are required to take AE 605 or MATH 691 and AE 601 as part of their core course requirements. They must also take an additional three credit course at the 600-level or above in mathematics or an approved equivalent in aerospace engineering with heavy mathematical emphasis. Experimental methods students must take AE 605 and AE 606, and follow a more restrictive course selection as discussed below. In all cases, a maximum of six semester credit hours may be derived from 500-level courses.

Master’s Degree Requirements and Programs

Master of Science in Aerospace Engineering and Master of Engineering in aerospace engineering students are required to choose an emphasis area either in fluid mechanics, structural mechanics, or dynamics and controls, and take the designated core courses for that emphasis area. The remainder of the program will be selected primarily from the chosen emphasis area, according to the study plan developed by the student and faculty advisor.

Master of Science in Aerospace Engineering (Thesis)

The Master of Science degree in aerospace engineering is a research degree requiring a written thesis. The thesis constitutes six semester credit hours within the 30 semester credit hour requirement. Students are given a verbal examination, administered as the student’s thesis defense, under the direction of the faculty advisor with support from the Thesis Advisory Committee. This examination consists of two parts, a student presentation of his/her thesis research and a closed session where the Thesis Advisory Committee further questions the student. The committee concentrates on research presented in both verbal and written formats, but may expand questioning to include related course work.

Master of Engineering in Aerospace Engineering (Non-Thesis)

The Master of Engineering degree in aerospace engineering is a non-research degree. The 30 semester credit hour requirement is thus met entirely by course work. During their final semester, students are required to pass a written examination covering their complete program of study. The master’s comprehensive examination is administered by the faculty advisor with support from the Master’s Examination Committee.

Master of Engineering in Aerospace Engineering (Project)

The Master of Engineering degree in aerospace engineering is an applied research degree requiring an experimental project containing both written and verbal components. The three credit experimental project will culminate with a written project report in the format of a technical journal or conference paper. The verbal presentation covers the findings of the investigation. The examination consists of two parts a student presentation of the thesis research and a closed session where the Thesis Advisory Committee further questions the student. The committee concentrates on research presented in both verbal and written formats, but may expand questioning to include related course work.

Master of Engineering in Experimental Methods

The Master of Engineering in experimental methods students are required to take AE 605, AE 606 and AE 691. Students must then take three required courses from two of the four specialty areas: fluid mechanics, structural mechanics, dynamics and controls, and design of experiments. An approved
Master of Engineering in Motorsports Engineering

The masters program in motorsports engineering is comprised of 36 credit hours and includes the following courses: AE 507, AE 557, AE 567 (Racecar performance), AE 577 (High performance piston engines), AE 627 (Aerodynamics for motorsports), AE 637 (Tire and brake performance), AE 647 (Racerace structures and materials design), AE 657 (Performance sensors and analysis), AE 677 (Drivertrain design and performance), AE 687 (Team dynamics and leadership), and AE 692 (Team summary project). Students will be required to attend lectures and laboratories on the main campus, at the Langley Full-Scale Tunnel, and at the Virginia Institute for Performance Engineering and Research, located close to Virginia International Raceway near Danville, Virginia.

The graduate core courses and emphasis courses in the department are listed below.

### Core Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 601</td>
<td>Introduction to Continuum Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>AE 602</td>
<td>Fluid Dynamics and Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 603</td>
<td>Energy and Variational Methods in Structural Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>AE 604</td>
<td>Analytical Dynamics of Aerospace Vehicles</td>
<td>3</td>
</tr>
<tr>
<td>AE 605</td>
<td>Applied Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>AE 606</td>
<td>Real-Time Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>AE 690</td>
<td>Aerospace Engineering Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

### Aerodynamics and Fluids Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 506</td>
<td>Flight Vehicle Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 517</td>
<td>Propulsion Systems</td>
<td>3</td>
</tr>
<tr>
<td>AE 602</td>
<td>Fluid Dynamics and Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 611</td>
<td>Supersonic Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 620</td>
<td>Computational Fluid Dynamics I</td>
<td>3</td>
</tr>
<tr>
<td>AE 621</td>
<td>Experimental Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 622</td>
<td>Aerospace Text Facilites</td>
<td>3</td>
</tr>
<tr>
<td>AE 709/809</td>
<td>Boundary Layer Theory</td>
<td>3</td>
</tr>
<tr>
<td>AE 710/810</td>
<td>Transonic Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 711/811</td>
<td>Hypersonic Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 712/812</td>
<td>Unsteady Aerodynamics and Aeroelasticity</td>
<td>3</td>
</tr>
<tr>
<td>AE 713/813</td>
<td>Turbulence Modeling</td>
<td>3</td>
</tr>
<tr>
<td>AE 714/814</td>
<td>Aerodynamic Flow Control</td>
<td>3</td>
</tr>
<tr>
<td>AE 715/815</td>
<td>Aerothermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 720/820</td>
<td>Computational Fluid Dynamics II</td>
<td>3</td>
</tr>
</tbody>
</table>

### Structures and Structural Dynamics Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 520</td>
<td>Aerospace Structures</td>
<td>3</td>
</tr>
<tr>
<td>AE 631</td>
<td>Aerospace Structures</td>
<td>3</td>
</tr>
<tr>
<td>AE 633</td>
<td>Flight Vehicle Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>AE 634</td>
<td>Structural Vibrations I</td>
<td>3</td>
</tr>
<tr>
<td>AE 640</td>
<td>Finite Element Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>AE 641</td>
<td>Experimental Structural Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 731/831</td>
<td>Mechanics of Composite Structures</td>
<td>3</td>
</tr>
<tr>
<td>AE 732/832</td>
<td>Thermal Stress Analysis</td>
<td>3</td>
</tr>
<tr>
<td>AE 733/833</td>
<td>Nonlinear Aerospace Structures</td>
<td>3</td>
</tr>
<tr>
<td>AE 734/834</td>
<td>Structural Vibrations II</td>
<td>3</td>
</tr>
<tr>
<td>AE 740/840</td>
<td>Finite Element Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>AE 744/844</td>
<td>Active Control of Structures</td>
<td>3</td>
</tr>
</tbody>
</table>

### Dynamics and Controls Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 503</td>
<td>Flight Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>AE 638</td>
<td>Applied Analog and Digital Control</td>
<td>3</td>
</tr>
<tr>
<td>AE 650</td>
<td>Modern Control Theory</td>
<td>3</td>
</tr>
<tr>
<td>AE 660</td>
<td>Aerospace Vehicle Performance</td>
<td>3</td>
</tr>
<tr>
<td>AE 662</td>
<td>Flight Control Actuators and Sensors</td>
<td>3</td>
</tr>
<tr>
<td>AE 750/850</td>
<td>Autonomous and Robot System Analysis and Control</td>
<td>3</td>
</tr>
<tr>
<td>AE 760/860</td>
<td>Atmosphere Flight Dynamics and Control</td>
<td>3</td>
</tr>
<tr>
<td>AE 761/861</td>
<td>Space Flight Dynamics and Control</td>
<td>3</td>
</tr>
<tr>
<td>AE 763/863</td>
<td>Advanced Control Methodologies</td>
<td>3</td>
</tr>
</tbody>
</table>

### Motorsports Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 507</td>
<td>Ground Vehicle Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 557</td>
<td>Motorsports Vehicle Dynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 567</td>
<td>Racecar Performance</td>
<td>3</td>
</tr>
<tr>
<td>AE 577</td>
<td>High Performance Piston Engines</td>
<td>3</td>
</tr>
</tbody>
</table>

### Others

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 540</td>
<td>Introduction to Space Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>AE 572</td>
<td>Statistical Foundations for Experimenters</td>
<td>3</td>
</tr>
<tr>
<td>AE 672</td>
<td>Design of Experiments</td>
<td>3</td>
</tr>
<tr>
<td>AE 772/872</td>
<td>Response Surface Methodology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Generic Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 595</td>
<td>Topics in Aerospace Engineering and Management</td>
<td>1-3</td>
</tr>
<tr>
<td>AE 597</td>
<td>Independent Study in Aerospace Engineering and Management</td>
<td>1-3</td>
</tr>
<tr>
<td>AE 667</td>
<td>Cooperative Education in Aerospace Engineering and Management</td>
<td>1-3</td>
</tr>
<tr>
<td>AE 668</td>
<td>Internship in Aerospace Engineering and Management</td>
<td>1-3</td>
</tr>
<tr>
<td>AE 669</td>
<td>Practicum in Aerospace Engineering and Management</td>
<td>1-3</td>
</tr>
<tr>
<td>AE 691</td>
<td>Experimental Research Project</td>
<td>3</td>
</tr>
<tr>
<td>AE 695</td>
<td>Topics in Aerospace Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>AE 697</td>
<td>Independent Study in Aerospace Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>AE 699</td>
<td>Thesis Research in Aerospace Engineering and Management</td>
<td>1-6</td>
</tr>
<tr>
<td>AE 795/895</td>
<td>Topics in Aerospace Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>AE 797/897</td>
<td>Independent Study in Aerospace Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>AE 899</td>
<td>Dissertation Research in Aerospace Engineering and Management</td>
<td>1-9</td>
</tr>
<tr>
<td>AE 999</td>
<td>Aerospace Engineering 999</td>
<td>1</td>
</tr>
</tbody>
</table>

### Doctoral Degree Description

The Doctor of Philosophy degree in aerospace engineering is an advanced research degree requiring a written dissertation offering new and unique contributions of a fundamental nature.

### Doctoral Admission Requirements

To qualify as a candidate for a Doctor of Philosophy degree in aerospace engineering, a student must have completed graduate-level course work that includes subject matter equivalent to the master’s programs in aerospace engineering or engineering mechanics.

### Doctoral Degree Requirements

A minimum of 24 credit hours of course work beyond the master’s degree and a minimum of 24 semester credit hours of dissertation research must be included in the doctoral degree program. At least three-fifths of the course work for the doctoral degree should be 800-level courses and the student should maintain at least a B (3.00) average. Aerospace engineering students will be expected to concentrate primarily, but not necessarily exclusively, in a chosen emphasis area of fluid mechanics, structural mechanics, or dynamics and controls. Doctoral students in the Aerospace Engineering Department should satisfy either a foreign language or research skill requirement. Doctoral students who are full-time are required to take a part-written, part-oral preliminary diagnostic examination during their first semester in the Ph.D. program. Part-time students should take the exam before completing nine credit hours. The preliminary diagnostic examination covers the master’s core curricula, as well as the student’s chosen emphasis areas.

### Candidacy Examination

Students seeking a Doctor of Philosophy degree are given a part-written and part-oral examination administered as the student’s candidacy examination. Questions are directed towards the student’s research emphasis and supporting theoretical principles. Students must demonstrate a level of understanding that projects confidence in a successful completion of doctoral research requirements. After successfully passing the candidacy examination, a
Dissertation Defense

The dissertation defense consists of two parts, the student presentation and defense. The main purpose of the dissertation defense is to examine the candidate for original research contributions reflected in the dissertation. Students are permitted only two attempts in demonstrating their capability during the dissertation proposal as well as dissertation defense.

Department of Civil and Environmental Engineering

135 Kaufman Hall
757-683-3753
http://cee.odu.edu

Gary Schafran, Chair
Isao Ishibashi, Graduate Program Director

Degree Programs

The department offers the following graduate degrees:
- Master of Science in Civil Engineering
- Master of Engineering in Civil Engineering
- Master of Science in Environmental Engineering
- Master of Engineering in Environmental Engineering
- Ph.D. in Civil Engineering
- Ph.D. in Environmental Engineering

Degree Description

In this rapidly changing technological world, graduate degrees are highly desirable and most often master’s degrees are required to hold professional civil and environmental engineering positions in the industry, and in federal, state and municipal government agencies. The department’s graduate programs are designed to educate the technological leaders of the future in civil and environmental engineering, and are structured to accommodate both full-time and part-time students. The specialty areas include coastal, geotechnical, structural, and water resources engineering in civil engineering, and sub-fields in environmental engineering including water quality, water and wastewater treatment, hydrologic processes, water resources, environmental engineering microbiology, air quality, hazardous and solid waste, and pollution prevention. For additional information please request a departmental handbook from the graduate program director.

Master’s Admission Information

In addition to general University admission requirements, applicants’ bachelor degrees should be in civil engineering, environmental engineering or in engineering with a strong background in mathematics and physical sciences. Provisional admission will be given to those applicants who do not hold a bachelor’s degree in civil or environmental engineering; however these students will be required to complete undergraduate course work in addition to the graduate program requirements. Potential prerequisite courses are listed below.

Potential Prerequisite Courses for M.S. and M.E. in Civil Engineering:

- MATH 211: Calculus I
- MATH 212: Calculus II
- MATH 307: Ordinary Differential Equations
- MATH 312: Calculus III
- PHYS 231N: University Physics I
- PHYS 232N: University Physics II
- CHEM 115: Found of Chemistry
- CHEM 117: Princ of Chemistry
- CS 150: Introduction to Programming
- CEE 330: Hydromechanics
- CEE 340: Hydraulics & Water Resources
- CEE 350: Environmental Pollution & Control

Potential Prerequisite Courses for M.S. & M.E. in Environmental Engineering:

- MATH 211: Calculus I
- MATH 212: Calculus II
- MATH 307: Ordinary Differential Equations
- MATH 312: Calculus III
- PHYS 231N: University Physics I
- PHYS 232N: University Physics II
- CHEM 115: Found of Chemistry
- CHEM 117: Princ of Chemistry
- CS 150: Introduction to Programming
- CEE 330: Hydromechanics
- CEE 340: Hydraulics & Water Resources
- CEE 350: Environmental Pollution & Control

Master’s Degree Requirements

The graduate courses applicable towards a master’s degree in the Department of Civil and Environmental Engineering are grouped into the following categories.

Category A – Upper Level Courses in Civil Engineering

- CEE 612: Prestressed Concrete
- CEE 618: Advanced Structural Analysis
- CEE 640: Hydraulic Structures
- CEE 687: Dredging & Beach Engineering
- CEE 710: Structural Dynamics
- CEE 711: Topics in Finite Elements
- CEE 712: Advanced Reinforced Concrete
- CEE 715: Engineering Optimization I
- CEE 716: Finite Element Analysis I
- CEE 717: Bridge Structures Design
- CEE 718: Engineering Optimization II
- CEE 719: Inelastic Structures
- CEE 720: Structural Stability
- CEE 721: Plates
- CEE 723: Advanced Soil Mechanics
- CEE 724: Engineering Behavior of Soils
- CEE 725: Advanced Foundation Engineering
- CEE 730: Soil Dynamics
- CEE 741*: Open Channel Flow
- CEE 747*: Groundwater Flow
- CEE 748*: Advanced Hydrology
- CEE 761*: Water Resources Systems Analysis
- CEE 780*: Advanced Civil Engineering System Design
- CEE 782: Design of Coastal Structures
- CEE 789: Computational Environmental Fluid Dynamics

Category B – Upper Level Courses in Environmental Engineering

- CEE 650: Pollution Prevention
- CEE 653: Environmental Engineering Law
- CEE 659: Air Pollution Control
- CEE 741*: Open Channel Flow
- CEE 747*: Groundwater Flow
- CEE 748*: Advanced Hydrology
- CEE 751: Physicochemical Treatment Processes
- CEE 752: Biological Waste Water Treatment
- CEE 753: Advanced Processes for Water & Waste Water Treatment
- CEE 754: Environmental Engineering
- CEE 755: Water Quality Management
- CEE 756: Water Quality Modeling
- CEE 761*: Water Resource Systems Analysis
- CEE 762: Aquatic Chemistry in Environmental Engineering
- CEE 780*: Advanced Civil Engineering System Design
- CEE 790#: Civil and Environmental Engineering
- CEE 791#: Experimental Design

Category C – Lower Level Courses for Civil & Environmental Engineering

- CEE 511: Concrete Design II
- CEE 512: Structures II
Category D – Other Graduate Courses

Graduate level courses offered from other departments. These courses must be related to the program of study and must be approved by the student's academic advisor.

MATH or STAT Category

CEE 790# or a graduate MATH or STAT course.

* Double listings in A and B Categories.

# Double listings in B and STAT Categories

All master’s degree programs in the department require a total of 30 credit hours of graduate work. The distributions of required courses with course categories (A, B, C, D, MATH/STAT) for each program are listed in Tables CEE-1 & 2.

Table CEE-1. Required Course Distributions for M.S. and M.E. in Civil Engineering

<table>
<thead>
<tr>
<th>Category</th>
<th>Credit Hrs.</th>
<th>Category Credit Hrs.</th>
<th>Category Credit Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>12</td>
<td>A</td>
<td>15</td>
</tr>
<tr>
<td>A, B, C, or D</td>
<td>9</td>
<td>A, B, C, or D</td>
<td>9</td>
</tr>
<tr>
<td>MATH/STAT</td>
<td>3</td>
<td>MATH/STAT</td>
<td>3</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
<td>Project</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>30*</td>
<td>Total</td>
<td>30*</td>
</tr>
</tbody>
</table>

* For M.S. and ME Project option, no more than nine credit hours can be at 500 level.

Table CEE-2. Required Course Distributions for M.S. and M.E. in Environmental Engineering

<table>
<thead>
<tr>
<th>Category</th>
<th>Credit Hrs.</th>
<th>Category Credit Hrs.</th>
<th>Category Credit Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>12</td>
<td>B</td>
<td>15</td>
</tr>
<tr>
<td>A, B, C, or D</td>
<td>9</td>
<td>A, B, C, or D</td>
<td>9</td>
</tr>
<tr>
<td>MATH/STAT</td>
<td>3</td>
<td>MATH/STAT</td>
<td>3</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
<td>Project</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>30*</td>
<td>Total</td>
<td>30*</td>
</tr>
</tbody>
</table>

* For M.S. and M.E. Project option, no more than nine credit hours can be at 500 level.

For M.S. thesis and M.E. project options, students must pass an oral thesis or project defense. For M.E. course options, students must pass an oral (for civil engineering) or written (for environmental engineering) comprehensive examination at the end of all course work.

Description of Doctoral Degrees

Doctoral degrees in civil engineering and environmental engineering are required for college-level teaching and employment in research institutions. Many leading industries and agencies also seek well-trained doctoral graduates. The specialty areas include coastal, geotechnical, structural, and water resources engineering in Civil Engineering and a variety of sub-disciplines in Environmental Engineering including water quality, water and wastewater treatment, hydrologic processes, water resources, environmental engineering microbiology, air quality, hazardous and solid waste, and pollution prevention.

Doctoral Admission Requirements

A master’s degree or equivalent in engineering or a related field is required for admission; however exceptionally well qualified students can be admitted to the doctoral program directly without a master’s degree. In addition to general University admission requirements, submission of GRE scores is required except for applicants who hold an ABET accredited engineering degree or a graduate engineering degree from an institution of which the undergraduate degree is ABET accredited. One of the two recommendation letters may be from an employment supervisor.

Doctoral Degree Requirements

Refer to Table 5 for the college summary of degree requirements. Three-fifths (3/5) of the courses shall be from 800-level courses as required by the University.

Certificate Program

Coastal Engineering Certificate

David Basco, Director, Coastal Engineering Center

In order to provide the opportunity for practicing civil/coastal engineers to further their knowledge and to become more competent in their profession, the Department of Civil and Environmental Engineering offers a non-degree Coastal Engineering Certificate. Admission to the program requires a Bachelor of Science degree (or equivalent) in civil engineering, coastal engineering, or a related field (e.g. oceanography, geoscience). The program consists of the following four graduate courses (12 credit hours) that are taught over the course of two years (one each semester); these courses are made available on-line.

CEE 582 Introduction to Coastal Engineering (Spring, odd Year)
CEE 687 Dredging and Beach Engineering (Fall, odd year)
CEE 782 Design of Coastal Structures (Fall, even year)
CEE 788 Coastal Hydrodynamics and Sediment Transport (Spring, even year)

An overall grade point average of 3.00 or better is required to earn the certificate.

Department of Electrical and Computer Engineering

231 Kaufman Hall
757-683-3741
http://www.ece.odu.edu

Shirshak Dhali, Chair
Sacharia Albin, Graduate Program Director

Degree Programs

The department offers the following graduate degrees:

Master of Science in Electrical Engineering
Master of Engineering in Electrical Engineering
Master of Science in Computer Engineering
Master of Engineering in Computer Engineering
Ph.D. in Electrical and Computer Engineering

Degrees Description

Electrical and computer engineering graduate studies encompass three broad areas: system science, physical electronics, and computer engineering. The department offers both master’s and doctoral degrees in electrical and computer engineering. In computer engineering, a master’s degree program jointly administered by the Departments of Electrical and Computer Engineering and Computer Science is available. The department maintains several state-of-the-art research laboratories, including the Physical Electronics Research Institute, the Microelectronics Fabrication Laboratory, and the Speech Communication Laboratory. In addition, the department maintains several laboratories, at off-campus sites, in the Applied Research Center at the Jefferson National Laboratory, the Virginia Modeling Analysis and Simulation Center, and at the Frank Reidy Center for Bioelectronics. These research facilities position the department for national leadership in several research areas and a leading
institution of research and higher education in the southeastern United States. For additional information please request a departmental handbook from the graduate program director.

**Master’s Admission Information**

Applicants are expected to hold a B.S. degree in electrical or computer engineering. Accepted applicants from other disciplines may be required to complete additional undergraduate course work to meet prerequisites for graduate study. Applicants are also expected to have a minimum grade point average of 3.0 (on a 4.0 scale) in both the baccalaureate major area (EE or CpE) and overall from an ABET accredited institution. Two letters of recommendation from former undergraduate instructors are also required. Applicants with academic degrees in areas other than electrical and computer engineering may be considered, subject to evaluation by the graduate program director. Those with degrees in math, physics, computer science, or other engineering fields are encouraged to apply. Accepted applicants are expected to complete certain courses from the list below for leveling requirements in order to properly prepare them for graduate study and the graduation examination.

**List of Courses for Leveling Requirement**

**ECE Courses**

- **ECE 202** Circuits, Signals & Linear Systems 3
- **ECE 241** Fundamentals of Computer Engineering 4
- **ECE 304** Probability, Statistics & Reliability 3
- **ECE 313** Electronics Circuits 3
- **ECE 323** Electromagnetics 3
- **ECE 383** Electronics Laboratory 2

**MATH Courses**

- **MATH 211** Calculus I 4
- **MATH 212** Calculus II 4
- **MATH 307** Ordinary Differential Equations 3
- **MATH 312** Calculus III 4

**Computer Science Courses**

- **CS 250** Introduction to Computer Science 3
- **CS 281** Introduction to Discrete Structures 3
- **CS 350** Introduction to Software Engineering 3

**Master of Science and Master of Engineering in Electrical Engineering**

**Master’s Degree Requirements**

Both M.S. and M.E. degrees require a minimum of 30 credit hours of graduate study which consist of eight graduate courses plus a thesis for M.S. and 10 graduate courses for M.E. Both options are available to full-time and part-time students seeking to improve their professional skills in electrical and computer engineering. Students are required to complete four foundation courses from the specialized areas offered by the department in addition to a Math course. Remaining courses can be selected from the list of elective courses in order to meet the student’s future career objectives.

**Master of Science and Master of Engineering in Computer Engineering**

This program has two-degree options, an M.S. (eight courses plus a thesis) or M.E. (10 graduate courses). The program incorporates both hardware and software aspects of modern computing systems. Specialized courses are available in modeling and simulation, networking and machine pattern recognition. Accepted students with undergraduate degrees in technical fields other than computer engineering may be required to take additional undergraduate courses to meet prerequisites for graduate study.

**List of Foundation Courses (Choose 4 + 1 Math Courses)**

**Systems**

- **ECE 581** Digital Signal Processing I 3
- **ECE 601** Linear Systems 3
- **ECE 651** Statistical Analysis and Simulation 3

**Computer**

- **ECE 642** Computer Networking 3
- **ECE 643** Computer Architecture Design 3
- **ECE 648** Advanced Digital Design 3
- **ECE 665** Engineering Systems Modeling Physical 3
- **ECE 573** Solid State Electronics 3
- **ECE 578** Lasers and Laser Applications in Engineering 3

**Math**

- **MATH 508** Applied Numerical Analysis 3
- **MATH 691** Engineering Analysis I 3
- **ENMA 520** Statistical Concepts in Engineering Management 3
- **ECE 651** Statistical Analysis and Simulation 3

**List of Elective Courses**

- **CS 600** Algorithms & Data Structures 3
- **CS 635** Parallel Computer Architecture 3
- **CS 648** Computational Geometry 3
- **ECE 505** Introduction to Discrete Event Simulation 3
- **ECE 543** Computer Architecture 3
- **ECE 551** Communication Systems 3
- **ECE 555** Network Engineering and Design 3
- **ECE 558** Instrumentation 3
- **ECE 561** Automatic Control Systems 3
- **ECE 572** Plasma Processing at the Nanoscale 3
- **ECE 574** Optical Communications 3
- **ECE 652** Wireless Communication Networks 3
- **ECE 695** Topics in Electrical or Computer Engineering 3
- **ECE 699** Thesis 1-9
- **ECE 731/831** Graduate Seminar 1
- **ECE 741/841** Formal Methods in Computer System Design 3
- **ECE 742/842** Computer Communication Networks 3
- **ECE 745/845** Fault Tolerant Computing 3
- **ECE 747/847** High Performance Computer Architecture 3
- **ECE 748/848** Distributed Computer Simulation 3
- **ECE 766/866** Nonlinear Control Systems 3
- **ECE 772/872** Advanced Gaseous Electronics 3
- **ECE 774/874** Semiconductor Characterization 3
- **ECE 775/875** Plasma Surface Engineering 3
- **ECE 776/876** Advanced Semiconductor Devices 3
- **ECE 777/877** Semiconductor Process Technology 3
- **ECE 778/878** Eng. Applications of Spectroscopy 3
- **ECE 779/879** Applications of Laser Engineering 3
- **ECE 780/880** Machine Pattern Analysis 3
- **ECE 782/882** Digital Signal Processing II 3
- **ECE 783/883** Digital Image Processing 3
- **ECE 787/887** Digital Communications 3
- **ECE 795/895** Topics in Electrical and Computer Engineering 3
- **ECE 899** Ph.D. Dissertation Research 1-9

**Description of Doctoral Degrees**

The doctoral program is highly selective. Students and faculty make major contributions in their fields of study, as evidenced by publications generated annually, by recognition granted to faculty and students through awards received, and through externally funded research grants obtained by the faculty.

**Doctoral Admission Requirements**

Students can apply for a doctoral degree in electrical and computer engineering. Applicants are expected to have completed a master’s degree in electrical engineering and/or computer engineering or a closely related technical field. Requirements beyond the master’s degree include eight courses, a dissertation, and successful completion of the diagnostic and candidacy exams. Additional course work or appropriate research background may be required to meet prerequisites for courses.

**Wireless Telecommunications Certificate**

This graduate certificate program provides the working professional with a thorough understanding of wireless telecommunications sufficient to practice and meet the needs and high demand of this fast-paced technological field. Students in the program will gain expertise in wireless networking with an emphasis in wideband digital telecommunications. This will enable students to understand the engineering disciplines and technology necessary to design and develop future voice, data and video systems utilizing wireless networks. These networks will incorporate mobile and fixed wireless systems. To obtain the certificate, each participant must successfully complete four three-credit graduate-level courses:
Department of Engineering Management and Systems Engineering

241 Kaufman Hall
757-683-4558
http://www.eng.odu.edu/enma

Resit Unal, Chair
Robert Safford, Graduate Program Director for Master’s Programs
Andres Sousa-Pozza, Graduate Program Director for Doctoral Programs

Degree Programs

The department offers the following graduate degrees:

- Master of Engineering Management
- Master of Science in Engineering Management
- Master of Engineering in Systems Engineering
- Ph.D. in Engineering Management

Degree Description

The Department of Engineering Management and Systems Engineering at Old Dominion University is the recipient of the American Society of Engineering Management’s 1995, 2000, 2002, 2004 and 2005 awards for Excellence in Leadership in Graduate Programs. The Master of Engineering Management program at Old Dominion University is also one of the first three in the nation that has been certified by the American Society for Engineering Management.

The Department of Engineering Management and Systems Engineering provides its graduates with the necessary skills, knowledge, and abilities required to design and manage the technology-based, project-driven enterprise. Fundamentally, the engineering management discipline addresses the problems, design, and management of projects and complex operations. The programs are grounded in solid principles of systems science and systems engineering while exploiting the tools of management science and project management. The Old Dominion Department of Engineering Management and Systems Engineering emphasizes the concept of technological leadership. Technological leadership focuses on the development of a professional perspective that anticipates opportunities for competitive advantages technology can provide to an enterprise.

Core course work in the engineering management programs concentrates on developing the knowledge and skills required by graduates to provide the project and program leadership and management necessary for an organization to develop and apply technologies. Technological leadership’s vision looks to the creation of new products, processes, and services which, in turn, will create new markets or enable domination of existing ones. Through design projects and exercises centered around complex system and technology, students are led through alternative ways of thinking and communicating.

The engineering management and systems engineering programs at Old Dominion University provide students opportunities in the classroom and involvement with industrial partners. This allows students to gain confidence and experience to effectively create, integrate, and apply technology in enterprise operations.

Master’s Admission Information:

Master of Engineering Management/Master of Science in Engineering Management

Admission to graduate programs in engineering management is in accordance with the general requirements for graduate degrees as specified in the Admission section of this Catalog. Applicants must have an undergraduate degree in engineering or engineering technology or from an accredited program in applied science with a GPA of 3.00 or better. Students with an undergraduate GPA between 2.80 and 3.00 may be admitted provisionally based on their academic preparation and GRE scores. Departments require university level TOEFL scores for all international students when English is not their first language.

Master of Engineering—Systems Engineering

Admission to the graduate program in systems engineering is in accordance with the general requirements for graduate degrees as specified in this Catalog. Specific requirements for systems engineering include a bachelor’s degree in science, engineering, mathematics, computer science or other related field. Applicants with a bachelor’s degree in a non-technical discipline with approved college level calculus and five years experience are eligible for admission to the program. An undergraduate grade point average of 3.00 (out of 4.00) in both the major and overall is required. Students with a GPA between 2.80 and 3.00 may be admitted provisionally based upon their work record, academic preparation and GRE scores. Students with a GPA below 2.75 must complete additional academic course work so their overall GPA is raised to the appropriate level for admission. A minimum TOEFL score of 550 is required for all international students when English is not their first language.

Master’s Degree Requirements:

Master of Engineering Management/Master of Science in Engineering Management

The M.E.M and M.S. programs are oriented toward the design and management of technical projects, complex operations, and technology-based organizations. The Master of Science (M.S.) program requires thesis research. Courses are scheduled in the evenings and at off-campus sites, including the Peninsula Higher Education Center in Hampton and the Virginia Beach Higher Education Center. A complete M.E.M. program is available through Old Dominion University’s TELETECHNET distance learning program and through the Commonwealth Graduate Engineering Program. Both systems transmit courses to educational, industrial and government locations throughout Virginia.

The master’s degree programs in the Department of Engineering Management and Systems Engineering are in accordance with the general requirements for master’s degrees as specified in the Requirements for Graduate Degrees section of this Catalog. Specific requirements for the Master of Engineering Management and Master of Science in engineering management include the following.

The Engineering Management and Systems Engineering Department requires 31 credit hours of course work (10 three-credit courses plus one credit capstone course) for the M.E.M. The M.S. degree requires 27 credit hours of course work and six credit hours of thesis research for a total of 33 credit hours.

Prerequisite Courses: All students must have mathematics course work through the level of integral calculus; matrix algebra or differential equations; and a course in statistics (ENMA 420/520 or equivalent).

Core Courses: Required core courses for the M.E.M. are ENMA 600, 601, 603, 604, 620, 614, 616, and 640. Required courses for the M.S. are ENMA 600, 601, 603, 604, 613, 614, 616, 640, and 721. ENMA 715 or ENMA 724 may be substituted for ENMA 640 in the core.

Elective Courses: Students must select nine credit hours of elective coursework for the M.E.M. and three credit hours of elective course work for the M.S. degree. The electives may be selected from the ENMA courses and/or from courses in other departments with the approval of the graduate program director. All electives must be at the graduate level.

Capstone: ENMA 605 is required for the M.E.M. (to be taken in final semester).
Thesis Research: M.S. students take six credits of thesis research, which must be spread over two semesters. Exceptions to these requirements must be approved by the graduate program director.

Master of Engineering—Systems Engineering

The focus of this degree program is to provide students with in-depth, real-world practitioner expertise in engineering and the integration of complex systems of systems for government and commercial clients. Students in the program are introduced to core competencies for system of system architectures, integration and engineering, processes, new technologies, and the engineering disciplines needed for successful delivery of executable systems.

The Master of Engineering degree program in systems engineering is in accordance with the general requirements for master’s degrees as specified in this Catalog. Specific requirements for the Master in Engineering with a concentration in systems engineering include the following.

The Engineering Management and Systems Engineering Department requires 31 graduate credit hours of course work (10 courses plus a one-credit capstone course for the M.E. in systems engineering program).

Prerequisite/Corequisite Courses: All students must have mathematics course work through the level of integral calculus, matrix algebra or differential equations, and ENMA 520 or equivalent calculus based probability and statistics. Students who have not had a calculus based probability and statistics course will be required to include ENMA 520 or equivalent as part of their plan of study.

Core Courses: The required core courses are: ENMA 602, 604, 640, 641, 715, 750, and 751.

Capstone: ENMA 605, required for the Master of Engineering in systems engineering, is to be taken in the final semester of study.

Electives: Students must take nine credit hours of elective study from the Department of Engineering Management and Systems Engineering. Other electives must be approved by the graduate program director.

Description of Doctoral Degrees: The Doctor of Philosophy (Ph.D.) focuses on developing the necessary skills to perform and evaluate rigorous research in areas related to the design and management of projects, programs, and complex human-technological systems. The goal of the Ph.D. program is to prepare graduates for careers in teaching and research at academic institutions as well as in other public and private organizations characterized by innovation and technological leadership.

Doctoral Admission Requirements: Admission to graduate programs in engineering management and systems engineering is in accordance with the general requirements for graduate degrees as specified in the Graduate Admission section of this Catalog. Specific requirements for the Department of Engineering Management and Systems Engineering include the following: Applicants for the Ph.D. must have a bachelor’s or master’s degree from an accredited institution in engineering, engineering technology, applied science or applied mathematics, and at least 24 semester hours of graduate study approved by the graduate director. An undergraduate GPA of at least 3.00 and a graduate GPA of at least 3.50 (on a 4.00 basis) and GRE general aptitude scores are required. Students lacking adequate academic preparation may be admitted provisionally and may be required to complete coursework in addition to the graduate admission requirements. A minimum TOEFL score of 550 is required for all international students when English is not their first language. As part of the admission process, all applicants will go through an interview process. The applicant will be contacted by the graduate program director once the application and credentials are received to initiate the interview process.

Doctoral Degree Requirements: Curriculum requirements in engineering management are in accordance with the general requirements for Ph.D. degrees as specified in the Requirements for Graduated Degrees section of this Catalog. Specific requirements for the Ph.D. in engineering management include the following: The Ph.D. degree requires a minimum of 53 semester credit hours beyond an approved master’s degree, with a minimum of 27 hours of postmaster’s graduate course work, two semester credit hours of Ph.D. seminar, and a minimum of 24 dissertation hours.

Requirements in preparing for the Ph.D. program in engineering management include:
1. Satisfactory completion of 53 credit hours of postmaster’s degree credit or equivalent level of performance course work, including 24 credit hours of dissertation credit, two credit hours of Ph.D. seminar, and a minimum of 27 credit hours of course work.
2. Passing a written and oral candidacy examination at the end of the program of study course work.
3. The successful defense of a written dissertation proposal before the completion of nine hours of dissertation research.
4. The completion of a dissertation representing independent original research worthy of publication in a refereed scholarly journal.
5. The successful public defense of the dissertation before an audience which includes an appropriately selected committee of faculty knowledgeable in the field of the project.

Prerequisite Courses: All students must have mathematics course work through the level of integral calculus matrix algebra or differential equations and a course in statistics (ENMA 420/520 or equivalent).

Master’s-Level Courses: As part of their 27 credit hours of master’s-level course work, all students must have completed the following engineering management leveling courses or their equivalent: ENMA 600, 603, and 604. Students may be admitted to the Ph.D. program deficient in these leveling courses, but as part of their plan of study, the student must take and successfully complete these courses at the earliest possible opportunity. The Ph.D. program is governed by a Plan of Study that is established by the student in conjunction with his/her advisor and guidance committee within the first nine credit hours of course work and will follow the established course requirements (below) unless a substitution to one or more courses is agreed upon between the advisor and student and approved by the graduate program director.

Core Courses (12 credit hours): All students must take ENMA 815, 817, 821, and 824 at Old Dominion University.

Ph.D. Seminar (2 credit hours): Two consecutive semesters of ENMA 888 Ph.D. Seminar are required.

Specialization Area (9 credit hours): Students must choose between one of the three following concentration areas:

- Project Management
  - Required courses: ENMA 804, 814 and 828 (or 800)

- Systems Engineering
  - Required courses: ENMA 803, 850, and 843 (or 863)

- Quality Systems
  - Required courses: ENMA 828, 863, and 803 (or 843)

Elective Course (6 credit hours): One or more of the following engineering management courses or courses from other departments in the Batten College of Engineering and Technology are required. All electives must be at the graduate level and approved by the Ph.D. guidance committee and graduate program director: ENMA 800, 801, 803, 804, 814, 823, 828, 843, 850, 851, and 863.

Dissertation Research: Minimum of 24 credit hours

Exams: A candidacy exam, dissertation proposal defense, and a public dissertation defense are required after completing all course work.

Certificate Programs:

Certificate of Professional (C.P.S.) Study in Engineering Management

The Certificate of Professional Study in Engineering Management is a non-degree certificate program for post-master’s degree students. The C.P.S. program is designed for working professionals who desire to continue their education beyond the master’s degree and advance to senior management positions. The program specifically prepares students for positions involving the management of technology and research and development programs and projects. Students must take all courses though Old Dominion University; no transfer courses are permitted for the C.P.S. Program.

Certificate Admission Requirements:

Certificate Admission Requirements: Admission to graduate programs in engineering management is in accordance with the general requirements for graduate degrees as specified in the Graduate Admission section of this Catalog. Specific requirements for the Department of Engineering Management and Systems Engineering include the following:

Applicants for the C.P.S. must have a bachelor’s or master’s degree from an accredited institution in engineering, engineering technology, applied science or applied mathematics, and at least 27 semester hours of graduate study approved by the graduate program director. An undergraduate GPA of at least 3.00 and a graduate GPA of at least 3.50 (on a 4.00 basis) and GRE general aptitude scores are required. Students lacking adequate academic preparation may be admitted provisionally and may be required to complete coursework in addition to the graduate admission requirements. A minimum TOEFL score of 550 is required for all international students when English is not their first language. All admitted students must submit a Plan of Study.
Certificate Requirements
The Certificate of Professional Study in Engineering Management requires the completion of 24 credit hours of post-master’s course work.
Core Courses (9 credit hours): All students must take ENMA 815, 817, and 821.
Elective courses (15 credit hours): Students select five of the following courses: ENMA 800, 801, 803, 804, 814, 823, 828, 843, 850, 851, and 863.

Department of Mechanical Engineering

238 Kaufman Hall
757-683-6363
http://www.mem.odu.edu

Jen Huang, Chair
Gene Hou, Graduate Program Director

Degree Programs:
The department offers the following graduate degrees:

Master of Science in Mechanical Engineering
Master of Engineering in Mechanical Engineering
Ph.D. in Mechanical Engineering

Degree Description:
The Master of Science in mechanical engineering and Master of Engineering in mechanical engineering graduate programs have been designed to prepare graduates for professional practice in many facets of mechanical engineering and engineering mechanics, including teaching, research, development, design, and consulting. A graduate student in mechanical engineering may select specializations in such technical areas as fluid/thermal science, design and manufacturing, or engineering mechanics. Students are encouraged to select courses in areas, such as mathematics, physics, oceanography, engineering management, and computer science. The Mechanical Engineering Department is closely associated with area industries, consulting firms, government agencies and research laboratories, which adds relevance to the graduate engineering curricula, creating a stimulating environment for the pursuit of graduate studies. For additional information about the educational and research opportunities available please request a departmental handbook from the graduate program director.

Master’s Admission Information:
To qualify for admission, an applicant must first meet the general University admission requirements and earned an undergraduate degree from an accredited university in engineering, physics, or mathematics. An applicant with an overall grade point average (GPA) of 3.00 and a grade point average in the major of at least 3.00 (4.00 scale).
All students must submit Graduate Record Examination (GRE) scores. The graduate program director may waive the GRE requirement for applicants with experience or with excellent academic achievements.
For those applicants with non-engineering degrees, or with engineering degrees other than mechanical, aerospace engineering or engineering mechanics undergraduate programs must have included the subject matter prerequisite for graduate study in mechanical engineering.

Potential Background Courses for M.S. and M.E. in Mechanical Engineering:

Credits
ME 220 Engineering Mechanics II – Solid Mechanics 3
MATH 307 Ordinary Differential Equations 3
ME 303 Mechanics of Fluids 3
ME 311 Thermal Dynamics I 3
ME 312 Thermal Dynamics II 3
ME 315 Heat and Mass Transfer 3
ME 332 Mechanical Engineering Design I 3
ME 340 Computational Methods in Mechanical Engineering 3
ME 404 Vibrations 3
ME 433 Mechanical Engineering Design II 3
ME 436 Dynamic Systems and Control 3

List of Graduate Courses
ME 504 Vibrations 3
ME 511 Mechanical Engineering Power System: Theory & Design 3
ME 512 Environmental Control 3
ME 513 Energy Conversion 3
ME 514 Intro to Gas Dynamics 3
ME 516 Solar Power Engineering 3
ME 522 Modern Engineering Materials 3
ME 531 Mechanisms Analysis and Design 3
ME 538 Control System Design & Applications 3
ME 540 Introduction To Finite Element Methods 3
ME 607/ 601 Introduction to Continuum Mechanics 3
ME 608 Computational Methods in Mechanical Engineering 3
ME 610 Advanced Fluid Dynamics 3
ME 611 Advanced Classical Thermodynamics 3
ME 614 Theory and Design of Turbomachines 3
ME 615 Compressible Flow 3
ME 618 Convective Heat Transfer 3
ME 619 Conduction Heat Transfer 3
ME 621 Advanced Material Science 3
ME 622 Mechanical Behavior of Materials 3
ME 623 Theory of Vibrations 3
ME 635 Computational Methods in Mechanical Engineering II 3
ME 636/ 650 Modern Control Theory 3
ME 640 Energy Utilization and Conservation 3
ME 644 Turbulent Flow I 3
ME 650 Composite Materials 3
ME 651 Experimental Stress Analysis 3
ME 654 Thermomechanical Processing of Materials 3
ME 670 Computer-Aided Software Analysis 3
ME 680 Applied Math for Design and Manufacturing 3
ME 682 Concurrent Engineering 3
ME 684 Process Re-Engineering 3
ME 686 Manufacturing Design with Uncertainty 3
ME 692 Manufacturing Automation 3
ME 695 Life Cycle Engineering 3
ME 706/806. Modal Analysis and Identification 3
ME 713/813. Theory of Transfer Phenomena. 3
ME 715/815. Engineering Optimization I. 3
ME 717/817. Turbulent Flow II. 3
ME 718/818. Engineering Optimization II. 3
ME 734/834. Radiation Heat Transfer. 3
ME 742/842. Fatigue and Fracture. 3
ME 744/844. Computer Integrated Manufacturing. 3
ME 745/845. Contemporary Manufacturing Technology. 3
ME 746/846. Computational Methods in Multibody Dynamics. 3
ME 748/848. Kinematics Synthesis of Mechanisms 3
ME 757/857. Optimal Control Theory. 3
ME 780/880. Fundamentals of Combustion. 3
ME 790/890. Chemically Reacting Flows. 3
ME 795/895. Topics in Mechanical Engineering 3

Master’s Degree Requirements:
The master’s degree requires a minimum of 30 semester hours of work beyond the bachelor's degree with at least a B (3.00) average. At least 60% of these courses must have been completed with a GPA of 3.00 and above. The core courses for the Master of Science (M.S.) and Master of Engineering (M.E.) degrees in special areas of mechanical engineering are listed in the: table below.
The Master of Engineering in Mechanical Engineering (M.E.) degree is a non-thesis degree. Master of Engineering students can fulfill their degree requirement by either passing a comprehensive examination covering their course work or successfully completing a three hour project during their final semester. Students are required to pass an oral examination at the time of submission of their final project reports.
The Master of Science in mechanical engineering (M.S.) degree is a research degree requiring a thesis. The thesis constitutes six semester hours within the 30 semester hour requirements and Master of Science students are required to pass an oral examination. The department has two standardized formats for writing theses and dissertations, namely the ASME and the AIAA publication guidelines. All students, in consultation with their advisor, can elect to write their thesis or dissertation in one of the above mentioned formats. The ASME and AIAA publication guidelines can be obtained from research advisors or the graduate program director. Once a standard has been chosen, the student must conform to it throughout his/her thesis. Additional University rules are outlined in the University Thesis and Dissertation Preparation Guide.

All Master of Science degree students must have their Plan of Study Form approved by their thesis advisor who chairs the student’s thesis committee. For Master of Engineering degree students, they must have their Plan of Study Form approved by their faculty advisor or the graduate program director.

Comprehensive Examination for M.E. Degree

Students are required to pass a master’s comprehensive written examination in order to earn their M.E. degree. This examination is administered by the graduate program director and the Graduate Committee once every semester. Students must take this examination no later than one semester after completing their course work. The M.E. comprehensive exam is a closed book/notes test consisting of five problems from a total of five courses.

- MATH 691 or ME 680
- A core course from category two (see core course chart in Table ME-1)
- A core course from category three (see core course chart in Table ME-1)
- Two additional courses from the program of study.

Project Examination for M.E. Degree

Students selecting the project option in lieu of a comprehensive examination will be required to complete a three credit design and manufacturing project course as part of their 30 credit hour requirement. Students choosing this option must obtain approvals from the project advisor and graduate program director. After completion of the project, the student will complete a formal report consistent with the Master’s thesis format, defend his/her project work in a comprehensive examination by the project committee and also provide completed copies of the project to the project committee members at least 10 days prior to the examination date.

Oral Examination for M.S. Degree

Students seeking a Master of Science degree are given an oral comprehensive examination administered as a part of the student's thesis defense. The oral examination is given in two parts, a student presentation and a closed-session where the student is further questioned by the thesis committee on the thesis research, as well as on all courses taken by the student to satisfy the M.S. degree requirements.

Table ME-1. The Core Courses for Different Fields of Study

<table>
<thead>
<tr>
<th>Category</th>
<th>Mechanical Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus area</td>
<td>Fluids/Thermal Science</td>
</tr>
<tr>
<td>1.</td>
<td>ME 680 or recommended by the advisor and approved by the GPD</td>
</tr>
<tr>
<td>2.</td>
<td>ME 610 (Adv. Fluids) ME 611 (Adv. Thermo) (Take at least one of the above two courses)</td>
</tr>
<tr>
<td>3.</td>
<td>ME 615 (Compressible Flow) ME 618 (Convection) ME 619 (Conduction) (Take at least one of the above three courses)</td>
</tr>
</tbody>
</table>

Description of Doctoral Degrees

The Mechanical Engineering (ME) doctoral program has been designed to prepare graduates for leadership roles in the many facets of mechanical engineering including teaching, research, development, design, and consulting. A doctoral student in mechanical engineering may select specializations in such technical areas as fluid/thermal science, design and manufacturing or engineering mechanics. Students are encouraged to select courses in other areas, such as mathematics, physics, oceanography, engineering management, and computer science. The ME Department is closely associated with area industries, consulting firms, government agencies and research laboratories creating a stimulating environment for the pursuit of graduate studies.

Doctoral Admission Requirements

To qualify for admission, applicants must meet general University admission requirements and have earned a master's degree from an accredited institution of higher education in engineering, physics, or mathematics. For those applicants with degrees in fields other than mechanical or aerospace engineering, previous course work must include prerequisite courses in either mechanical engineering or engineering mechanics. Applicants with an overall grade point average (GPA) of 3.50 on a 4.00 scale at the master's level may be admitted. All students must submit their Graduate Record Examination (GRE) scores.

Doctoral Degree Requirements

To qualify as a candidate for the Doctor of Philosophy degree with a major in mechanical engineering, a student must have completed the requirements for a master's degree in engineering, mathematics, or science that include subject matter equivalent to master's course work. A minimum of 24 semester hours of graduate-level courses beyond the master's degree must be included in the planned program, at least 60% of which should be 800-level courses. Each student is expected to spend a minimum of one academic year as a full-time student in the program. This requirement may be met while preparing the dissertation.

Preliminary Diagnostic Examination

Full-time students who are not required to take the written comprehensive examination administered to master’s students are required to pass a preliminary examination during their first year in the Ph.D. program or before completing 32 credit hours. The preliminary examination covers the core courses for master’s degrees in mechanical engineering and are listed below in Table ME-1. The Ph.D. Diagnostic Examination is given in the same format as the M.E. Comprehensive Examination listed above. The Ph.D. Diagnostic examination is a closed book/notes test consisting of five problems from a total of five courses including:

- Either MATH 691, ME 680 or a math course recommended by the Advisory Committee and approved by the graduate program director

A core course from category two (see core course chart in Table ME-1)

A core course from category three (see core course chart in Table ME-1)

Two additional courses from the program of study.

Students are required to answer all three questions from items 1, 2 and 3, and any one of the two problems from item 4. The advisor and the Advisory Committee may recommend courses different from the above list for the Ph.D. Diagnostic Examination; however this change is subject to the final approval of the graduate program director.

Ph.D. students are required to demonstrate reading knowledge of an approved foreign language. As an alternative, students may develop a research skill, distinct from the dissertation but fundamental to doctoral research. The findings of the research skill, written in a report form, must be approved by the advisory committee and the graduate program director. The research skill requirement must be completed before the student can take the candidacy examination.

Candidacy Examination: Students who have completed their plan of study or are taking their last course(s), and have met the research skills and writing proficiency requirements, are eligible to take the candidacy examination. The format, contents, and duration of the parts are listed below:

Part 1: A written examination covering the fundamental and specialized subjects associated with the student's emphasis.

Part 2: An oral examination covering fundamental and specialized subject examination must be approved by the Graduate program director.

Dissertation

Ph.D. candidates are expected to work with their dissertation advisors to form their Dissertation Committees. A Dissertation Committee should be composed of individuals with significant knowledge related to the candidate's dissertation research. The majority of whom must be full-time faculty members of the department.

Ph.D. candidates must submit their written dissertation to the committee members at least two weeks prior to the dissertation defense. The department has two standardized formats for writing dissertations, namely the ASME and the AIAA publication guidelines. A student, in consultation with their advisor, can elect to write their dissertation in one of the above mentioned formats. Students may consult the University Thesis and Dissertation Preparation Guide for further details.

The dissertation defense consists of two parts; an open presentation to the general public and a closed examination conducted by the dissertation committee. The dissertation must be approved by the majority of the dissertation committee and must constitute a significant original contribution to the field.
Modeling and Simulation Graduate Program

7000 College Drive, Suffolk, VA 23435
757-686-6224
http://www.vmasc.odu.edu

Roland R. Mielke, Graduate Program Director

Degree Programs:
The program offers the following graduate degrees:

Master of Science in Modeling and Simulation
Ph.D. in Modeling and Simulation

Degree Description

The master’s degrees in modeling and simulation emphasize a strong, common subject core while providing the student with the flexibility to design a plan of study to meet each individual’s study objectives and needs. The purpose of the program’s subject core is to provide a common academic foundation for all simulation students. Thus, all students in this program will have grounding in the same methods, principles, and philosophy of simulation. This provides the mechanisms for the simulationist to work across disciplines and domains while maintaining a common frame of reference for communication, technical specialization, and simulation-related research. The subject core consists of (1) an overview of modeling and simulation, (2) an in-depth exploration of a specific simulation methodology approach (e.g., discrete event simulation), (3) simulation system modeling principles and paradigms, (4) an introduction to computer visualization and visual simulation, and (5) principles of analysis and operations research. Most courses are offered in evenings and are in distance learning format at the higher education centers across the region.

A significant resource to the program is the Virginia Modeling, Analysis and Simulation Center (VMASC) whose primary purposes include the advancement of state-of-the-art modeling and simulation through research and development and the transfer of modeling and simulation technology to industry, education, and government. Constituent interest in this center is shared by numerous industrial partners as well as local Department of Defense organizations, particularly the U.S. Joint Forces Command.

Master’s Admission Information

Old Dominion University recognizes that students and professionals in numerous fields and industries use some form of simulation and modeling already. This diverse experience is factored into the admissions process for the graduate programs in modeling and simulation. The graduate program director and the modeling and simulation Graduate Program Committee approve admissions based on the basic academic admission requirements of the University and on demonstrated familiarity with the modeling of physical, behavioral, or decision processes by the applicant. Applicants may demonstrate such familiarity with a combination of education, specialized training and professional experience, not necessarily in an engineering discipline. For example, a degree in a non-technical discipline, coupled with advanced training and relevant professional experience, may be enough to establish sufficient background for admission to one of the master’s programs in modeling and simulation.

Applicants are expected to have earned a bachelors degree (preferably in science or engineering or another degree coupled with documented job experience and training) that emphasizes modeling and abstraction. It is preferable that applicants have been exposed to the principles of mathematics (specifically calculus and calculus-based statistics), science models, and fundamental concepts from computer science (an object-oriented programming language such as C++ or JAVA, algorithms, and data structures). A minimum GPA (overall) of 2.80 and a minimum GPA of 3.0 in the student’s undergraduate major are required. Students with notable deficiencies may be considered for provisional admission and will be required to complete prerequisite course requirements in addition to the graduate degree requirements. Job experience and training may be considered in evaluating prerequisite requirements.

Applicants should plan to submit a completed application form, transcripts from all colleges and universities attended, GRE scores, a resume and personal statement of objectives, two letters of recommendation from former university instructors, and TOEFL scores if an international applicant.

Potential prerequisite courses for the master’s degrees in modeling and simulation include the following:

1. Introductory differential and integral calculus equivalent to MATH 211 (Calculus I) and MATH 212 (Calculus II).
2. Calculus-based probability and statistics; this material is available for graduate credit in ENMA 520, PSYC 727, or PSYC 728.
3. Computer science fundamentals including an object-oriented programming language such as C++ or JAVA, algorithms, and data structures; this material is available for graduate credit in MSIM 602 (Computer Science for M&S).

Master’s Degree Requirements

Both master degrees in modeling and simulation require 30 hours of graduate credit. The Master of Science in modeling and simulation requires six hours of thesis credit and 24 hours of course credit. The Master of Engineering in modeling and simulation requires 30 hours of course credit. In both programs, 15 hours of course credit in modeling and simulation foundation courses is required. These foundation courses include:

- ECE 505 Introduction to Discrete Event Simulation (3 credits)
- ECE 605 Systems Modeling (3 credits)
- MSIM 601 Introduction to Modeling and Simulation (3 credits)
- MSIM 641 Visualization I (3 credits)
- MSIM 651 Visualization II (3 credits)

The remaining course credit, 9 credits in the Master of Science Program and 15 credits in the Master of Engineering Program, are elective course credits. These courses are selected to achieve one or more program objectives or themes and must be approved by the Graduate program director. Such themes might include military M&S, medical M&S, human computer interfacing, distributed simulation, human behavior modeling, simulation interoperability, or other themes reflecting M&S applications or sub-areas.

Description of Doctoral Degrees:

The Ph.D. in modeling and simulation program focuses on developing the necessary skills and knowledge to enable the graduate to conduct and evaluate independent, original research in an area of modeling and simulation. The goal of the program is to prepare students for careers in teaching and research at academic institutions, as well as the conduct or leadership of research and development in public and private organizations.

Doctoral Admission Requirements:

Admission to the Ph.D. program with a concentration in modeling and simulation is made in accordance with Old Dominion University and Batten College of Engineering and Technology requirements for doctoral programs as specified in this Catalog. Specific additional requirements for the modeling and simulation concentration include the following:

1. Completion of a master’s degree in an appropriate and closely related field is expected. However, students who have completed 24 credits of graduate courses in an appropriate field from an accredited institution may petition for direct admittance to the program.
2. A minimum GPA in graduate course work of 3.50 (out of 4.0) is required of most students. A student with a GPA greater than 3.25 and with evidence of a high level of professional capability in the field of modeling and simulation may be eligible for admission to the program upon submission of a petition to the graduate program director.
3. Recent scores (typically, not more than five years old) on the Graduate Record Examination’s (GRE) verbal, quantitative, and analytical sections must be submitted by all applicants.
4. Three letters of recommendation (typically at least two of which are from faculty in the highest degree program completed when the application is within four years of graduation from that degree program) are required.
5. The applicant must submit a statement of purpose, goals, and objectives related to the program and a resume.

Applicants are expected to have the following foundation knowledge:
2. Computer science fundamentals including an object-oriented programming language such as C++ or JAVA, algorithms, and data structures.
3. Knowledge of the content of the foundation courses required in the modeling and simulation Master’s Programs.

Doctoral Degree Requirements

The Ph.D. in modeling and simulation is offered in accordance with the general requirements for doctoral degrees as specified in the Requirements for Graduate Degrees Section of this Catalog. Specific program of study requirements for the concentration in modeling and simulation include the following:

1. Completion of a minimum of 72 hours of graduate credits to include: a maximum of 24 credits of course work from the master’s degree; a minimum of 24 credits of course work beyond the master’s degree; and a minimum of 24 credits of dissertation research.
2. Successful completion of a written diagnostic examination before completion of nine credits of course work.
3. Successful completion of a written and oral candidacy examination near the completion of the course work.
4. Successful presentation of a dissertation research proposal at the beginning of the dissertation research.
5. The successful completion and public defense of a dissertation representing independent, original research worthy of publication in a peer-reviewed scholarly journal.

The program of study for the modeling and simulation program is developed with the approval of the graduate program director and the student’s advisor. The program shall include a minimum of 24 credit hours of course work beyond the master’s degree distributed as follows.

**Common Core - 12 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MSIM 820</td>
<td>Continuous and Real-Time Simulation (3 credits)</td>
</tr>
<tr>
<td>MSIM 830</td>
<td>Simulation Foundations (3 credits)</td>
</tr>
<tr>
<td>MSIM 842</td>
<td>Visualization II (3 credits)</td>
</tr>
<tr>
<td>MSIM 852</td>
<td>Analysis II (3 credits)</td>
</tr>
</tbody>
</table>

**Electives - Minimum of 12 credits of elective courses that provide a basis for dissertation research.** No more than six credits from course work satisfying foundation knowledge requirements may be included in the program of study for elective credit. At least three-fifths (15 credits) of non-dissertation course work must be at the 800-level.

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 Elsayed-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 K. 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 L. Ash, Director

LFST is a full-scale facility for aerodynamic testing of ground, air, and sea vehicles and structures. LFST is the largest university-operated wind tunnel in the world. For more information: www.lfst.com

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 B. Robertson, Director

VATPDC, formerly the Technology Applications 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 emphasis within the Department of Aerospace Engineering, and to act as an academic adjunct to the Langley Full Scale Wind Tunnel operation. Colin P. Britcher, 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

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. Hani 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
Aerospace Engineering—AE

403/503. Flight Mechanics. Lecture 3 hours; 3 credits. Prerequisites: AE 406, 436. Aircraft concepts including performance prediction and optimization, flight and maneuver envelopes, and steady flight performance. Additional topics: longitudinal static stability and trim; aircraft 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: ME 303, 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 performance (race car) automotive aerodynamics, as well as truck and bus aerodynamics. Discussion of experimental and computational methods for evaluating vehicle aerodynamic performance. Discussion of 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. Lecture and wind tunnel experiments.

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.

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: 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 raccecars. (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 raccecars (Legends and Baby Grand) to demonstrate and evaluate the interplay between vehicle aerodynamics, suspension system geometry adjustments, tire selection and operating pressure on overall raccecar 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 pertinent for 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. Prerequisites: 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 dynamometer systems. (cross-listed with MET 480).

495/595. 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.

601. Introduction to Continuum Mechanics. Lecture 3 hours; 3 credits. Indicial notations and tensor calculus; strain and stress tensors; rate of deformation tensor, Eulerian and Lagrangian descriptions, conservation principles, constitutive formulations for elastic solids and viscous fluids, formulation of fluid mechanics and solid mechanics problems. Simple applications. Cross-listed with ME 607.


605. Applied Engineering Analysis. Lecture 3 hours; 3 credits. Applications of linear algebra, ordinary and partial differential equations, and complex variables to engineering problems in structural dynamics, applied automatic control and adaptive control.

606. Real-time Signals and Systems. Lecture 3 hours; 3 credits. Signals and transforms for real-time systems. Applications to modal analysis, experimental aerodynamics, and real-time control.

611. Supersonic Aerodynamics. Lecture 3 hours; 3 credits. Prerequisite: AE 602. Governing equations for supersonic flow, Crocco's Theorem, entropy production, Euler limit equations, full potential equation; classification of PDEs governing subsonic, supersonic and transonic flows; first- and second-order small disturbance theory, airfoil flows, slender bodies of revolution flows, conical flows, wing flows.

620. Computational Fluid Dynamics I. Lecture 3 hours; 3 credits. Prerequisite: MATH 691. Classification of single PDE's; finite difference methods; stability analysis, convergence, consistency, efficiency; basics of finite volume methods; model equations of hyperbolic, parabolic and elliptic type; explicit and implicit schemes, central and upwind schemes, weak solutions of quasi-linear hyperbolic equations.

621. Experimental Aerodynamics. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: AE 406 or 602, AE 611 or ME 414. Techniques for static and dynamic measurement of pressure, temperature, and velocity. Experiment control, statistical treatment of data. Probe methods, including multi-hole pressure probes and hot-wire anemometers. Non-intrusive methods, including Laser Doppler Velocimetry and other optical methods. Surface and stream flow visualization. Surface measurements.

627. Aerodynamics for Motorsports. Lecture 1.5 hours; laboratory 4 hours; 3 credits. Prerequisite: AE 407/507. Wind tunnel operations and test methods for aerodynamic evaluation and development of race cars. Modern design of experiments and use of advanced diagnostic methods. Small-scale tests of models and full-scale test of characteristic vehicles.


634. Structural Vibrations I. Lecture 3 hours; 3 credits. Prerequisites: AE 403, 602, ME 414 or AE 611. Natural modes of discrete and continuous systems; closed form and approximate methods; free and forced responses. Theory of modal analysis and approximate methods for undamped and damped systems; transform and wave solutions. Finite element methods. Structural vibrations under combined loading. Introduction to non-linear vibrations. Applications to rods, beams, plates and shells.

637. Tires and Brakes Performance. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: AE 457/557. Empirical characterization of essential tire properties and discussion of tire construction, terminology and axis system. Cornering properties and friction circle. Relevance of tire performance to overall vehicle performance.


640. Finite Element Analysis I. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Mathematical concepts of finite element analysis. Variational approach based on weak-form solutions to partial differential equations. Basic concepts of interpolation functions, continuity, discretization and assembly. Applications to 1-D and 2-D problems of engineering. (cross-listed with CEE 716/816 and ME 635)

641. Experimental Structural Dynamics. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: AE 634. Experimental techniques and methods for structural dynamics and modal analysis. Instrumentation utilization including electrodynamic shakers, impact hammers, accelerometers, laser vibrometers, signal analyzers, signal filters, and force transducers. Time and frequency domain data acquisition, assessment, and post-processing. Development of mathematical models from experimental data.

647. Racecar Structures and Materials Design. Lecture 3 hours; 3 credits. Prerequisite: ME 440/540. Synthesis and analyses of complex structures that are characteristic of contemporary racecar design practices. Materials properties and selection criteria and process. Stiffness and crashworthiness influence on design. Fabrication methods.


667. Cooperative Education in Aerospace Engineering and Engineering Mechanics. 1-3 credits. Prerequisite: permission of the instructor. Work or other professional career-related experience of a limited duration and highly applicable to aerospace engineering or engineering mechanics.

669. Internship in Aerospace Engineering and Engineering Mechanics. 1-3 credits. Prerequisite: permission of the instructor. Work or other professional career-related experience of a limited duration and highly applicable to aerospace engineering or engineering mechanics.

672. Design of Experiments. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: AE 472/572. Formal experiment design. Review of relevancy; statistical methods; ANOVA, multiple comparisons, residuals and model adequacy checking. Randomized complete block designs, factorial designs, 2^k factorial and fractional factorial designs, random and mixed effects in factorials, optimization, introduction to response surface methods. Laboratory exercises use designed experiments applied to aerospace testing, including wind tunnel testing and instrument calibration.

677. Drivetrain Design and Performance. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: AE 477/577. Introduction to operation and design of high performance vehicle transmission and differential systems. Considers the matching of race car engines, transmission gearing, chassis geometry, and track characteristics for best performance.

687. Team Dynamics and Leadership. Lecture 3 hours; 3 credits. Develop group leadership skills and learn how to recognize and effectively use group dynamics in motorsports management. Demonstrations and simulations are experiential methods for student participation.

691. Experimental Research Project. Laboratory 6 hours; 3 credits. Prerequisite: permission of the instructor. An independent laboratory experience in the area of either aerospace, structural dynamics or applied automatic control. Results will be reported in a format and quality similar to a technical conference paper.

692. Team Summary Project. Lecture 2 hours; laboratory 12 hours; 6 credits. Prerequisite: departmental approval required. Provides experience of working in a team to design a racecar or significant component to specific performance requirements, including cost and schedule goals. Project will include fabrication and demonstration of goals. Emphasis on teamwork and communications skills. Brief introductory content regarding project management and use of computer based tools.

695. Topics in Aerospace Engineering and Engineering Mechanics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Special topics of interest with emphasis placed on recent developments in aerospace engineering or engineering mechanics.

699. Thesis Research in Aerospace Engineering and Engineering Mechanics. 1-6 credits. Prerequisite: permission of the instructor. Individual analytical, computational or experimental study in an area selected by the student. Supervised and approved by the advisor.

709. Boundry-Layer Theory. Lecture 3 hours; 3 credits. Prerequisite: AE 602. Boundary layer equations; method of matched asymptotic expansions; body oriented coordinates, finite-difference solutions; separations, wake and jet flows; thermal and compressible boundary layers, transformations and finite-difference solutions, unsteady boundary layers. Introduction to hydrodynamic stability and turbulence.

710. Transonic Aerodynamics. Lecture 3 hours; 3 credits. Prerequisite: AE 611. Singular surfaces under the Euler limit; transonic breakdown of linearized theory; transonic expansion procedures; transonic small disturbance theory; transonic slender bodies, similarity rules;
hodograph equation; transonic far fields; relaxation schemes; unsteady transonic flows, three-dimensional wings; finite difference methods.


172/812. Unsteady Aerodynamics and Aeroelasticity. Lecture 3 hours; 3 credits. Prerequisites: AE 602, 611, and 634. Oscillating airfoils in incompressible, Subsonic and supersonic flows; Arbitrary airfoil motion, Oscillating finite wings; Unsteady motion of finite wings; Unsteady motion of nonlifting bodies; Aeroelastic phenomena; Static and dynamic loads, divergence, control reversal, flutter, dynamic response.


172/820. Computational Fluid Dynamics II. Lecture 3 hours; 3 credits. Corequisite: AE 602. Prerequisite: AE 620. Classification of systems of PDE’s; mathematical nature of Euler equations; conservative form of the Navier-Stokes equations; grid generation; central difference schemes; finite volume schemes; upwind flux-vector, flux-difference and TVD schemes; boundary conditions.


733/833. Nonlinear Aerospace Structures. Lecture 3 hours; 3 credits. Prerequisites: AE 631 and 634. Classical and finite element analysis methods for nonlinear aerospace structures of beams, plates, and shallow shells. Application to problems of large bending deflection, thermal post-buckling, large amplitude free vibration, nonlinear panel flutter, and nonlinear random response.


744/844. Active Control of Structures. Lecture 3 hours; 3 credits. Prerequisites: AE 634 and 650. Fundamentals of structural dynamics, control systems, and digital signal processing. Conventional and adaptive control methods applied to vibrating structural systems. Integration of spatial-temporal signal processing techniques. Modeling and characterization of transduction devices, distributed strain actuators-sensors, and smart materials. Relationships between physical, modal, and wave domain structural dynamics and control. Feedforward-Feedback control, control of waves in structures, theory and implementation of active and passive vibration isolation systems, active control of structurally radiated sound.

750/850. Autonomous and Robotic System Control. Lecture 3 hours; 3 credits. Prerequisites: AE 403, 650. Principles governing the dynamics and control of vehicles in atmospheric flight. Equations of motion development and solution including inertial/gravitational/aerodynamic/propulsive loads, linear longitudinal and lateral-directional motions, and nonlinear trim and simulation. Flight control system design and analysis incorporating flying quality requirements, linear conventional/interactive simulation and frequency/time-domain techniques for control and guidance functions, validation with nonlinear simulation, gain scheduling.

761/861. Space Flight Dynamics and Control. Lecture 3 hours; 3 credits. Prerequisites: AE 604, 650. Principles governing the dynamics and control of vehicles in atmospheric flight. Equations of motion development and solution including inertial/gravitational/propulsive loads, decoupled translational and attitude motions. Orbital mechanics including elements, initial-value propagation, adjustments/transfers, Lambert boundary-value problems, perturbations, and nonlinear simulation. Attitude dynamics including torque, free, gravity moment, axisymmetric/unsymmetric vehicles, and dual spinners. Flight control system design and analysis including impulsive velocities, finite burns, Lambert targeting, linear design using momentum wheels, and nonlinear phase-plane design using thrusters.

830/880. Perturbation Methods in Aerospace Engineering. Lecture 3 hours; 3 credits. Method of multiple scales, derivative expansion, two scales method, generalized method; solvability conditions, acoustic waves in ducts, vibrations of nearly circular membranes, general fourth-order PDE; methods of averaging, KB and KBM methods; canonical variables, Lagrangian and Hamiltonian, applications in vibration and wave motion.

833/883. Aeroacoustics. Lecture 3 hours; 3 credits. Prerequisite: AE 611. Equations of aeroacoustic wave propagation, aerodynamic sources; acoustic analogy; effects of uniform and nonuniform flow; duct acoustics; linearization; introduction to numerical simulation, boundary conditions and time-series analysis.

874/884. Multidisciplinary Design and Optimization. Lecture 3 hours; 3 credits. Prerequisites: AE 602, AE 780/880. Formulation of fluids/dynamics interaction problems, Initial and boundary conditions, Frames of reference, Methods of solution, Formulation of fluid/dynamics/control interaction problems, Initial and boundary conditions, Methods of solution, Unconstrained minimization, Constraints, Sensitivity analysis, Optimization and coupling.

875/885. Magnetic Suspension Technology. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Review of electromagnetic suspension and levitation systems. Maxwell’s equations, low frequency approximations, magnetic materials, stresses, forces and moments. Earnshaw’s theorem. Passive and active magnetic suspension, electromagnetic levitation. Sensors, controller design and implementation, power supplies, electromagnet design. Magnetostatic and magnetodynamic modeling, computational methods.

879/895. Topics in Aerospace Engineering and Engineering Mechanics. 3 credits. Prerequisite: permission of the instructor. Individual analytical, computational and/or experimental study in an area selected by the student. Supervised and approved by the advisor.

899. Dissertation Research in Aerospace Engineering and Engineering Mechanics. 1-9 credits. Prerequisite: permission of the instructor. Dissertation research in aerospace engineering or engineering mechanics leading to the doctoral degree.

999. Aerospace Engineering 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for 999 at least one graduate credit each term until the degree is complete.
Civil and Environmental Engineering — CEE

411/511. Concrete Design II. Lecture 3 hours; 3 credits. Prerequisite: CEE 410 or equivalent. Analysis and design of complex concrete structural members that are load-bearing and two-way slabs, special topics and introduction to prestressed concrete design.

412/512. Structures II. 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 materials.

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; flow 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, use 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.


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 waste, their regulations, 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 5 hours; 3 credits. Prerequisite: CEE 310 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. 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.

612. Prestressed Concrete. Lecture 3 hours; 3 credits. Prerequisites: CEE 310, and permission of instructor. Analysis and design of prestressed concrete members and structures. Shrinkage, creep and losses, shear, bond and anchorages are discussed.

618. Advanced Structural Analysis. Lecture 3 hours; 3 credits. Elastic analysis of framed structures using matrix and numerical techniques.

640. Hydraulic Structures. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Design of spillways, outlets, intakes, energy dissipators, and river diversion works.


653. Environmental Engineering Law. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Provides an introduction to the American legal system in the context of environmental law. Examines the close interrelationships among science, engineering, technology and the law. Develops perspectives on environmental protection and the law.

659. Air Pollution Control. Lecture 3 hours; 3 credits. Prerequisite: CEE 552 or permission of the instructor. Application of engineering methods to control of air pollution. Review of atmospheric and health effects, regulations, air quality modeling and monitoring. Design and operation of equipment for gaseous and particulate emission control and pollution prevention.

667. 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 passing grade 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.

668. Internship. 1-3 credits. Prerequisite: approval by department and Career Management Center. 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.

669. Practicum. 1-3 credits. Prerequisite: undergraduate course in hydromechanics. Types of drainage and factors affecting performance; hydraulic dredges (cutter, hopper) and mechanical dredges systems (bucket, clamshell, etc.); sholding rate determinations; inlet sand bypassing systems; beach renourishment schemes. Design of beach renourishment/projects.

695. Topics in Civil and Environmental Engineering. Lecture 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.

697. Independent Study in Civil Engineering. 1-3 credits. Prerequisite: permission of the instructor. Individual analytical, experimental and/or design study selected by the student. Approved and supervised by the advisor.

698. Master’s Project. 1-3 credits. Individual project, investigation under the direction of the student’s major professor.


710/810. Structural Dynamics. Lecture 3 hours; 3 credits. Free and forced vibration of discrete and continuous systems; elastic and inelastic response of structures under dynamic loads.

711/811. Topics in Finite Elements. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Introduction to basic concepts in the field of finite element analysis. Isoparametric formulation, iterative and direct equation solver, eigensolution, static-dynamic, linear-nonlinear analysis, field problems, CST element, composite material, Garlerkin method. Some computer implementation.

712/812. Advanced Reinforced Concrete. Lecture 3 hours; 3 credits. Ultimate-strength theory, yield line methods, limit design, and other relevant advanced topics in the theory and design of concrete structures.

715/815. Engineering Optimization I. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Brief review of basic procedures in finite element analysis. Isoparametric formulation, iterative and direct equation solver, eigensolution, static-dynamic, linear-nonlinear analysis, field problems, CST element, composite material, Garlerkin method. Some computer implementation.

716/816. Finite Element Analysis I. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. To provide an understanding of the
finite element method (FEM) as derived from an integral formulation perspective. To demonstrate the solutions of (1-D and 2-D) continuum mechanics problems such as solid mechanics, fluid mechanics and heat transfer. To provide insight into the theoretical formulation and numerical implementation of finite element methods. (cross-listed with AE 640 and ME 635)

717/817. Bridge Structures Design. Lecture 3 hours; 3 credits. Prerequisites: CEE 410 and 415 or equivalent. Design of steel, concrete, and composite bridges using modern techniques and current specifications.

718/818. Engineering Optimization II. Lecture 3 hours; 3 credits. Prerequisite: CEE 715/815 or ME 715/815. Sensitivity analysis of discrete systems; sensitivity analysis of distributed systems; dual methods for constrained optimization; optimization decomposition, multi-level optimization and recent developments in engineering optimization.

719/819. Inelastic Structures. Lecture 3 hours; 3 credits. Inelastic analysis and behavior of framed structures.


721/821. Plates. Lecture 3 hours; 3 credits. Classical and modern methods for the solution of plates of various shapes and boundary conditions, continuous and axially loaded plates and plates on elastic supports. Design examples.

723/823. Advanced Soil Mechanics. Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Detailed study of shear strength of soils and its application to slope stability and embankment design and analysis. Advanced laboratory shear tests are included.


725/825. Advanced Foundation Engineering. Lecture 3 hours; 3 credits. Prerequisite: CEE 420/520. Advanced analysis and design of shallow and deep foundations and retaining structures.

730/830. Soil Dynamics. Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Study of soil behavior under dynamic loadings. Laboratory and field techniques for determining dynamic soil properties and liquefaction potential. Design examples.

741/841. Open Channel Flow. Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Momentum and energy principles, design of open channels, use of mathematical models for flow calculations in rivers, introduction to unsteady open channel flow.


748/848. Advanced Hydrology. Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Emphasis is on the physics of the different hydrologic processes such as infiltration, infiltration, evaporation and runoff. Objective is to understand the dynamics of the underlying physical processes.

751/851. Physicochemical Treatment Processes. Lecture 3 hours; 3 credits. Prerequisite: CEE 350. Physical and chemical processes used in the treatment of water and waste water are covered. Separation, isolation and reaction processes are characterized as well as reactor engineering.

752/852. Biological Waste Water Treatment. Lecture 3 hours; 3 credits. Prerequisite: CEE 350. The use of microorganisms to treat domestic and industrial waste waters for organics and nutrient removal are studied. Characteristics of individual waste water components and the appropriate treatment processes to remove these components are covered.

753/853. Advanced Processes for Water and Waste Water Treatment. Lecture 3 hours; 3 credits. Prerequisites: CEE 751 and 752. Theory, operation and application of advanced water and waste water treatment systems, including land application, dissolved solids, organic contaminant and nutrient removal processes. Emphasis on systems design and analysis for waste water reclamation/recycling.

754/854. Environmental Engineering Microbiology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: CEE 350. A lecture and laboratory course dealing with the study of the principles and applications of microbiology in water treatment, wastewater treatment, stream self-purification and their effects in environmental engineering.

755/855. Water Quality Management. Lecture 3 hours; 3 credits. Characterization of water quality in natural systems and the human activities that result in contaminant input to these systems are studied. Management practices for minimizing contaminant input and for restoring contaminated waters are discussed.

756/856. Water Quality Modeling. Lecture 3 hours; 3 credits. Prerequisites: MATH 307, CEE 340, CEE 350 or permission of the instructor. Formulation of mathematical equations to describe the fate and transport of aqueous contaminants in dynamic surface water systems. Use of water quality computer models to predict various contamination scenarios.

761/861. Water Resources Systems Analysis. Lecture 3 hours; 3 credits. Application of systems analysis and project evaluation techniques to water resources systems including water demand forecasting, reservoir design and operation, groundwater management and water distribution system design.

762/862. Aquatic Chemistry in Environmental Engineering. Lecture 3 hours; 3 credits. Prerequisite: CHEM 117. Chemical reactions in natural and engineered systems are studied with emphasis placed on developing kinetic expressions and assessing chemical equilibrium. Kinetic and equilibrium expressions are applied to engineering problems to predict the reaction time and products of specific reactions.

780/880. Advanced Civil Engineering System Design. Lecture 3 hours; 3 credits. Complex transportation engineering, analysis of laws governing construction, hydraulic, geotechnical and structural engineering problems solved using the linear programming techniques including the simplex, revised simplex, and interior point methods. Sensitivity analysis. Large scale decomposition. Introduction to nonlinear programming.

782/882. Design of Coastal Structures. Lecture 3 hours; 3 credits. Prerequisite: CEE 482/582. Nonlinear wave theories; wave forces on slender piles and seawalls; design of rubble mound structures; design philosophy, initial costs, maintenance costs, optimized design using stochastic methods; design of renourished beaches.

Advanced alternative solutions for shore protection.


790/890. Civil and Environmental Engineering Experimental Design. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Graduate-level overview of engineering experimental design and analysis with emphasis on statistical methods; practical and proper statistical methods applicable to multidisciplinary, real-world civil and environmental engineering problems.

795/895. Topics in Civil and Environmental Engineering. Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Specific topics of interest with emphasis placed on recent developments in civil and/or environmental engineering.

897. Independent Study in Civil Engineering. 1-3 credits. Prerequisite: permission of the instructor. Individual analytical, experimental and/or design study selected by the student. Approved and supervised by the advisor.

899. Dissertation Research. 1-9 credits.

999. Civil Engineering 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Electrical and Computer Engineering

— ECE

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 modes, simulation verification and validation, and the design of simulation experiments. Important statistical concepts, methods 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 MSIM 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, experimentation and analysis, and documentation.

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 waveforms. 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 Bioelectrics. 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, electrophoresis, 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. Prerequisites: ECE 202 or higher. A one-semester course on networking design principles. An understanding of networking design principles that entails all aspects of the network development life cycle. Topics include campus LANs models and design, VLANs, internetworking principles and design, WAN design, design of hybrid IP networks, differentiated vs. integrated services, traffic flow measurement and management.

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 and application of these concepts to 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, correlation, and the power spectrum. Prerequisite: 461/561.


473/573. Solid State Electronics. Lecture 3 hours; 3 credits. Prerequisites: ECE 313, 323 and 332. The science and technology of p-n junction devices, bipolar transistors, photonic devices, and unipolar devices. Introduction to integrated circuits and microelectronics.

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: MATH 200 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 medical fields.

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 discrete time 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 202 and 481. 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.

495/595, 496/596. Topics in Electrical and Computer Engineering. Lecture 1 to 3 hours; 1 to 3 credits each semester. Prerequisite: departmental approval.

601. Linear Systems. Lecture 3 hours; 3 credits. Prerequisite: MATH 307. A comprehensive introduction to the analysis of linear dynamical systems from an input-output and state space point of view. Concepts from linear algebra, numerical linear algebra and linear operator theory are used throughout. Some elements of state feedback design and state estimation are also covered.

605. Engineering Systems Modeling. Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and one course on probability or statistics. The goal of this course is to develop understanding of the various modeling paradigms appropriate for conducting digital computer simulation of many types of systems. The techniques and concepts discussed are typically illustrated via graphs, Bayesian nets, Markov models, Petri nets, system dynamics, Bond graphs, cellular automata, Lsysystems, and parallel and distributed simulation systems. Students will report on a particular technique and team to implement a chosen system model. (Cross-listed with MSIM 605)

623. Electromagnetism. Lecture 3 hours; 3 credits. Prerequisite: ECE 323 or equivalent. Review of electrostatic and magnetostatic concepts, time varying field, Maxwell’s equations, plane wave propagation in various media, transmission lines, optical wave guides, resonant cavities, simple radiation systems, and their engineering applications.

630. Advanced Bioelectrics. Lecture 3 hours; 3 credits. Prerequisite: Bachelor’s degree in physics, engineering, or biology. A one-semester course covering advanced topics in bioelectrics. The course will cover advanced applications of pulsed power and plasma in the medical, biological and environmental fields. (Cross-listed with ENGN 630)

642. Computer Networking. Lecture 3 hours; 3 credits. Prerequisites: ECE 355 and 455 or permission of the instructor. The course is based on the ISO (International Standard Organization) OSI (Open Systems Interconnection) reference model for computer networks. A focus is placed on the analysis of protocols at different layers, network architectures, and networking systems performance analysis. Current topic areas include LANs, MANs, TCP/IP networks, mobile communications, and ATM.

643. Computer Architecture Design. Lecture 3 hours; 3 credits. Prerequisites: ECE 355 and 455 or permission of the instructor. The course is based on the ISO (International Standard Organization) OSI (Open Systems Interconnection) reference model for computer networks. A focus is placed on the analysis of protocols at different layers, network architectures, and networking systems performance analysis. Current topic areas include LANs, MANs, TCP/IP networks, mobile communications, and ATM.

644. Computer Architecture Design. Lecture 3 hours; 3 credits. Prerequisites: ECE 355 and 455 or permission of the instructor. The course is based on the ISO (International Standard Organization) OSI (Open Systems Interconnection) reference model for computer networks. A focus is placed on the analysis of protocols at different layers, network architectures, and networking systems performance analysis. Current topic areas include LANs, MANs, TCP/IP networks, mobile communications, and ATM.

645. Computer Architecture Design. Lecture 3 hours; 3 credits. Prerequisite: ECE 307 and one undergraduate course in probability or statistics. An introduction to probabilistic and statistical techniques for analysis of signals and systems. This includes a review of probability spaces, random variables, and random processes. Analysis and simulation of systems with random parameters and stochastic inputs are considered.

652. Wireless Communications Networks. Lecture 3 hours; 3 credits. Prerequisites: ECE 451 and 481 or permission of instructor. This class will cover necessary foundation and state-of-the-art aspects of wireless networks and Internet. Topics include wireless networks, wireless systems (fixed and mobile), cellular systems, propagation effects
(fixed, mobile and satellite), modulation technologies, equalization, diversity and channel coding, speech processing for wireless, wireless standards, existing and future wireless systems (practical examples).

667. Cooperative Education. 1-3 credits. Available for pass/fail grading only. Student participation for credit based on academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education/Career Management program prior to the semester in which the work experience is to take place.

668. Internship. 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. Meant to be used for one-time experience. Work may or may not be paid. Project is completed during the term.

669. 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. Student is usually already employed - this is an additional project in the organization.

670. Topics in Electrical or Computer Engineering. Lecture 3 hours; 3 credits. This course will be offered as needed depending upon the need to introduce special subjects to target specific areas of master’s-level specializations in electrical or computer engineering.

672. Digital Control Systems. Lecture 3 hours; 3 credits. Prerequisites: ECE 461/561, 481/581 and 601. Mathematical representation, analysis and synthesis of digital control and data control systems. Topics include transfer function and state space representations, stability, the root locus method, frequency response methods, and state feedback.

756/863. MultiVariable Control Systems. Lecture 3 hours; 3 credits. Prerequisites: ECE 461/561 and 601. A comprehensive introduction to techniques applicable in control of complex systems with multiple inputs and outputs. Both the frequency domain and state variable approaches are utilized. Special topics include robust and optimal control.

766/866. Nonlinear Control Systems. Lecture 3 hours; 3 credits. Prerequisites: ECE 461/561 and 601. An introduction to mathematical representation, analysis, and design of nonlinear control systems. Topics include phase-plane analysis, Lyapunov stability theory for autonomous and nonautonomous systems, formal power series methods and differential geometric design techniques.

772/872. Advanced Gaseous Electronics. Lecture 3 hours; 3 credits. Prerequisite: ECE 472/572 or permission of the instructor. Elementary theory of gas discharges, elastic and inelastic collisions, electron density processes, distribution functions and the Boltzmann equation, transport coefficients, fluid equations, breakdown theory, application for switches and gas lasers.

774/874. Semiconductor Characterization. Lecture 3 hours; 3 credits. Prerequisite: ECE 473/573 or equivalent. Introduction of basic methods for semiconductor material and device characterization. Topics include resistivity, carrier doping concentration, contact resistance, Schottky barrier height, current-voltage characteristics, threshold voltage, mobility, oxide and interface trapped charge, deep level impurities, carrier lifetime, and optical, chemical and physical characterization.

775/875. Plasma Surface Engineering. Lecture 3 hours; 3 credits. Prerequisite: ECE 472/572. The main goal of this course is to develop an understanding of the use of plasmas in surface processing. Physical and chemical processes of plasmas of significance to material processing, types of plasma reactors, fundamental processes of plasmas of significance to material characterization. Topics include resistivity, carrier doping concentration, contact resistance, Schottky barrier height, current-voltage characteristics, threshold voltage, mobility, oxide and interface trapped charge, deep level impurities, carrier lifetime, and optical, chemical and physical characterization.


779/879. Principles and Applications of Laser Engineering. Lecture 3 hours; 3 credits. Prerequisites: ECE 473/573. Theory, design and fabrication of modern integrated circuits that consist of nano scale devices and materials. Topics include crystal growth and wafer preparation process including epitaxy, thin film deposition, oxidation, diffusion, ion implantation, lithography, dry etching. VLSI process integration, diagnostic assembly and packaging, yield and reliability.


782/882. Digital Signal Processing II. Lecture 3 hours; 3 credits. Prerequisite: ECE 481/581 or equivalent. Review of time domain and frequency domain analysis of discrete time signals and systems. Fast Fourier Transforms, recursive and non-recursive digital filter analysis and design, multirate signal processing, optimal linear filters, and power spectral estimation.

and environmental fields. (Cross-listed with ECE 630)

695. Multidisciplinary Topics in Engineering. 1-3 credits. Special interdisciplinary or multidisciplinary topics of interest with emphasis on emerging areas in engineering.

Engineering Management — ENMA

415/515. Introduction to Systems Engineering. Lecture 5 hours; 3 credits. Prerequisite: senior 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 required to engineering design, systems analysis, manufacturing, and quality management problems.

422/522. Global Engineering and Project Management. Lecture 3 hours; 3 credits. Prerequisite: senior standing. Foundation, principles, methods and tools for effective design and management of projects in global 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.

600. Cost Estimating and Financial Analysis. Lecture 3 hours; 3 credits. Introduction to the principles and applications of capital budgeting. Development and analysis of capital budgets; capital investment; project evaluation; depreciation; investment decisions. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed. Case studies and a term project are required.

601. Analysis of Organizational Systems. Lecture 3 hours; 3 credits. This course introduces the student to fundamental concepts in the analysis of organizations. A systems approach is taken in the examination of social, structural, procedural and environmental aspects that are of consequence to technical professionals and managers. Models covered include: History and Systems of Organizations and Management; Basic Organizational Systems and Models emphasizing rational, natural and open systems; Organizational Behavior Models; Organizational Structure Models; Integration of Systems Perspectives.

602. Organizational Systems Management. Lecture 3 hours; 3 credits. This course introduces concepts of organizational management and leadership, which are approached from a systems and complex systems perspective to explain the behavior of systems. Focus areas will include strategic management, organizational transformation, and organizational environments. Models will be drawn from a variety of areas including Marketing, Finance, I/O Psychology, Organizational Behavior, and Strategic and Operational Management.

603. Operations Research. Lecture 3 hours; 3 credits. Deterministic and stochastic models for decision making. Topics include: optimization methods; linear and other programming models; network analysis; inventory analysis; queuing theory. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed.

605. Project Capstone. Lecture 1 hour; 1 credit. Prerequisite: completion of minimum of 18 credit hours in program of study. Comprehensive demonstration of the ME or MEM candidate’s competence in the fields covered by the program of study. Written submission is required, intended to fulfill the non-thesis Master’s Examination requirement.

606. Engineering Law. Lecture 3 hours; 3 credits. Prerequisite: permission of the department. This course will cover basic legal concepts and procedures for understanding the implications of engineering management decisions. Major emphasis on contracts and liability.

607. Stochastic Decision Methods. Lecture 3 hours; 3 credits. Introduction to decision analysis and stochastic models; risk and uncertainty in decision-making; probability and statistics problems; queuing theory; Markov processes; dynamic programming; Monte Carlo simulation of dynamic systems. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed.

610. Optimization Models. Lecture 3 hours; 3 credits. Prerequisite: ENMA 603 or equivalent. Application of linear and nonlinear optimization techniques to managerial, operational, and logistical problems. Emphasis on: sensitivity analysis and duality; multi-criteria optimization; and search techniques. Case studies.

613. Logistics and Supply Chain Management. Lecture 3 hours; 3 credits. Prerequisite: ENMA 603 or equivalent. Examination of the system costs of producing and delivering goods. Topics include: supply chain planning, facility location and design, distribution networks, forecasting and demand planning, inventory management, and information systems for supply chains. Knowledge of operations research and/or probability and statistics (ENMA 420/520 or equivalent) is assumed. This course will cover case studies and/or a project.

614. Quality Systems Design. Lecture 3 hours; 3 credits. Integrated analysis of the process and design improvement function. Quality Denning's way. Scientific sampling and control charting for quality assurance and control; the quality cost concept and aspects of quality decisions. Organization of the quality function for process quality improvement. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed.

640. Integrated Systems Engineering I. Lecture 3 hours; 3 credits. This course examines the role and nature of systems engineering and management. It is specifically designed to provide the fundamental understanding of systems engineering and complex systems. This course examines a variety of systems engineering topics with emphasis on the development of the fundamentals of systems engineering, systems

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engineering life-cycle methodologies and processes, inherent design characteristics for system quality, and planning for systems engineering and management.

641. Integrated Systems Engineering II. Lecture 3 hours; 3 credits. Prerequisite: ENMA 640. This course provides further discussion of the role of systems engineering and integration in the development of complex systems of systems. Topics include system architecture development, requirements development and management, system and decision analysis, integrated schedule management and analysis, ensuring the system is designed, developed and implemented in accordance with the baseline, systems integration, and verification and validation.

667. Cooperative Education. 1-3 credits. Available for pass/fail grading only. Student participation for credit based on 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.

668. Internship. 1-3 credits. 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. Meant to be used for one-time experience. Work may or may not be paid. Project is completed during the term.

669. Practicum. 1-3 credits. Prerequisite: approval from the Career Management director. 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. Student is usually already employed - this is an additional project in the organization.

695/696. Topics in Engineering Management. Lecture 1-3 hours; 1-3 credits. Prerequisite: permission of the instructor. Special topics of interest with emphasis placed on recent developments in engineering management.

697. Independent Study in Engineering Management. 3 credits. Prerequisite: permission of the instructor and program director. Individual study selected by the student. Supervised and approved by a faculty member with the approval of the graduate program director.

699. Thesis. 1-6 credits. Prerequisite: ENMA 721 and permission of the graduate program director. Research leading to a Master of Science thesis.

700/800. Economic Analysis of Capital Projects. Lecture 3 hours; 3 credits. Prerequisite: ENMA 600 or equivalent. This course is an advanced treatment of economic analysis. It is targeted at engineering managers who actively participate in the capital budgeting process and project justification. Topics include capital budgeting techniques including benefit cost analysis, cash flow analysis, net present value, internal rate of return, and other techniques. The course is designed to provide students an understanding of the systems engineering and decision making processes of complex systems, sources of supporting data, data quality assessment, quality control, and design optimization on cost management and related issues.

701/801. Analysis of Complex Organizational Systems. Lecture 3 hours; 3 credits. Prerequisites: ENMA 601 and 604. This course examines organizations as complex systems. The student will develop an understanding of select systems models. The models will be applied as tools for assessment, management and design of organizational systems. Modules will include: Complex Systems Theory and Models; Organizational Systems Mapping; Systems Assessment and Audit; Gap/Variance Analysis; System Design or Redesign; Organization Change, improvement, operation, design, and evaluation perspectives. Special emphasis will be placed on knowledge generation and generalization systems. Case studies, problems, and a course project.

704/804. Design of Project Knowledge Systems. Lecture 3 hours; 3 credits. Prerequisite: ENMA 604 or equivalent. Graduate level research culminating in the application of a systems perspective to design, operation, analysis, and evaluation of project knowledge systems. Special emphasis will be placed on knowledge generation and generalization systems. Case studies, problems, and a course project.

714/814. Crisis Project Management. Lecture 3 hours; 3 credits. Prerequisite: ENMA 600 or equivalent. Graduate level research culminating in the application of a systems perspective to design, operation, analysis, and evaluation of project knowledge systems. Special emphasis will be placed on knowledge generation and generalization systems. Case studies, problems, and a course project.

715/815. Systems Analysis. Lecture 3 hours; 3 credits. Prerequisite: ENMA 420/520 or equivalent. The course is designed to provide an understanding of the interdisciplinary aspects of systems development, operation, and support. The course focuses on the application of scientific and engineering efforts to transform an operational need into a defined system. Students will develop the interactive process of design, test, and evaluation.

717/817. Cost Engineering. Lecture 3 hours; 3 credits. Prerequisite: ENMA 420/520 or equivalent. The course is designed to provide an understanding of the interdisciplinary aspects of systems development, operation, and support. The course focuses on the application of scientific and engineering efforts to transform an operational need into a defined system. Students will develop the interactive process of design, test, and evaluation.

724/824. Risk Analysis. Lecture 3 hours; 3 credits. Approaches to the management of risk; probability assessment methods; risk modeling; use of software packages; extensions of decision analysis including multi-attribute methods; applications to project management, scheduling, and cost estimation.

728/828. Sociotechnical Systems Design. Lecture 3 hours; 3 credits. Prerequisite: ENMA 601. An examination of organizations as sociotechnical systems, including sociotechnical approaches to design and management. Principles of participative design and decision making; quality of work life; semi-autonomous work groups; organizational ecology; collective resource approaches to planning.

743/843. Reliability and Maintainability. Lecture 3 hours; 3 credits. Introduction to the theory and practice of reliability engineering, maintenance, and system management. Topics include software tools for capturing requirements, how to write quality requirements, architecture frameworks and their comparisons, software system threat and requirements capture and control, evaluation models and techniques; failure data collection and analysis; reliability testing and modeling; maintained systems; mechanical system reliability. Semester project. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed. Topics in Systems Design. Lecture 3 hours; 3 credits. Prerequisite: ENMA 641. Requirements capture and resolution, architecture development, and analysis of the results. Topics include software tools for capturing requirements, how to write quality requirements, architecture frameworks and their comparisons, software system threat and requirements capture and control, evaluation models and techniques; failure data collection and analysis; reliability testing and modeling; maintained systems; mechanical system reliability. Semester project. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed. Semester project. Systems Design. Lecture 3 hours; 3 credits. Prerequisite: ENMA 641. Baseline control during integration, verification and validation. Topics include scheduling, baseline control, integration testing prior to delivery, verification testing, validation testing, final delivery review. A project is required.

763/863. Robust Engineering Design. Lecture 3 hours; 3 credits. Robust design approach based on Taguchi Methods. Off-line quality characterization and experimental design methods; full factorial and fractional factorial designs; response surface methods. The course is designed to enable engineers and engineering managers from all disciplines to recognize potential applications, formulate problems, plan experiments, and analyze data. Knowledge of probability and statistics (ENMA 420/520 or equivalent) is assumed. Case studies. Semester project.

771/871. Critical Infrastructure Systems. Seminar discussions and team projects; 3 credits. Prerequisite: permission of the instructor. A systematic approach to basic principles of design, economics and management of critical infrastructure systems, including issues of risk, vulnerability and risk governance. Development of advanced methodologies, e.g. system of systems, by use of complexity analysis, dynamic/chaotic behavior, threat analysis, resilient design and management under normal and stress conditions. Adopting an agent based modeling approach under conditions of uncertainty, functionality, malicious attacks and/or presence of natural perils.
797/897. Independent Study in Engineering Management. 1-3 credits. Prerequisite: permission of the instructor and graduate program director. Designed for advanced individualized study into an engineering management topic area. Independent study under the guidance of a faculty member will be related to engineering management and completed under the supervision of a certified faculty member.

888. Ph.D. Seminar. 2 hours per week; 1 credit. Discussion of research projects, topics, and problems of Engineering Management faculty, researchers, and students. A weekly exchange of ideas and issues between faculty and Ph.D. students focused on doctoral research.

898. Research in Engineering Management. 1-12 credits. Prerequisites: ENMA 821 and permission of graduate program director. Supervised research prior to passing Ph.D. candidacy exam.

899. Dissertation Research. 1-9 credits. Prerequisites: ENMA 821 and permission of instructor.

999. Engineering Management 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successful completion of the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Engineering Technology

Civil Engineering Technology — CET
For schedule of offerings see http://www.et.ou.edu/ceschedule.pdf

Electrical Engineering Technology — EET
For schedule of offerings see http://www.et.ou.edu/eeschedule/pdf

Mechanical Engineering Technology — MET
For schedule of offerings see http://www.et.ou.edu/metschedule.pdf

Mechanical Engineering — ME

404/504. Vibrations. Lecture 3 hours; 3 credits. Prerequisites: ME 205, 220, and 340 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.

405/505. 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, singularity, vorticity, and circulation laws. Viscous flow topics include 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. (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 liquids 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 equipment from theoretical and applied viewpoints.

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 cells, and combustion. Basic principles of operation and design 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 design, and dynamic simulation.

417/517. Propulsion Systems. Lecture 3 hours; 3 credits. Prerequisites: ME 312 or 415. 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 332. 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 thermostets; 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. Mechanisms 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.

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, methods of residual stress analysis and interpolation functions, numerical implementation of finite-element method, applications to engineering problems such as beam deflection, heat conduction, and plane elastic problems.

441. Computer-Aided Design of Mechanical Systems. Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisite: ME 332. Topics include: thermal stress analysis and plates and shells.

609. Theory of Elasticity. Lecture 3 hours; 3 credits. Prerequisites: MATH 691 and AE 601, or ME 607. Equations of equilibrium, strain-displacement, compatibility, and constitutive equations using Airy and complex potential stress functions; plane engineering boundary value problems for beams, disks, thick-walled cylinders and various stress raiser problems. Torsion of thin-walled sections. General three-dimensional elasticity problems. (Cross-listed with AE 630.)

610. Advanced Fluid Dynamics. Lecture 3 hours; 3 credits. Prerequisite: MATH 691. Conservation laws of mass, momentum and energy equations; boundary conditions; exact and approximate solutions of Navier-Stokes equations; boundary-layer theory; introduction to internal and rotational flows; application to flows in pipes and blade passages; introduction to turbulent flows. (Cross-listed with AE 640/CEE 710/810.)

611. Advanced Classical Thermodynamics. Lecture 3 hours; 3 credits. Corequisite: MATH 691. Rigorous development of the macroscopic theory of thermodynamics; structural basis for equations of state and general properties of matter; phase and chemical equilibrium.

614. Theory of Turbomachines. Lecture 3 hours; 3 credits. Prerequisites: ME 414 and 610. Real cycles; fluid motion in turbomachines; theory of diffusers and nozzles; fluid-rotor energy transfer; radial equilibrium; transonic stages; combustion chambers; axial and centrifugal turbines; axial and centrifugal pumps and compressors; performance and design criteria; cavitation and two-phase flow considerations.

615. Compressible Flow. Lecture 3 hours; 3 credits. Prerequisites: ME 414/514 and 610. Conservation equations in compressible flows; full potential equations; small perturbation equations; two-dimensional compressible flow; hodographs, method of characteristics; introduction to three-dimensional flows; compressible boundary layer flows; internal flows in nozzles and diffusers; generalized quasi-1-D internal flows.

618. Convection Heat Transfer. Lecture 3 hours; 3 credits. Prerequisite: ME 610. Corequisite: ME 611. Conservation equations; heat transfer in internal and external flow fields; problems in laminar and turbulent boundary layers for incompressible and compressible flow; energy transfer in free convection, multiphase flows.

619. Conduction Heat Transfer. Lecture 3 hours; 3 credits. Prerequisite: MATH 691. Corequisite: MATH 692. Analytic and numerical solutions to steady and unsteady, one-, two-, and three-dimensional problems; heat transfer in extended surfaces, boundary value and characteristic value problems.

620. Introduction to the Theory of Plasticity. Lecture 3 hours; 3 credits. Prerequisite: ME 609 and permission of the instructor. Stress and strain tensors, equations of elasticity; basic plasticity experiments; criteria for yielding, initial and subsequent yield surfaces; plastic stress-strain relations, incremental and boundary value problems.

621. Advanced Materials Science. Lecture 3 hours; 3 credits. Corequisite: MATH 691. Thermodynamics of phase equilibria, statistical theory of solid solutions, and kinetic phenomena such as diffusion and nucleation applied to phase stability and transformations in solids.

622. Mechanical Behavior of Materials. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Macroscopic behavior of materials with respect to elasticity, plasticity, and viscoelasticity; yield criteria, fracture, influence of high and low temperatures, corrosion and radiation.

623. Theory of Vibrations. Lecture 3 hours; 3 credits. Prerequisites: ME 404/504 and MATH 691. Introduction to applied modal analysis, modes of vibration of discrete systems; modal coordinates, transfer functions in frequency domain, modes of vibration of continuous systems and approximate systems response. Practical and computer applications are incorporated. (Cross-listed with AE 634/CEE 710/810.)

632. Nuclear Engineering. Lecture 3 hours; 3 credits. Nuclear power plant systems; power reactor control and kinetic behavior, including safety coefficients, accumulative poisons, temperature control parameters; primary and secondary plant as a transient system.

635. Finite Element Analysis I. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. To introduce to finite elements, the finite element method (FEM) as derived from an integral formulation perspective. To demonstrate the solutions of 1-D and 2-D continuum mechanics problems such as solid mechanics, fluid mechanics and heat transfer. To provide insight into the theoretical formulation and numerical implementations of finite element methods. (Cross-listed with AE 640 and CEE 716/816.)

636. Modern Control Theory. Lecture 3 hours; 3 credits. Prerequisite: ME 436 or equivalent. Formulation of state space equations governing dynamics and stability of linear systems. Controllability; observability. State feedback control design. Optimal control methods. State observers and estimators. (Cross-listed with AE 650.)

640. Energy Utilization and Conservation. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Overview of scope of efficient energy utilization in industrial, commercial, institutional, transportation, power-generation, and space fields; power plant waste-heat utilization, district heating, combined gas and steam cycle, organic fluid-bottoming cycle, total energy concept for residential and commercial buildings; system management, on-line computer evaluation, energy analysis.

644. Turbulent Flow I. Lecture 3 hours; 3 credits. Prerequisite: ME 610. Basic turbulent flow concepts; origin of turbulence, introduction to turbulence measurements; introduction to turbulence modeling; eddy viscosity/diffusivity concept; zero-equation models, one-equation models, two-equation models; introduction to second-moment closures; applications to boundary layers, shear layers, jets, flakes, wakes, and separated flows. (Cross-listed with AE 713/813.)

646. Corrosion of Materials. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course covers the basics of corrosion theory and electrochemical foundation of corrosion processes. It will cover the chemical and metallurgical processes occurring during corrosion, along with the application of materials and methods to prevent corrosion. Stress corrosion cracking, corrosion fatigue, and other types of corrosion related failure will be discussed, along with design of systems to minimize the effects of corrosion and make use of corrosion resistant materials in their production and development. Corrosion of metals will be emphasized, but nonmetals (polymers, composites, and ceramics) will be discussed.

650. Composite Materials. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Reinforcements, matrices, particulate composites; short-fiber and continuous-fiber reinforced composites; prediction of elastic failure properties; directionally solidified composites; design considerations; experiments.

651. Experimental Stress Analysis. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Brittle coatings; electrical resistance and semi-conductor strain gages, special purpose strain gages; stress gages, shear gages, etc; strain gage circuits, strain gage-based transducers; photoelasticity theory and two-dimensional techniques; compensation and principle stress separation methods.

654. Thermomechanical Processing of Materials. Lecture 3 hours; 3 credits. Prerequisites: ME 201, 203, and 225. Principles of thermal and chemical refining processes; modeling melting and solidification processes; fundamentals of metal castings including flow of molten metal and solidification; superplastic forming of metals, strains crystallizing of polymers; effects of processing on properties.

655. Advanced Design. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Concepts, principles and procedures related to analysis of stresses and strains in machine components. Consideration of function of parts along with factors such as forces, life required, maximum cost, weight and space restrictions, number of parts to be produced, material selection, kinematics, environmental restrictions. Finite element analysis to illustrate different aspects of stress analysis.

667. Cooperative Education. 1-3 credits. Available for pass/fail grading only. Student participation for credit based on 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 be performed. (Cross-listed with AE 767/867.)

668. Internship. 1-3 credits. Prerequisite: approval by the department and Career Management Center. 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.

699. Practicum. 1-3 credits. Prerequisite: approval by department and Career Management Center. 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. Student is usually already employed - this is an additional project in the organization.

670. Engineering Software for Computer-Aided Analysis and Design. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Introduction to advanced CAD software for finite element modeling and analysis, multi-body dynamic analysis, kinematic analysis and design optimization. Software to be used: MSC/NASTRAN, PATRAN, DADS, GENESIS and other commercially available software will be introduced.


682. Concurrent Engineering. Lecture 3 hours; 3 credits. Prerequisite: ME 682. Study of methodologies and available tools to analyze “problem” processes and determine solutions to improve bottom-line performance. A Process Modeling project will be the key component of this course to reinforce the principles of Process Re-Engineering. Another major topic is Parametric Design by Guided Iteration.

685. Projects in Design and Manufacturing. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Project(s) course to allow graduate students to complete a practical engineering assignment in design and manufacturing areas. (available for pass/fail grading only)

686. Engineering Design with Uncertainties. Lecture 3 hours; 3 credits. Prerequisite: ME 680 or permission of the instructor. An introduction to manage uncertainties and risk in strength design of mechanical components. A study of theoretical background, computational implementation, and applications of reliability-based methods for engineering analysis and design.

690. Survey of Process Re-Engineering. Lecture 3 hours; 1 credit. Current topics in Mechanical Engineering or Engineering Mechanics are reviewed, often by guest lecturers.


695. Topics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Special topics of interest with emphasis placed on recent developments in mechanical engineering or engineering mechanics.

697. Independent Study. 1-3 credits. Prerequisite: permission of the instructor. Individual analytical and/or experimental study selected by the student. Supervised and approved by the advisor.

698. Master’s Project. 1-3 credits. Individual project, investigation under the direction of the student’s major professor. (available for pass/fail grading only)

699. Thesis. 1-6 credits. Prerequisite: permission of the instructor. Research leading to the Master of Science thesis.

706/806. Computer Analysis and Identification. Lecture 3 hours; 3 credits. Prerequisites: ME 404/504 and 623. Theoretical basis of modal analysis; measurements and excitation techniques; frequency- and time-domain modal identification techniques with applications to different model structures; direct parameter identification; component mode synthesis.

713/813. Theory of Transfer Phenomena. Lecture 3 hours; 3 credits. Prerequisites: ME 611 and 618. An introduction to various diffusion processes; conservation equations for multicomponent systems, multicomponent fluxes in terms of driving forces and phenomenological coefficients; molecular transfer phenomena in fluids; the Boltzmann equation and the collision integrals, moments of the Boltzmann equation, Chapman-Enskog expansions, and evaluation of the transport properties; diffusion in solids and in laminar and turbulent flows; special topics in combined mass, momentum, and energy transfer.

715/815. Engineering Optimization I. Lecture 3 hours; 3 credits. Prerequisite: graduate standing. Formulation and solution algorithms for Linear Programming (LP) problems. Unconstrained and constrained nonlinear programming (NLP) problems. Optimum solution for practical engineering systems.

717/817. Turbulent Flow II. Lecture 3 hours; 3 credits. Prerequisite: ME 644. Basic concepts in isotropic, homogeneous, free-shear, and wall turbulence; statistical theories of turbulence; one-point closure models, two-point closure models; coherent structures, turbulent flows, large eddy simulation, and sub-grid scale models.

718/818. Engineering Optimization II. Lecture 3 hours; 3 credits. Prerequisite: ME 715/815 or CEE 715/815. Sensitivity analysis of discrete systems; sensitivity analysis of distributed systems; dual methods for constrained optimization; relaxation decomposition; multilevel optimization and recent developments in engineering optimization.

734/834. Radiation Heat Transfer. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Thermal radiation and radiation properties; radiation interaction in participating media; radiation transfer through absorbing, emitting, and scattering media; radiation in presence of other modes of energy transfer; approximate and advanced methods for radiation transfer analyses.

742/842. Fatigue and Fracture. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Divided into areas of fatigue and fracture; stress-controlled and strain-controlled fatigue; effect of mean stresses, notches, etc; multi-axial stresses; variable amplitude loading; ductile and brittle fracture; linear elastic fracture mechanics; crack-tip plasticity; fracture testing; applications to fatigue life estimation.

746/846. Integrated Manufacturing. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the design, control, and management of integrated production/manufacturing systems. Topics include modeling of production systems; fundamentals of CAD/CAM, robotics, flexible manufacturing systems, group technology, process planning, concurrent engineering, and shop floor control; CIM architecture and communication.

745/845. Contemporary Manufacturing Technology. Lecture 3 hours; 3 credits. Prerequisite: ME 744/844. Treatment of the next generation of manufacturing technology. Topics include manufacturing strategy; trends in manufacturing control; factory simulation; accounting for manufacturing; and issues in manufacturing systems design.

746/846. Computational Methods in Multibody Dynamics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. The objective of this course is to present basic methods for the computer formulation and solution of the equations of kinematics and dynamics of mechanical systems which are often made of interconnected bodies. The major topics include constrained motion, principle of virtual work, constrained dynamics and spatial dynamics.

748/848. Kinematic Synthesis of Mechanisms. Lecture 3 hours; 3 credits. Classification of mechanisms; type and number synthesis, application of graph theory, expert systems for synthesis; introduction to dimensional synthesis via path and function generation; finite displacement theory including concept of poles, circlepoint, and centerpoint curves; structural error minimization using Chebyshev’s approximation; optimization approaches, current applications to robot manipulators, robot hands, space structures, and combustion engines.


757/857. Optimal Control Theory. Lecture 3 hours; 3 credits. Prerequisite: ME 636. Parameter optimization, optimization problem for dynamic systems with terminal and path constraints; optimal feedback control with and without the presence of uncertainty; nonlinear optimal control system.

759/859. Fundamentals of Combustion. Lecture 3 hours; 3 credits. Prerequisites: ME 610 and 611. Chemical equilibrium in reacting systems, chemical kinetics of single and multi-step chemical reaction systems, conservation equations for multicomponent reacting systems; Shvab-Zeldovich formulation, detonation and deflagration waves; laminar extinction limits; premixed laminar flames, gaseous diffusion flames; application to engine processes.

790/890. Chemically Reacting Flows. Lecture 3 hours; 3 credits. Prerequisites: ME 414/514 and 610. Chemical kinetics in homogeneous and surface processes; integration of relaxation rates in the conservation principles of fluid mechanics; non-dimensional parameters and limit case applications.

795/895. Topics in Mechanical Engineering or Engineering Mechanics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Selected topics in mechanical engineering or engineering mechanics.

796/896. Topics in Mechanical Engineering or Engineering Mechanics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Selected topics in mechanical engineering or engineering mechanics.

601. Introduction to Modeling and Simulation. Lecture 3 hours; 3 credits. This course, a required core course for those seeking a Master of Science in operations research and simulation or a Master of Science in computer science, provides an overview of the field of modeling and simulation (M&S). After a brief historical review, a range of M&S concepts are explored with special attention to those elements of the field that are widely practiced. Students are required to develop a substantive research paper on an approved topic in the field.

602. Computer Science Concepts for Modeling and Simulation. Lecture 3 hours; 3 credits. Corequisite: MSIM 601. Introduction to computer science concepts essential for implementation of large simulations. Emphasis on design and analysis of algorithms and implementation and use of data structures. Intended for MSIM students without a CS degree. Not open for credit for CS graduates or majors.

605. Engineering Systems Modeling. Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and one course on probability or statistics. The goal of this course is to develop understanding of the various modeling paradigms appropriate for conducting digital computer simulation of many types of systems. The techniques and concepts discussed typically include concept graphs, Bayesian nets, Markov models, Petri nets, system dynamics, Bond graphs, cellular automata, Lsystems, and parallel and distributed simulation systems. Students will report on a particular technique and team to implement a chosen system model. (cross listed with ECE 605)

620. Introduction to Combat Modeling. Lecture 3 hours; 3 credits. Prerequisite: MSIM 602 or instructor permission. Introduction to applied military operational research and the NATO Code of Best Practice. Introduction to the terminology of combat modeling with the US DoD. Overview of main organizations and models. Introduction to data and algorithms for high-resolution combat models. Introduction to data and algorithms for aggregated combat models. Integration into the operational environment. Related topics.

630. Developing and Applying Combat Models. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: MSIM 602 or instructor permission. Application of current Combat Model Simulation Standards. Application of NATO Code of Best Practice for Combat Models: designing and evaluating an experiment with a major combat model, such as JCATS and JSADF. Foundation development and execution with component-based implementations of combat federates. Related topics.

641. Visualization I. Lecture 3 hours; 3 credits. Course provides an overview of interactive, real-time 3D computer graphics and visual simulations using high level developing tools. Methods of visual simulation, computer graphics theory, advanced rendering techniques and various application areas are discussed.

651. Analysis I. Lecture 3 hours; 3 credits. Introduction to topics from operations research and statistics that are necessary to conduct requirements-driven analysis. An objective is to develop an understanding of the role of modeling and simulation in operations research.

667. Cooperative Education. 1-3 credits. Available for pass/fail grading only. Student participation for credit based on academic relevance of the work experience, criteria, and evaluation procedures as formally determined by the department and the Cooperative Education/Career Management program prior to the semester in which the work experience is to take place.

669. Practicum. 1-3 credits. Academic requirements will be established by the graduate program director and will vary with the amount of credit desired. Allows students an opportunity to gain short-duration career related experience. Student is usually employed–this is an additional project beyond the duties of the student’s employment.

695. Topics in Modeling and Simulation. Lecture 3 hours; 3 credits. Special topics of interest with emphasis placed on recent developments in modeling and simulation.

697. Independent Study in Modeling and Simulation. 3 credits. Prerequisite: permission of instructor or graduate program director. Individual study selected by the student. Supervised and approved by a faculty member with the approval of the graduate program director.

699. Thesis. 1-6 credits. Prerequisite: permission of instructor and graduate program director. Research leading to the Master of Science thesis.

720/820. Foundations for Continuous and Real-Time Simulation. Lecture 3 hours; 3 credits. Prerequisites: calculus-based physics and ordinary differential equations. Explores the modeling principles associated with simulating physical systems in real time. Develops models of mechanical, electrical, thermal, fluid, and hybrid systems and simulates the time-varying response of these systems. Various case studies employing these principles are presented and discussed. A course project and formal report are required.

730/830. Simulation Formalisms. Lecture 3 hours; 3 credits. Prerequisite: MSIM 601 or equivalent. The focus of the course is on identification and investigation of mathematical and logical structures that form the foundation for computational simulation. Topics include: foundations of simulation theory in logic, discrete mathematics, and computability; simulation formalisms, including DEV; interoperability protocols; and computational complexity.

742/842. Visualization II. Lecture 3 hours; 3 credits. Prerequisite: MSIM 641 or permission of instructor. Course discusses a variety of topics in advanced visualization theory and applications. Topics included visualization, level of detail techniques, animation, terrain visualization, flow and ocean visualization, and cal imaging and visualization.

752/852. Analysis II. Lecture 3 hours; 3 credits. Prerequisites: ECE 505 and 605 or equivalent. This course will expand the student’s capabilities in areas of stochastic analysis and data analysis. Course will include the theoretical underpinnings of stochastic processes commonly encountered in the application of operations research, and it will examine the literature of applied stochastic methods.

795/895. Topics in Modeling and Simulation. Lecture 3 hours; 3 credits. Special topics of interest with emphasis placed on recent developments in modeling and simulation.
College of Health Sciences

www.hs.odu.edu

E. Andrew Balas, Dean
Patricia Hentosh, Associate Dean for Research
To Be Named, Assistant Dean

Doctorate

- Health Services Research (Ph.D.)
- Physical Therapy (D.P.T.)

Master’s

- Community Health (M.S.)
  - Emphasis areas
    - Environmental health
    - Health care management
    - Health education/promotion
    - Long term care administration
- Dental Hygiene (M.S.)
- Nursing (M.S.N.)
- Public Health (M.P.H.)

Accelerated Programs

- B.S. in Health Sciences to an M.S. in Community Health
- B.S. in Dental Hygiene to an M.S. in Dental Hygiene
- B.S. in Environmental Health to an M.S. in Community Health

Graduate Certificate Programs

- Healthcare Management
- Occupational Safety
College of Health Sciences

2114 Technology Building
Norfolk, VA 23529
757-683-4960

The college mission is to improve individual and community health by advanced professional education, influential research, and responsive service. The vision of the College of Health Sciences 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 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 master’s and doctoral degrees, and non-degree certificate programs, accelerated and degree completion programs, and professional continuing education programs. In addition, many of these programs are offered off-campus and in a variety of distance learning formats. The degree programs are competitive, fully accredited, and nationally recognized for their quality graduates.

Program Application, Acceptance, and Continuance

A separate application must be submitted to be considered for acceptance into the health sciences majors. Application information, qualifications, deadlines, and advisors are listed in the specific program sections of this Catalog and on the web site.

Acceptance to the University does not constitute or guarantee acceptance into a health sciences 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 sciences 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.

The College of Health Sciences has developed graduate programs in the health-related professions that prepare individuals for practice, teaching, research, or administration in health-care delivery to meet the needs of the region, the state, and the nation. These programs include Master of Science degrees in community health and dental hygiene, the Master of Science in Nursing degree, the Master of Public Health degree, the Doctor of Physical Therapy degree, and the Ph.D. in health services research. Emphasis areas within the community health master’s degree program include environmental health, community health education/promotion, health-care management, and long-term care administration.

School of Community and Environmental Health

3134 Technology Building
757-683-4259
www.hs.odu.edu/commhealth/
Clare A. Houseman, Chair

The School of Community and Environmental Health offers 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. The Master of Science in community health offers practicing health care professionals the opportunity to complete their degrees in a distance format.

Doctoral Program in Health Services Research

757-683-4259
www.hs.odu.edu/commhealth/academics/PhD/
Stacey B. Plichta, Graduate Program Director

The primary mission of the Ph.D. in health services research is to develop leaders and problem solvers whose professional services will improve the health of the population not only in Eastern Virginia but also statewide, nationally, and internationally. Health services researchers examine health care quality and effectiveness, patient outcomes, access to care, health care costs and financing, primary and managed care, new technologies, and other critical topics. Health services researchers pursue careers in many settings, including academia, professional organizations, research centers, health policy groups, clinical settings, and in federal, state, and local agencies.

The goals of the program are to enable students to conduct and interpret health services research, to formulate and analyze public health policy, to lead programs and organizations that address the health care needs of populations and to work directly with community members to empower them to be a part of the policy formulation process. In accomplishing these goals students in the program will develop the critical skills necessary to assemble and integrate qualitative and quantitative evidence applicable to problem formulation and policy analysis. They will be able to design viable programs, manage resources, and measure the effectiveness of service delivery to populations. Students will be awarded the Ph.D. in health services research after the completion of all University and program requirements for graduate degrees.

Requirements for Admission

Students are admitted to the Ph.D. program in the fall, spring and summer. Applications for admission are reviewed by the Ph.D. in health services research admissions committee which includes the graduate program director. To qualify for admission, an applicant must meet the general University admission requirements at the graduate level as well as specific program requirements, including:

1. A completed master’s degree from a program that is accredited by an appropriate specialized accrediting agency or from an institution of higher education that is regionally or nationally accredited; degrees such as M.D., J.D. and D.D.S. are also acceptable;
2. A minimum acceptable grade point average overall for the master’s degree;
3. Acceptable overall total score on the Graduate Record Exam (GRE);
4. For those whose native language is not English a TOEFL score of at least 550 (213 for online version);
5. Official transcripts from all institutions of higher education attended;
6. A current curriculum vitae or resume;
7. Three letters of reference from sources capable of commenting on the applicant’s readiness and commitment for doctoral studies. At least one, and preferably all letters will be from academic sources; however, letters may also be from professional colleagues;
8. A 1500 word essay discussing the applicant’s academic and professional goals. This essay should discuss how the Ph.D. program in health services research will contribute towards meeting their goals.

Prerequisite courses are necessary for students who do not have graduate preparation in basic statistics, research design, health management, and basic computer literacy. Prerequisite courses in health delivery systems and community health may be required for students without academic preparation or experience in these areas.

Complete the application form and submit all required materials to the Office of Admissions.

Degree Requirements

1. Satisfactory completion of at least 60 semester hours of graduate level coursework, including all required courses as listed below. (Students who receive two or more grades of C+ or one grade of F may not continue in the program).
2. Two semesters of full-time residency. These do not have to be consecutive.
3. A health services research internship.
4. Acceptable performance on written and oral candidacy examinations in the major field of study at the end of the program coursework. Students may re-take the candidacy exams only once.
5. Successful defense of a dissertation proposal.
6. Completion of a dissertation representing the candidate’s ability to conduct scholarly, original research. The quality of the research must be suitable for publication in an academic, peer-reviewed journal.
7. Successful oral defense of the dissertation.
8. Submission of the approved final copy of the dissertation.

Time frames for completion of degree requirement are as follows:
1. The entire process (from admission to dissertation defense) must be completed within eight years. Exceptions to this time limit require the approval of the graduate program director, the department chair, the college dean and the vice provost for graduate studies.
2. Academic credit which is more than eight years old at the time of graduation must be validated by an examination before the work can be applied to a doctoral degree.
3. The dissertation must be completed within five years after the candidacy exams are passed.
4. Dissertations should be defended at least six weeks prior to the end of the semester in which the student expects to graduate.

Each student is required to have an Advisory and Examination Committee that will meet after the first nine hours of coursework are complete. The Advisory and Examination Committee approves the student’s planned coursework (plan of study) and conducts the written and oral competency exams at the end of the coursework. Students must maintain good grades. Students who receive two or more grades of C+ or one grade of F will be asked to withdraw from the program.

Curriculum
The coursework consists of 12 credits of health services core courses, 18 credits of research core courses, six credits of health policy core courses and a six credit cognate area. Additionally, students complete an internship (three credits), a dissertation seminar (three credits), and 12 dissertation credits. Up to nine hours of coursework may be at the 600 level. Up to 12 hours of graduate credit may be transferred from another university and applied towards the Ph.D. degree. Transfer of credit is approved at the discretion of the guidance committee and the program director.

The Health Services Core (12 Credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 801</td>
<td>Introduction to Health Services</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 809</td>
<td>Multidisciplinary Approaches to Health Services</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 814</td>
<td>Theory in the Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 864</td>
<td>Health Economics</td>
<td>3</td>
</tr>
</tbody>
</table>

Research Core (18 Credits):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 810/ PADM 853</td>
<td>Health Research Design and Application</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 811</td>
<td>Health Care Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 812</td>
<td>Qualitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 813</td>
<td>Measurement of Health Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 846</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PAUP 804</td>
<td>Methods Program Evaluation</td>
<td>3</td>
</tr>
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Health Policy Core (6 Credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 815</td>
<td>Decision Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 872</td>
<td>Policy and Politics of Health</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 886</td>
<td>Internship in Health Services</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 881</td>
<td>Dissertation Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Cognate Courses (6 Credits)

Cognate areas offer choices for students to specialize in an area inside and outside of the health arena. Students choose their cognate with the approval of their guidance committee. Some examples are:

- Urban Services
- Epidemiology
- Education of Health Professionals
- Environmental Health
- Engineering Management

Clinical Research
- Cross- and Organizational Psychology
- Health Psychology
- Modeling and Simulation
- Demography/GIS

Other areas to be determined by students and faculty

Candidacy Exams (Written and Oral)
The candidacy examination is normally taken during the spring or fall semester in which the last formal graduate credits are completed. Through the candidacy examination, the student's Advisory and Examination Committee in conjunction with the graduate program director shall ensure that the student has demonstrated a mastery of the subject matter in all fields of the program, has an adequate knowledge of relevant literature, and has the ability to identify, utilize, and apply research skills and techniques. To be eligible to take the examination, the student must meet the appropriate school requirements, must have completed or be in the semester of completing all coursework and the internship, must be recommended by his/her Advisory and Examination Committee, and must achieve at least a 3.0 GPA on all coursework taken within the program. Students need to apply to take the candidacy exam using the proper form. The form must be submitted by February 10 to take the exam in the spring semester and by September 10 to take the exam in the fall semester.

Questions for the candidacy examination are based on coursework taken in the core, cognate and graduate areas and require a sophisticated demonstration of skills. The examination is comprehensive in nature and consists of written and oral components. The written section of the exam is taken over a two-day period. Questions for the written exam consist of the problem, case study, or scenario variety and require approximately nine hours of writing time. The oral examination is taken only after all of the components of the written exam are passed. It must be taken in the same semester as the written exam. It extends over a period of approximately one and one-half hours and permits an in-depth discussion of the written topics and other related materials. All parts of the examination are graded pass/fail. Students may retake the exam only once. Parts of the written exam that are not passed on the first attempt need to be re-taken when the exam is offered again. The oral exam can be re-taken in the same semester.

Dissertation (12 credits)
The candidate’s program of study culminates in a dissertation representing an original research project which makes a real and significant contribution to health services knowledge and practice. The dissertation provides a demonstration of the student’s ability to conduct independent scholarly research in health services research. The dissertation phase begins only after all other degree requirements (including candidacy exams, core, research core courses) have been completed. Towards this end, the candidate must form a dissertation committee, compose a letter of intent for the dissertation topic and have approved by their committee, write and successfully defend a dissertation proposal, conduct the research necessary to complete the dissertation, write the dissertation, successfully defend it at an oral defense, make any necessary changes and submit a final approved copy. Additionally, all Ph.D. students are strongly encouraged to author at least one journal article based upon their dissertation research.

Dissertation Committee
After the candidacy exams are successfully passed, the dissertation committee is formed by the student with the approval of the graduate program director. A dissertation committee must have at least three members, one of whom is from outside the department of the major field of study. The members of the dissertation committee must all hold doctorates and be graduate certified. The committee’s purpose is to supervise the entire process from proposal writing and defense through the oral defense of the dissertation. The committee supervises and approves the choosing of a topic, the choosing of a theoretical framework, the development of the research methods, the actual conduct of the research and the writing of the results.

Dissertation Letter of Intent and Proposal
A dissertation letter of intent is to be prepared by the student. The student will draft a 3-5 page description of the study that he/she is proposing to conduct. This letter should contain the statement of purpose of the study and a brief description of why the topic is important to health services research. The letter should also identify the theoretical framework that will be employed, as well as provide an overview of the proposed methods. Where appropriate, the letter should also have an addendum that indicates the student has permission to use the proposed data source and/or access the proposed population of interest. The dissertation committee needs to unanimously approve the letter of intent in order for the student to write and defend the dissertation proposal.

The dissertation proposal provides a detailed explanation of the research being proposed. It should address the significance of the study, provide a substantive literature review and describe, in detail, the methods that will be used to collect the data. The proposal will be defended in a public forum to which all faculty, students and staff in the college will be invited. The final draft of the dissertation proposal must be available for public viewing two weeks before the defense date. No formal work should begin on the dissertation until the dissertation committee and the graduate program director unanimously approve the dissertation proposal in writing. Dissertation proposals can be defended prior to IRB approval/exemption. However, no data collection or interaction with study participants can ever begin until the dissertation chair and the student have obtained IRB approval or exemption. Approval of the dissertation proposal is NOT a pro forma activity and the student is cautioned never to regard it as such.

Dissertations and Final Oral Defense
The completion of a dissertation is the cornerstone of the Ph.D. program. Through the dissertation, candidates demonstrate that they are prepared to join the company of scholars and to be leaders in health services research. The candidate should work closely with his/her dissertation committee throughout...
this process. Dissertations must be carefully prepared, publicly available for viewing, defended in a public forum and approved by the dissertation committee, the graduate program director, the department chair and the college dean.

The dissertation committee plays a vital role in the completion of the dissertation. It is expected that the candidate will be in regular communication with the committee chair and members regarding the progress of the study, research results and manuscript drafts. While preparing a dissertation, candidates must be continuously enrolled for a minimum of one credit hour per semester. University resources may not be used unless a candidate is officially enrolled. Advice or assistance from committee members should not be expected unless the candidate is officially enrolled.

Dissertations must be carefully prepared according to ODU guidelines using the most current version of the Guide for the Preparation of Theses and Dissertations (obtained from the Office of Graduate Studies). The APA style manual should be used to cover specific questions of style. However, the requirements of the Guide for the Preparation of Theses and Dissertations take precedence over all the guidelines contained in the APA manual. All proposed dissertation research which involves human subjects must be reviewed and approved by the college or University's Human Subjects Committee. The process and approval must be documented in the text of the dissertation. Once the dissertation is successfully defended and in its final form, the student should ensure that five copies of the dissertation (with all necessary signatures) are given to the Office of the University Registrar for binding and sign the microfilming and copyright agreements. Students can choose to have additional copies bound for their own personal use. All dissertations will be published in Dissertation Abstracts International.

The entire dissertation committee must attend the final oral dissertation defense. After the dissertation defense, the dissertation committee meets in a closed-door meeting to discuss the dissertation defense and to vote on its approval or disapproval. If the dissertation is not approved, it can be defended only once more (at least three months after the initial defense). The final dissertation must be approved through a signature process that includes the dissertation chair, all members of the dissertation committee, the graduate program director, the department chair and the dean of the College of Health Sciences by signature. Note that a dissertation may be approved orally at the defense date, but may still require some editing before the final copy is published in Dissertation Abstracts International.

The student works with the dissertation committee to set a defense date and to ensure that the defense date is made public. The student should provide sufficient copies of the dissertation for public viewing at least two weeks before the defense date. The defense itself needs to be publicized two weeks in advance as well. While the defense is publicized and open to the public in general, care should be taken to ensure that all college faculty and administration are aware of the defense. The entire dissertation committee must attend the final oral dissertation defense. The presenters must be members of the dissertation committee. The defense must be conducted in a public forum.

The entire dissertation committee must attend the final oral dissertation defense. After the dissertation defense, the dissertation committee meets in a closed-door meeting to discuss the dissertation defense and to vote on its approval or disapproval. If the dissertation is not approved, it can be defended only once more (at least three months after the initial defense). The final dissertation must be approved through a signature process that includes the dissertation chair, all members of the dissertation committee, the graduate program director, the department chair and the dean of the College of Health Sciences by signature. Note that a dissertation may be approved orally at the defense date, but may still require some editing before the final copy is approved by the committee. The Doctor of Philosophy in health services research will be awarded upon the oral defense of the dissertation, the submission of the final approved copy of the dissertation and the completion of all other program requirements.

Master of Public Health

http://hs.odu.edu/commhealth/academics/ms_public_health.shtml
http://www.evms.edu/htlhp/pro/mph/index.HTML

Program Coordinators
To Be Named, Old Dominion University
Gavin Welch, Eastern Virginia Medical School

Eastern Virginia Medical School and Old Dominion University jointly offer the Master of Public Health (MPH) degree program. The MPH program has received full accreditation from the Council on Education for Public Health. The program provides graduates with an understanding of the public health sciences and knowledge and skills that can be used in health care management, population-based research and the community practice of public health. The MPH program has two specialty tracks: epidemiology and health management/policy. Health professionals who are or will be working in private, government, or community organizations with the following responsibilities can benefit from this program: assessing health status or needs in populations, designing and implementing programs, managing administrative functions, conducting program evaluation and outcomes research, developing coalitions, marketing health service, analyzing the epidemiology of specific diseases, and measuring or assuring the quality of health care and public health services and products. Students who are not seeking the MPH degree may take up to three program courses.

Admission Information

The Admissions Committee may request a personal interview to complement the information contained in the application materials.

Requirements for U. S. Students
1. Baccalaureate degree from an accredited college or university.
2. Undergraduate grade point average (GPA) of 2.8 or better. Preference will be given to applicants whose GPA is 3.0 or better. All applicants need to submit a Graduate Record Examination (GRE) score, taken within the last five years.
3. Additional consideration will be given for appropriate work experience in a health-related field. All applicants must submit an application packet with completed application, three letters of recommendation (using the PDF recommendation form from the EVMS MPH Program) and a personal statement.

Requirements for International Students
1. Baccalaureate degree from an accredited college or university with an undergraduate Grade Point Average (GPA) of 3.0 or a demonstration of an equivalent degree.
2. Graduate Record Examination (GRE) taken within the last five years with a combined score of 1200 on the verbal and quantitative sections and at least a 3.5 on the analytic section for non-probationary admission.
3. TOEFL score of 650 for paper-based test and 278 for computer-based test for applicants whose native language is not English.
4. International students must abide by all U.S. Immigration laws throughout their enrollment at EVMS. This includes, but is not limited to, qualifying and obtaining a proper visa prior to attendance. For further information, please contact the EVMS Office of Human Resources at (757) 446-6043.

Degree Requirements

Students complete two courses per semester, a community practicum, and a final seminar which integrates knowledge gained through all courses. A summer internship is required for those students without substantial work experience in a community health setting. Students must pass a core examination at the end of the first year. The MPH degree will be granted jointly by the two sponsoring institutions. Completion of the 41 credit hour program takes two and one-third years.

Curriculum

Core Courses (16 hours)
MPH 602 Introduction to Biostatistics 3
MPH 605 Principles of Epidemiology 3
MPH 604 Health Education and Behavioral Science 3
MPH 605 Health Administration/Organization 3
MPH 606 Environmental Health Science 3
MPH 608 Ethics in Public Health 1

Specialty Tracks (18 hours)
Epidemiology Track Courses
MPH 624 SAS/Data Management 3
MPH 702 Biostatistics II 3
MPH 711 Epidemilogic Methods I 3
MPH 715 Current Issues in Epidemiology 3
MPH 718 Epidemilogic Methods II 3
MPH 722 Methods of Program Evaluation 3

Health Management Track
MPH 600 Organizational Management 3
MPH 721 Health Care Strategy 3
MPH 722 Methods of Program Evaluation 3
MPH 723 Policy and Politics of Health 3
MPH 733 Financing Health Care 3
One Elective to be determined by Student’s Advisor 3

Other Requirements (7 hours)
MPH 668 Internship 1
MPH 768 Community Practicum 4
MPH 770 Capstone Seminar 3
Total Credits 42

Master of Science - Community Health

757-683-4259
www.hs.odu.edu/commhealth

Clare A. Houseman, Graduate Program Director
The School of Community and Environmental Health offers graduate programs leading to careers in the nation’s health system. Special emphasis in each of the community health (CHP) courses is placed on the examination of current trends, issues, problems, and possible solutions.

The community health program provides a preparatory base for administrative and academic careers in specialties as well as general areas of community health. Emphasis areas are available in community health education/promotion, health-care management, environmental health, and long-term care administration.

Many students who are selected for this program already have professional qualifications in the health-related fields: health education, physical therapy, environmental health, nursing, dental hygiene, or other disciplines. The course of study is designed to promote the development and application of the professional skills required to meet the leadership needs of the community health field in the United States.

The course of study covers a minimum of one full academic year, including summer school. The 36 credit hour program includes required general courses, elective courses in areas of special interest to the student, and opportunities for completion of a practicum or a thesis.

Admission

The selection of community health students is based on several criteria. To qualify for admission, an applicant must meet the general University admission requirements at the graduate level. In addition, the School of Community and Environmental Health requires:

1. Two letters of recommendation from teachers, supervisors, and/or employers.
2. Evidence of a basic foundation of undergraduate courses in the life sciences, behavioral sciences, and social sciences with a minimum 2.80 grade point average. If it is determined that a student is deficient in one of these three general foundation areas, he or she may be required to take additional course work prior to admission or to enroll in undergraduate course work to strengthen the foundation area.
3. A satisfactory Graduate Record Examination (GRE) aptitude score.
4. Work experience or voluntary participation in a health-related agency or program will be evaluated as part of the student’s admission package. Students can be admitted who do not have work or volunteer experience, however, students without experience will be required to produce a portfolio of health related volunteer or work experiences that they have acquired during their time in the program.
5. A career-goals paper. This paper asks the applicant to discuss his or her career goals and the relationship of the community health graduate program to those goals. This paper is evaluated by the faculty of the school for the applicant’s ability to present a clear sense of professional purpose, as well as his or her ability to write a concise and grammatically acceptable paper.

Requirements

The curriculum includes a 15-credit hour core of community health courses that constitutes the foundation of the program completed by a minimum of six credit hours of practicum experience or six hours of thesis research. The remaining courses recommended for completion of the program are intended to provide the student with the opportunity to develop an emphasis area that complements the core courses. The emphasis areas are intended to supplement the professional knowledge and skills that the student will apply in the practice of community health. The program, therefore, includes a minimum of 36 hours of course work and examinations as follows:

Core Courses. (15 credit hours) CHP 600, 601, 602, 646 and 651.

Emphasis Area Courses. (15 credit hours): The remaining hours of required credits in the community health program will be earned in advanced courses making up an emphasis area. Current emphasis areas are community health education/promotion, health-care management, environmental health, and long-term care administration. Students may select a program tailored to their professional needs from the emphasis area courses. The program of study must have the advanced approval of the graduate program director and the student’s emphasis advisor. Students are advised to consult the graduate program director and/or the emphasis area advisor in all matters concerning graduate work.

Comprehensive Examinations. All candidates for the Master of Science in community health must pass a written and an oral comprehensive examination covering the course work in the program of study. Comprehensive examinations are administered once a semester during the fall and spring sessions.

Thesis or Practicum Option. Students must complete a six credit practicum (CHP 699) or a six credit thesis (CHP 698). Students electing the thesis option are required to take CHP 640 and either HLSC 711 or HLSC 712 in addition to their core and emphasis requirements.

Emphasis Areas

Community Health Education/Promotion (15 credits)

Clare Houseman, Advisor. The focus of the graduate community health program is the education of selected professionals in the philosophy, concepts, and methods used in the promotion of health and in the prevention and management of illness in the community. Courses may be selected from the following: CHP 500, 530, 555, 556, 611, 750, and 775.

Health-Care Management (15 credits)

Clare Houseman, Advisor This emphasis area is for middle-level managers in the health environment and is planned to allow health professionals the opportunity to pursue graduate study to develop and improve their administrative capabilities. Courses may be selected from the following: CHP 630, 633, 635, 715, 720, 772, 775, 787. The management program is offered on Friday evenings through a combination of asynchronous web-based and TELETECHNET educational delivery systems. Basic computer skills are essential to participate in this program.

Environmental Health (22-23 credits)

A. James English, Advisor. This emphasis is designed to meet the needs of students seeking graduate education in the environmental health field. The goal of the program is to provide advanced understanding of human health efforts due to interaction with chemical, biological and physical agents in natural and man-made environments. Students may shape the emphasis area to meet their needs in general environmental health, industrial hygiene, occupational safety, or hazardous materials management. This emphasis has specific prerequisite courses at the undergraduate level that must be met. Also, admission to the program is at the discretion of the faculty. In addition to the core course requirements, there are specific course requirements for each concentration area.

Prerequisite Courses. General Biology (8 credits); General Chemistry (8 credits); Introduction to Physics (with a lab) or Ocean, Earth, and Atmospheric Sciences (8 credits); and General College Mathematics or Statistics (3 credits).

Core Courses. Students must take the following required core courses: CHP 600; 601, 602, 646 and 651.

Emphasis Area Courses: ENVH 502 and 543 are required along with six credits from ENVH 501, 522, 526, 540, 545, 566, or other courses as approved by the program advisor. Six credits of thesis or practicum work are also required.

Concentration Area Requirements. Nine to 10 credit hours from the following courses or their equivalents must be taken in one of the following options in order to be eligible for the degree.

General Environmental Health: ENVH 520, 521, 523, 524.
Industrial Hygiene: ENVH 541, 542, 546, 772.
Occupational Safety: ENVH 506, 507, 525, 526, 570.

Long-Term Care Administration (12 credits)

Clare Houseman, Advisor. This emphasis area is designed to meet the Commonwealth of Virginia’s requirements to be eligible to take the state and federal examinations for licensure as a nursing home administrator. Completion of the program does not guarantee licensure, but should ensure that the exams can be taken. Both CHP 520 and 550 are required, along with a six-credit hour practicum in a nursing home under the supervision of a licensed administrator. The program aims to provide the enrollee with a background in gerontology and health, as well as in administration and management. The person with a background in health care and/or gerontology will need courses in the areas of administration and management. The person with a background in management/administration will need courses in health care and gerontology. All courses must be approved by the program advisor.

Health Care Management Certificate (9 credits)

This graduate-level certificate is designed for working individuals who attend part time. The certificate complements the student’s prior academic preparation and work experience, and the credit hours earned through the certificate will be applicable to the M.S. degree in community health with an emphasis in health care management once the student has been accepted into the Master of Science degree program.
The health care management certificate program requires 15 credit hours to be chosen from the following courses: CHP 526, 527, 530, 550, 630, 633, 635, 720, and 772.

Certificate in Occupational Safety (15-16 credits)

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 graduate certificate program students must have a minimum cumulative grade point average of 3.00 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 506, 506, and 525. Electives may be selected from the following courses: ENVH 501, 526, 540, 541, 542, or 546. There are no prerequisites.

Accelerated Program – Bachelor of Science in Environmental Health (B.S.E.H.) to Master of Science in Community Health

Bachelor of Science in Environmental Health (B.S.E.H.) students who have a 3.00 GPA and have senior standing may apply for acceptance into the Bachelor of Science in Environmental Health to M.S. in 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. Students interested in this program should contact the B.S.E.H. program director James English at 757-683-6010 for more information.

Accelerated Program – Bachelor of Sciences in Health Sciences (B.S.H.S) to Master of Science in Community Health

Bachelor of Science in Health Sciences students who have a 3.00 GPA from each institution attended and who have senior standing may apply for acceptance into the Bachelor of Sciences in Health Sciences to M.S. in Community Health accelerated program. This program allows gifted undergraduate B.S.H.S. students the opportunity to take up to 6 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Contact the B.S.H.S. director Sandra Breeden at 757-683-5137 for more information.

GeneW. Hirschfeld
School of Dental Hygiene
2011 Technology Building
757-683-3338
http://hs.odu.edu/dental/academics/ms/about.shtml#

Master of Science - Dental Hygiene
757-683-5232
http://www.hs.odu.edu/dental/academics/ms/about.shtml#

Michele Darby, Graduate Program Director

The challenge of effecting change in the scope and direction of dental hygiene and health care requires expert skills in problem solving, evidence-based decision making, and leadership. Recipients of the Master of Science degree in dental hygiene develop skills to meet complex national and global health challenges in professional education, knowledge-generation, information transition, and health care for all members of society. Within a multidisciplinary, multicultural curricular framework that integrates theory, research, and practical experience, the competency-based program links the goals and career aspirations of the student with relevant learning experiences, technologies, and resources to facilitate career advancement. Through specialized skills training, graduates are prepared to assume leadership roles necessary for quality professional dental hygiene care and advisability in knowledge and practice.

Solutions to complex health problems need the participation of dental hygienists educated in community health, research, management, education, public policy, and advocacy, just to name a few. Therefore, the program offers five distinct specialty areas in which students may focus: education, administration/management, research, marketing and community health. Although graduate education focuses on developing a specialty, such specialization is viewed as secondary to generating evidence-based knowledge and theory through research. Demand for master’s level dental hygienists in these key areas of specialization continues to be strong and students are able to develop competencies essential in today’s employment market.

Applicants are encouraged to contact the graduate program director to obtain additional information regarding requirements, experiential credit, cognate offerings, travel abroad, practica and externship opportunities. Because of course sequencing, a two-semester residence on campus is required; however, some courses can be taken at a distance, such as internships, experiential learning credit, or independent study. Up to 12 approved graduate credit hours also can be taken at another University and applied toward degree requirements, making this program one of the most flexible in the nation. Other advantages of graduate study at Old Dominion University include the opportunity to engage in learning within the state-of-the-art Dental Hygiene Care Facility and Dental Hygiene Research Center, the hub for independent investigations with other scholars both within and external to the University; the student-focused, nationally/internationally recognized faculty committed to the educational preparation of dental hygienists leading to degrees at advanced levels; and the opportunity to segue to doctoral education in health services research within the College of Health Sciences.

Dental Hygiene Research Center

The ODU Dental Hygiene Research Center is dedicated to conducting quality, multidisciplinary, clinical, and population-based research to explore diagnosis, pathogenesis, and treatment of conditions that are related to overall health and dental hygiene. The Center, officially sanctioned by the University in 2000, is the first facility in the world dedicated solely to dental hygiene research. The Center strives to advance oral and general health through interdisciplinary and multidisciplinary research in collaboration with other academic institutions, medical facilities, private industry, and the community.

The Center represents a research paradigm unique for graduate education in that no other dental hygiene program has such a facility. Research is an integral and essential component of the School of Dental Hygiene’s mission. Students experience the link between theory and practice, and collaborate with faculty to create new knowledge via discovery, apply evidence-based findings, and disseminate information through professional publications and presentations.

Admission Information

To qualify for admission, the applicant must possess a certificate or associate degree from an accredited dental hygiene program and a baccalaureate degree in dental hygiene or a related field. The applicant must have an overall grade point average (GPA) of at least 2.80 (on a 4.00 scale) in undergraduate education and a minimum of 3.00 if he/she was an undergraduate dental hygiene major. The official National Board Dental Hygiene Examination score, completed recommendation forms from a previous clinical supervisor and dental hygiene program director, two recommendations from academic sources (employer in the field may substitute), a formal written statement of personal goals and objectives, and official transcripts of all college work must also be submitted. Forms are available at www.hs.odu.edu/dental.

Applicants whose qualifications are slightly below the required level will be considered for admission to provisional status and may be required to take additional course work. The master's degree program is available under the Southern Regional Education Board's (SREB) Academic Common Market. Applicants who are legal residents of Delaware, Kentucky, Mississippi, South Carolina, or Tennessee may enroll, if accepted, as Academic Common Market students at in-state tuition rates. For additional information see:
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 coursework and apply them to both degrees. Consult with the graduate program director for more information.
Master of Science in Nursing – Women’s Health Nurse Practitioner Role
Cindy Little, Coordinator

The Women’s Health Nurse Practitioner track in the graduate nursing program is designed to provide students with education and experience to become primary care providers in women’s health. Graduates are qualified to take the Women’s Health Nurse Practitioner certification examination offered by the National Certification Corporation. Students participate in a variety of women’s health practice experiences with preceptors and are required to complete clinical practice in primary adult health. Prerequisite to all courses except N 610, 611 & 640 is admission to the MSN-WHNP program. All courses in the previous semester must be completed, according to the full-time or part-time curricula, prior to entry in subsequent semester courses. Corequisite courses are listed.

Women’s health nurse practitioner- full-time curriculum

**First Year First Semester**
- NURS 610 Theoretical Foundations of Nursing 3
- NURS 661 Pharmacotherapeutics in Advanced Practice 3
- NURS 670 Advanced Pathophysiology 3
- NURS 671 Advanced Physical Assessment Seminar 1
- NURS 672 Advanced Physical Assessment Laboratory 1
- NURS 714 Family Focused Primary Care 1

**First Year Second Semester**
- NURS 611 Research Design 3
- NURS 658 Advanced Nursing Practice in Women’s Health I 2
- NURS 663 Health Promotion and Maintenance 2
- NURS 664 Primary Care Approaches for Women 3
- NURS 762 Advanced Family Nursing I: Management of Acute Illness 3

**Second Year First Semester**
- NURS 613 Issues in Advanced Nursing Practice 3
- NURS 640 Research Methods 3
- NURS 659 Advanced Nursing Practice in Women’s Health II 2
- NURS 787 Advanced Perinatal Nursing 3
- NURS 660 Advanced Nursing Practice in Women’s Health III 6

**Corequisites**
- NURS 686 Synthesis of Advanced Practice Concepts 3

**Total Credits** 45

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**Master of Science in Nursing – Family Nurse Practitioner Role**
Micah Scott, Coordinator

The family nurse practitioner (FNP) role prepares graduate students to provide a full range of primary care services to individuals and families throughout the life span. In collaboration with other health care professionals, graduate students provide health promotion, health maintenance and restorative care to well, at-risk, and chronically ill clients and their families. Student clinical experiences are provided in a variety of primary care settings. Successful completion of the program qualifies students to register for the AANP or ANCC examination for certification as a family nurse practitioner.

**Degree Requirements**

Full-time and part-time curricula are available. Prerequisite for all courses except NURS 610, 611 and 640 is admission to the MSN-FNP program. No FNP course may be taken unless admitted to the FNP program. Unless specifically stated, all courses in the previous semester must be completed before taking courses in the subsequent semesters unless admitted to the part-time curriculum. Course work may be completed according to the full-time or part-time curriculum in the Hampton Roads region. The Distance FNP program is available as a part-time program with admission every year. NURS 661, 670, 671, 672 and are prerequisites to all FNP content course and clinical courses except NURS 663.

**Full-Time Curriculum**

**First Year First Semester**
- NURS 610 Theoretical Foundations for Nursing Practice 3
- NURS 661 Pharmacotherapeutics for Primary Health Care Providers 3
- NURS 670 Advanced Pathophysiology 3
- NURS 671 Advanced Physical Assessment Seminar 1
- NURS 672 Advanced Physical Assessment Laboratory 1
- NURS 714 Family Focused Primary I 1

**First Year Second Semester**
- NURS 663 Health Promotion and Maintenance 2
- NURS 664 Primary Care Approaches for Women 3
- NURS 665 Advanced Family Nursing I Practicum 2
- NURS 762 Advanced Family Nursing II: Management of Acute Illnesses 3

**Second Year First Semester**
- NURS 613 Issues in Advanced Practice Nursing 3
- NURS 640 Research Methods 3
- NURS 705 Primary Care Approaches for Children 3
- NURS 764 Advanced Family Nursing II Practicum 4
- NURS 767 Advanced Family Nursing III Practicum 5
- NURS 768 Nursing Seminar in Complex Health Problems 1

**Total Credits** 47

**Part-Time Curriculum**

The distance curriculum for the FNP role is offered as a part-time program. Students must complete the courses in the order prescribed in this plan. Degree seeking status is a prerequisite of all courses except N 610, 611 and 640. Prerequisite for each semester is successful completion of the previous semester courses.

**First Year First Semester**
- NURS 610 Theoretical Foundations 3
- NURS 714 Family Focused Primary Care 3

**First Year Second Semester**
- NURS 611 Research Design 3
- NURS 663 Health Promotion and Maintenance 2

**First Year Third Semester**
- NURS 613 Issues in Advanced Nursing Practice 3
- NURS 640 Research Methods 3
Second Year First Semester
NURS 661 Pharmacotherapeutics for Primary Care 3
NURS 670 Advanced Pathophysiology 3 N 671, 672
NURS 671 Advanced Physical Assessment 1 N 672, 673
NURS 672 Advanced Physical Assessment Laboratory 1 N 670, 671

Second Year Second Semester
NURS664 Primary Care Approaches for Women 3 N 665, 762
NURS 665 Advanced Family Nursing I Practicum 2 N 664, 762
NURS 762 Advanced Family Nursing I: Management of Acute Illnesses 3 N 664, 665

Second Year Third Semester
NURS 705 Primary Care Approaches for Children 3 N 764
NURS 764 Advanced Family Nursing II Practicum 4 N 705

Third Year First Semester
NURS 765 Advanced Family Nursing II: Management of Chronic Illnesses 3 N 768, 767
NURS 767 Advanced Family Nursing III Practicum5 N 768, 765
NURS 768 Nursing Seminar in Complex Health Illnesses 1 N 765, 767

Total Credits 47

Certified Nurse Practitioner to MSN Program
Laurel S. Garzon, Coordinator
This program is designed to offer the Certified Nurse Practitioner an opportunity to complete the MSN with content applicable to organizational, business, research, outcome assessment, informatics, and community health dimensions of advanced practice. The program requires completion of a nine credit MSN core curriculum and 15 credits of required graduate nursing courses and six credits of electives.

First Year First Semester
NURS 610 Theoretical Foundations of Nursing Practice 3
NURS 686 Synthesis of Advanced Practice Concepts 3
NURS 735 Health Care Systems I 3

First Year Second Semester
NURS 611 Research Design 3
NURS 740 Health Care Systems II 3
NURS Elective 3
NURS Elective 3

First Year Third Semester
NURS 613 Issues in Advanced Nursing Practice 3
NURS 640 Research Methods 3
NURS 745 Health Care Systems III 3

Elective courses:
The student will select six credits from graduate nursing courses. These may include courses in the family nurse practitioner and pediatric nurse practitioner programs with permission of the instructor. Other elective courses include:
NURS 620 Professional Relationships and Human Resource Management
NURS 780 Financial Issues in Nursing Administration
CHP 646 Epidemiology

Nurse Anesthesia Specialty
Michael Jackson, Coordinator
The Master of Science in Nursing program in nurse anesthesia is an 83-credit, 28-month program beginning in late August. During the first year, the program is designed to introduce students to the basic theoretical knowledge and skills necessary for advanced nursing practice in nurse anesthesia. The first 12 months of the program are primarily didactic. The last 16 months of the program are the clinical component comprised of both general and regional anesthesia techniques for surgery and clinical specialties such as eyes, ears, nose and throat, neurosurgery, vascular surgery, open heart, obstetrics, trauma, and organ transplants. During this phase of the program, the student returns to the classroom on a weekly basis for extensive clinically related study.

Upon successful completion of the 28-month program, the graduate receives the M.S.N. degree, and becomes eligible to write the National Certifying Examination for Nurse Anesthetists given by the Council on Certification of Nurse Anesthetists. Graduates successfully completing this exam become Certified Registered Nurse Anesthetists (CRNAs).
A prerequisite for enrollment in the first year first semester is degree seeking status and admission to the MSN-Nurse Anesthesia track. Successful completion of courses in the previous semester is a prerequisite for enrollment in the next semester. All courses within a semester are corequisites and must be taken together.

Full-Time Curriculum

First Year First Semester
NURS 610 Theoretical Foundations for Nursing Practice 3
NURS 646 Structure & Function for Advanced Nursing Practice I 3
NURA 650 Medical Physical Sciences 3
NURA 654 Professional Aspects of Anesthesia 3
NURA 660 Pharmacotherapeutics for Nurse Anesthesia 3

First Year Second Semester
NURS 611 Research Design 3
NURS 647 Structure & Function for Advanced Nursing Practice II 3
NURA 651 Pharmacology of Anesthesia Drugs 4
NURA 652 Principles of Anesthesia Practice I 4

First Year Third Semester
NURS 640 Research Methods 3
NURS 648 Disease Processes for Advanced Practice 2
NURA 653 Principles of Anesthesia Practice II 2
NURA 694 Advanced Physical Assessment 3
NURA 754 Anesthesia Practicum – Orientation to the Operating Room 4

Second Year First Semester
NURS 655 Principles of Anesthesia Practice III 4
NURA 755 Clinical Practicum A 6
Second Year Second Semester
NURS 756 Clinical Practicum B 10
Second Year Third Semester
NURS 757 Clinical Practicum C 10
Third Year First Semester
NURS 758 Clinical Practicum D 10
Total Credits 83

Certified Registered Nurse Anesthetists (CRNAs) to MSN Program
Michael Jackson, Coordinator
The Master of Science in Nursing program for Certified Registered Nurse Anesthetists (CRNAs) is a 30-credit degree program beginning yearly in August. The curriculum consists of nine credits of core nursing courses; nine credits of nursing elective courses; and 12 hours of Advanced CRNA clinical courses. Applicants for the CRNA/MSN role must submit a professional portfolio and academic credentials for review prior to admission to the MSN program. If there are deficiencies in preparation at the bachelor’s level, courses from the R.N./B.S.N. program may be required.

Certified Registered Nurse Anesthetist Full-Time Curriculum

First Year First Semester
Pre Requisites
NURS 610 Theoretical Foundations for Nursing Practice 3
NURS Graduate Nursing Elective 3

First Year Second Semester
NURS 611 Research Design 3
NURS Graduate Nursing Elective 3

First Year Third Semester
NURS 640 Research Methods 3 NURS 611
NURS Graduate Nursing Elective 3

Second Year First Semester
NURS 759 Clinical Practicum 12
Total Credits 30

Nurse Educator Role
Karen Karlowicz, Coordinator
This initiative is a collaboration between Old Dominion University’s School of Nursing, the schools of nursing in the Virginia Community College System and other schools of nursing within and outside of Virginia. Old Dominion has a long-standing relationship with these partners in the TELETECHNET graduate nursing programs.
This initiative offers an M.S.N. and post-master’s certificate program to prepare nursing educators. The 36-credit program may be completed in one year full-time or two years part-time, or as a 15-credit post-master’s certificate.
In addition to the required MSN core content on nursing theory, research and issues of practice, the curriculum includes courses on teaching methods, technology in education, evaluation methods, incorporating diversity into the education process, strategies for student and faculty success, and mentored teaching experiences. The community college nursing faculty will serve as experts and preceptors for the internship experiences. The courses will be offered using a combination of distance technologies, including televised classes, web based courses, video conferences, video evaluation of teaching experiences and mentored teaching internships.

**Full-Time Curriculum**

**First Year First Semester (Fall)**
- NURS 610: Theoretical Foundations for Nursing Practice 3
- NURS 620: Professional Relationships & Human Resource Management 3
- NURS 634: Nurse Educator/Faculty Internship I: Classroom Instruction (Eight hours/week-focus in classroom teaching) 2
- NURS 636: Instructional Delivery Methods in Nursing Education 3

Total Credits: 11

**First Year Second Semester (Spring)**
- NURS 611: Research Design 3
- NURS 644: Clinical Teaching Methods for the Nurse Educator 2
- NURS 645: Nursing Curriculum Design and Course Development 3
- NURS 649: Nurse Educator/Faculty Internship II: Clinical Instruction (Eight hours/week-focus clinical teaching) 2
- NURS 732: Nursing Informatics OR NURS 740: Leadership in Nursing and Health Care Systems 3

Total Credits: 13

**First Year Third Semester (Summer)**
- NURS 613: Issues In Advanced Nursing Practice 3
- NURS 640: Research Methods 3
- NURS 654: Assessment and Evaluation in Nursing Education 3
- NURS 676: Professional Ethical and Legal Concepts of Nursing Education 3

Total Credits: 12

**Total Credits (program): 36**

Internship courses: The internships will be arranged with a faculty mentor and provide eight hours a week of supervised education experience focusing on faculty teaching.

**Nurse Leader Role**

Harry Tillman, Coordinator

The Nurse Leader role prepares the graduate for leadership positions in an integrated delivery system. The curriculum is designed to provide the graduate student with knowledge and advanced problem solving skills to address community and organizational issues. New models of health care delivery and the role of the advanced practice nurse in assuring effective organizations and healthy communities are analyzed.

Specialty courses focus on leadership skills in communities and organizations, needs assessments, group and organizational strategies, program development and health care evaluation. During internships students may investigate a variety of health problems or care delivery issues in either acute care or community-based settings.

**Nurse Leader (Full-time) Curriculum**

**First Semester (Fall)**
- NURS 610: Theoretical Foundations for Nursing Practice 3
- NURS 616: Organizational Leadership: Transformational Strategies in Focus Area 2
- NURS 620: Professional Relationships & Human Resources Management 3
- NURS 735: Organizational Leadership 3

Total Credits: 11

**Second Semester (Spring)**
- NURS 617: Strategic Leadership: Transformational Strategies in Focus Area 2
- NURS 611: Research an Introduction to Design 3
- NURS 740: Strategic Leadership 3
- Two Electives* 6

Total Credits: 14

**Third Semester (Summer)**

NURS 613: Issues In Advanced Nursing Practice 3
NURS 618: Visionary Leadership: Transformational Strategies in Focus Area 2
NURS 640: Research Methods 3
NURS 745: Visionary Leadership 3

Total Credits: 11

**Total Credits (program): 36**

*Choice of two of the following three credit courses as electives:
- NURS 732: Nursing Informatics
- NURS 780: Financial Issues in Nursing Administration
- CHP 646: Epidemiology

**Nurse Midwifery (cooperative program with Shenandoah University)**

Program Coordinators
- Cindy Little, ODU Coordinator
- Julianna Fehr, Shenandoah University Coordinator

The Master’s in Nursing, with specialization in nurse midwifery, is a joint program with Shenandoah University. The two-year program includes advanced practice nursing content offered by Old Dominion University in the Hampton Roads region at eight TELETECHNET distance sites in Virginia during the first year. The second year in the midwifery program is at Shenandoah University. The Master of Science in Nursing is awarded by Old Dominion University and a certificate of midwifery specialty is awarded by Shenandoah University. Graduates are eligible to take the national midwifery certification examination. The program may be completed as a full-time or part-time program.

The obtain information about the program please contact Sue Parker at 757-683-4298 or sparker@odu.edu

**Nurse Midwifery**

**Fall Semester (ODU)**
- NURS 610: Theoretical Foundations of Nursing 3
- NURS 661: Pharmacotherapeutics in Advanced Practice 3
- NURS 670: Advanced Pathophysiology 3
- NURS 671: Advanced Physical Assessment Seminar 1
- NURS 672: Advanced Physical Assessment Laboratory 1
- NURS 714: Family Focused Primary Care 1

Total Credits: 12

**Spring Semester (ODU)**
- NURS 611: Research Design 3
- NURS 663: Health Promotion and Maintenance 2
- NURS 664: Primary Care Approaches for Women 3
- NURS 658: Advanced Nursing Practice in Women’s Health I 2

Total Credits: 10

**Summer Semester (ODU)**
- NURS 613: Issues In Advanced Nursing Practice 3
- NURS 640: Research Methods 3

Total Credits: 6

**Fall Semester (SU)**
- NM 610: Primary Care of Women 3
- NM 620: Comprehensive Antepartal Care 3

Total Credits: 6

**Spring Semester (SU)**
- NM 630: Midwifery Practicum 3
- NM 640: Comprehensive Perinatal Care 3

Total Credits: 6

**Summer Semester (SU)**
- NM 650: Integrated Midwifery Practicum 6
- NM 660: Advanced Nurse-Midwifery Role Development 1

Total Credits: 7

**Total Credits (program): 47**

**Post-Master’s Certificate Program**

This program of study is designed to provide Master of Science in Nursing prepared registered nurses with the knowledge and skills needed to register for an examination to certify as a family nurse practitioner, pediatric nurse practitioner, nurse anesthetist, and women’s health practitioner. Individual programs of study are developed based upon the applicant’s previous experience and education.
Doctor of Physical Therapy Degree

The Doctor of Physical Therapy program is designed to professionally prepare students with the knowledge and clinical experiences to become licensed physical therapists who will enter general physical therapy practice. Upon graduation, students will be prepared to sit for licensure in any United States jurisdiction and practice in any health care setting where physical therapy is offered. The curriculum consists of 118 credit hours over a three-year period of time including summers. There are five full-time clinical internships totaling 40 weeks. The first three are completed over the second and third summers, with the final 16 weeks of clinical education occurring in the spring semester preceding graduation. A variety of clinical facilities locally, throughout Virginia, and the United States are used for internship experiences. Students are responsible for providing their own transportation to these off-campus clinical sites.

Requirements for Admission

Students are admitted to the program after completion of a bachelor’s degree and prerequisite course work. For preferential consideration, the application deadline is December 1 of each year. Applications will continue to be accepted and reviewed on a case-by-case basis until each class is filled. Specific procedures for admission must be followed including the verification of meeting the technical standards. Admission into the program is competitive.

The following documents and requirements must be provided prior to being considered for admission.

1. An application to the University and a separate application to the physical therapy program must be submitted. Applications may be obtained by calling (757) 683-4409, downloading the application forms from the Web or writing to the School of Physical Therapy, 3118 Technology Building, Old Dominion University, Norfolk, VA 23529-0288. Please refer to the instructions in the DPT supplemental application for mailing the application back to the School and University. The applicant should include the following:

   2. Three letters of recommendation (one from a physical therapist);

   3. Official transcripts from all school(s) attended sent to the Office of Admissions;

   4. Completed Graduate Record Examination (GRE) scores sent to the Office of Admissions;

   5. Evidence of substantive and varied volunteer work experiences in physical therapy setting(s); a minimum of 80 contact hours, 40 hours of which are in an acute care physical therapy department. Verification forms are included in the supplemental physical therapy application.

   6. An essay and written short answers are required. Information about the format is included in the physical therapy application.

   7. International applicants should contact the Office of International Admission at (757) 683-3701 regarding immigration, application requirements, and financial concerns.

A competitive admission process is used for determining acceptance. Qualified high school students may apply for admission with guaranteed entry into the Doctor of Physical Therapy program. For criteria and additional information, please contact the Office of Admissions (800-348-7926 or 757-683-3685) or the College of Health Sciences advisor at (757) 683-5137.

Degree Requirements

Prerequisite course include the following: ENGL 110C; STAT 130M; BIOL 115N; CHEM 115N-116N or 101N-102N; PHYS 111N-112N; BIOL 250 and 251; PSYC 201S or 203S; social studies elective (3 credit hours). An introductory course in kinesiology (EXSC 416) is recommended but not required.

Students are required to pass written and oral comprehensive examinations prior to graduation. Comprehensive examinations take place in the final academic semester prior to the terminal two clinical internships.

Licensure Options

Upon successful completion of all requirements and graduation from the Doctor of Physical Therapy program, graduates are qualified to apply for and sit for licensure in any of the fifty states, District of Columbia, Guam and Puerto Rico.

Continuing Education Programs

www.odu.edu/hsce

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.

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.
Course Prefixes:

Community Health Professions — CHP
Dental Hygiene — DNT
Environmental Health — ENVH
Health Sciences — HLSC
Master of Public Health — MPH
Medical Technology — MEDT
Nurse Anesthesia—NURA
Nursing — NURS
Physical Therapy — PT

Community Health Professions — CHP

400/500. Philosophy of Health. Lecture 3 hours; 3 credits. A survey of philosophical problems leading to health sciences, including an analysis of the nature of health in its historical and contemporary contexts.

415W/515. 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: CHP 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 2 hours; 1 hour web; 1-3 credits. Prerequisite: permission of instructor. Introduction 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 used in the administration of health care services.

427/527. Skills in Health Care Management II. Lecture 2 hours; 1 hour web; 1-3 credits. Prerequisite: permission of instructor. Continuation of basic concepts and development of critical management skills pertinent to the delivery of health care. 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. Introduction to 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 Use and 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.

470/570. Death, Dying and Survivorship. 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 legal and ethical foundation and examines legal and ethical issues confronting health care providers in various health care environments.

495/595, 496/596. 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.

600. Principles of Community Health. Lecture 3 hours; 3 credits. The course will provide an introduction to the relationship between health status, the current multifaceted delivery system and the social and political aspects of the community. Topics of this course include community health education, sanitation, mental health, maternal and child health, and others.

601. Research Design and Evaluation in the Health Professions. Lecture 3 hours; 3 credits. This course is designed for graduate students in the health professions to explore the concepts, problems, needs, and issues in both conducting research and evaluation and in analysis of research related to the health professions. An understanding of statistics is strongly advised.

602. Principles of Environmental Health Science and Protection. Lecture 3 hours; 3 credits. This course is designed to introduce the chemical, physical, and biological factors affecting human health and well being. The emphasis is on the application of controls to prevent disease and maximize environmental quality. (Cross-listed with ENVH 600)

611. Social and Cultural Aspects of Public Health and Illness. Lecture 3 hours; 3 credits. Scholars will gain an understanding of social and cultural issues associated with public health and illness through discussion, application of principles and theories and an interactive case study. Scholars will identify personal and social influences on public health and discuss health disparities and community health needs. Special attention will be paid to populations bound by shared risks and behaviors.

630. Health Care Marketing. Lecture 3 hours; 3 credits. This course is devoted to exploring the fundamentals of marketing as they relate to the health care environment. Emphasis will be placed on marketing of new programs, including health-promotion programs. It provides a survey of marketing activities as they relate to the health care environment.

633. Financing Health Care. Lecture 3 hours; 3 credits. Students will examine financial evaluation of the health care industry, the source of funds, and the effects of changing patient policies. Other topics of interest will be financial strategies, budgets, and capital outlay. (cross-listed with MPH 733)

635. Managed Care. Lecture 3 hours; 3 credits. This course provides the student all the basic information needed to learn critical concepts of managed care. It explores topics ranging from the roots of managed care to types of managed care organizations, negotiating and contracting for services, controlling utilization and using data reporting, the management of managed care organizations. In addition, the course addresses the future of managed care in the turbulent, dynamic health care environment.

637. Issues In Health Care Administration. Lecture 3 hours; 3 credits. This course explores current issues/trends faced by health care institutions in the constantly evolving health care environment. Topics such as the impact of shift in service delivery from inpatient to outpatient care, development of multispecialty hospitals and hospital alliances, prospective payment systems, retrospective payment systems and many other critical issues will be addressed.

640. Data Interpretation Methods for Health Care. Lecture 3 hours; 3 credits. A variety of procedures for interpreting research data collected in health care settings will be explored. To be included are univariate, bivariate, and multivariate procedures appropriate with parametric and non-parametric data. Related topics: probability hypothesis testing and measuring strength of relationships between/among variables.

646. Epidemiology. Lecture 3 hours; 3 credits. This course examines epidemiology as a method for viewing inborn community health problems and as a body of knowledge derived from this method. Skills in using epidemiology as a method and as knowledge to solve community health problems will be included.

651. Public and Community Health Administration. Lecture 3 hours; 3 credits. A review of the principles and practice of administering public and community health organizations and programs at federal, state and local levels. Constitutional, statutory and administrative bases for organizing and conducting public and community health programs will be discussed.

669. Practicum. 3 or 6 credits. Field experience. The student is provided an opportunity to apply academic knowledge and skills in an applied setting, under the supervision of a faculty member.

696. Special Topics in Allied Health. 3 credits.
697. 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.

698. Thesis Research. 3-6 credits.

711. Health Care Research. Lecture 3 hours; 3 credits. This course is a conceptual approach to the study of the health system. Emphasis is placed on handling large data sets and the use of a computer for manipulation of quantitative data.

715. Decision Analysis in Health Care. Lecture 3 hours; 3 credits. This course is a conceptual approach to decision analysis. The course will introduce the student to the principles of decision analysis and the psychological aspects of the decision-making process in the context of the health policy research. (Cross listed with HLSC 815)

720. Health Care Delivery Systems. Lecture 3 hours; 3 credits. This course provides the student with an opportunity to analyze the American health-care system. Like any other system in our society, the health care system is composed of complex organizational dynamics and structures which predicate the interaction between the major components of the system: personnel who provide service; institutions in which care is provided; and financing mechanisms that pay costs. The government which attempts to regulate it. This course is designed for in-depth analysis and synthesis of all aspects of health care delivery with an emphasis on improving the delivery and access to care.

724. Performance Improvement in Health Care. Lecture 3 hours; 3 credits. Examination of contemporary and traditional concepts, tools, and approaches for analysis, improvement, and design of processes and their application in health care and public health organizations.

728. System Dynamics in Health Care Management. Lecture 3 hours; 3 credits. This course provides both a conceptual and experiential approach to the analysis of system thinking and systems dynamics, especially as they relate to community and public health. The course presents a brief theoretical foundation in general system theory and ties the concepts to organizational learning, organizational dynamics, and quality.

750. Educational Processes for the Health Professional. Lecture 3 hours; 3 credits. The teaching/learning process is the focus of this course for application to the many teaching roles which the health professional faces. The course is designed to meet the needs of the health professional in the areas of patient instruction, educational programs, and continuing education. The course includes both a conceptual and experiential identification and gaining proficiency in the application of a variety of skills utilized by the health professional in designing, organizing, coordinating and evaluating health-training programs.

764. Health Economics. Lecture 3 hours; 3 credits. This course describes the application of economic tools to analyze the operation of markets for health care and insurance. Topics covered include the consumption and costs of health care in the United States, the viewpoints of players in the health care market, and an overview of both supply and demand analysis and cost effectiveness analysis. Complexities of economics unique to health care will be detailed. Further, students will employ these principles in several case studies of current and classic issues in health economics. (Cross-listed with HLSC 764)

773. Development of Grants and Contracts in the Health Professions. Lecture 3 hours; 3 credits. This course will introduce the student to the principles of grants and contracts as they relate to the health professions. Students will be given the opportunity to explore the multiple sources of grants and contracts as well as the difficulties in obtaining grants and contracts in this area. The course will focus on the multiple roles of the faculty member in matching the interests of the grant seeker with a corresponding funding agency.

775. Comprehensive Health Planning. Lecture 3 hours; 3 credits. This course emphasizes the principles and processes of program planning, including a consideration of objectives, priorities, policy development, program implementation, and evaluation. The student will gain practical experience in program development by developing a planning document in this course.

787. Legal Aspects of Health Services. Lecture 3 hours; 3 credits. This introductory course will provide the student with information concerning the legal requirements affecting the health-care industry. The course is designed for all health professionals interested in the legal system's relationship to health-care delivery. Additionally, this course will provide a survey of the basic concepts and content in the major areas of health law, an explanation and identification of sources of legal authority, and a familiarity with legal language.

999. Community Health 999. A one-hour audit registration required of all graduate students to maintain active status during the final semester prior to graduation, if they are not formally enrolled in course work and have not completed all academic requirements for the degree. (See the policy on Graduate Student Registration Requirement for additional information.)

Dental Hygiene — DNTH

414/514. Educational Concepts for the Health Professional I. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Explores principles, theories and methods of teaching and learning intended to meet the needs of health care professionals in practice, educational settings, community health organizations, and health care facilities. Emphasis is on instructional strategies, planning, implementing and evaluating instruction.

415/515. Research Methods in the Health Sciences. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M. Designed to develop skills in scientific methods and critical analysis of research findings. Emphasis on types of research, problem selection and hypothesis writing, research planning and design, data collection and measuring techniques, analysis and interpretation of data, research proposal writing and computer application. A written research proposal is required for graduate credit. (offered fall)

416/516. Advanced Leadership and Professional Development. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. A study of current trends that influence the profession of dental hygiene including oral health care delivery, manpower, financing mechanisms, quality improvement, third party payers, professional associations, regulatory agencies and legislation. Emphasis is on ethical, political, and legal issues as they relate to the dental hygiene profession. (offered spring)

497/597. 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.

602. Problems in Dental Hygiene. 3 credits. Prerequisite: DNTH 415/515. Independent study course required for those students in the nonthesis option. Students must execute a modest research or graduate project and complete and defend a written report. A comprehensive review of the literature is strongly recommended as a prerequisite. A written project proposal must be submitted and approved prior to beginning the project. (offered fall, spring, summer)

604. Clinical Administration and Teaching. Seminar 3 hours; clinical practicum 2 hours; 4 credits. Corequisite: DNTH 414/514. Application of principles and theories of education and management to dental hygiene clinical education. Emphasis is on planning, implementing and evaluating clinical teaching; assessment of clinical competence; management of human and physical resources; and regulations affecting clinical education.

614. Externship. 3, 6 or 9 credits. Prerequisites: DNTH 414/514, 415/515 and permission of the instructor. Experience-based learning activities designed to engage the qualified student in a customized role within an educational, health care, research, or corporate health setting. Provides experience to facilitate the development of role competencies and transition to a successful career.

660. Educational Concepts for the Health Professional II. Seminar 3 hour; 3 credits. Prerequisite: DNTH 414/514 or by permission of the instructor. Explores instructional strategies and their application to contemporary health professional roles. Emphasis is on individuals as health care specialists in business and industry; professional, private and public organizations; higher education; and the health care industry. Topics include implementation and evaluation of instruction, roles and responsibilities of faculty within an accredited program affected by state and national standards, and ethical and career related issues and trends. Students are provided with practical experience in traditional and distance education instructional methods.

668. Internship. 3 credits. Prerequisites: DNTH 414/514 and permission of the instructor. Experience-based learning activities designed to provide practica knowledge and develop role competence related to the individual’s area of specialization while working under the supervision of a faculty member. A clinical dental hygiene internship is a prerequisite to DNTH 669. (offered fall, spring, summer)

669. Practicum in Clinical Management. Seminar 1 hour; clinic 6 hours; 3 credits.
Environmental Health — ENVH

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.

403/404. 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)

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 workplace safety, fire prevention and protection systems safety and human elements in loss prevention.

407/507. Occupational Safety Standards, Laws and Regulations. Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the important Occupational Safety and Health Standards and Codes with particular emphasis on application of these codes to typical work situations. Governmental enforcement methodologies are also discussed.

408/508. Occupational Safety Standards, Laws and Regulations II. Lecture 3 hours; 3 credits. Prerequisite: ENVH 407/507. Continuation of ENVH 407/507. This course will include additional standards for general industry as well as specific standards for the construction industry.

420/520. 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 and methods, methods of water quality management, regulatory considerations, theory and application of wastewater treatment concepts, wastewater characterization, and treatment methods and disposal methods.

423/523. 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.

426/526. 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. 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. Use and 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.

451/551. 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 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.

464/564. 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.

Environmental Risk Assessment and Decision Analysis. Lecture 3 hours; 3 credits. Prerequisite: junior standing. The principles of quantitative health risk assessment of toxicants are presented. Qualitative and quantitative skills necessary 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.

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.

Topics in Environmental Health. 1-3 credits. Prerequisite: junior standing.

Independent Study in Environmental Health. 1-3 credits. Prerequisite: permission of the Director. An opportunity is afforded students to undertake independent study under the direction of a faculty member.

Principles of Environmental Health Science and Protection. Lecture 3 hours; 3 credits. An introduction to the chemical, physical and biological factors affecting human health and well being. The emphasis is on the application of controls to prevent disease and maximize environmental quality. (Cross-listed with CHP 602)

Advanced Epidemiology. Lecture 3 hours; 3 credits. Prerequisite: ENVH 448. Collection methods, analysis and interpretation of epidemiologic data with environmental and occupational disease emphasis.

Food Microbiology. Lecture 3 hours; laboratory 3 hours; 4 credits. An in-depth examination of requirements for growth of foodborne disease organisms. Includes hazard analysis and critical control point methodology.

Water Pollution Control. Lecture 3 hours; laboratory 3 hours; 4 credits. A study of the chemical, physical and biological causes of surface and groundwater pollution. Emphasis is given to onsite wastewater systems and protection of groundwater supplies.

Advanced Toxicology I. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: ENVH 443/543. An in-depth study of the adverse interaction of environmental and occupational chemical agents with humans. Students critically review articles from the current toxicology literature with regard to scientific content, methods and conclusions. Each student presents at least two reviews during the term. Prerequisite: permission of the instructor.

Control of Hazards in the Workplace. Lecture 3 hours; 3 credits. Prerequisites: ENVH 441/541. Advanced methods for evaluation and control of hazards in the workplace.

Topics in Environmental Health. Lecture 3 hours; 1-3 credits each semester. Prerequisite: permission of the instructor.

Health Sciences — HLSC

Introduction to Health Services. Lecture 3 hours; 3 credits. Focuses on the complexities involved in providing health services to populations. Presents issues related to public health, community health, urban and rural health, healthy people/communities and health care delivery in traditional and non-traditional settings. (Cross-listed with CHS/CPS 580)

Urban Health Services. Lecture 3 hours; 3 credits. This seminar will provide students with an understanding of health care organizations, effective management, and the urban context. Particular attention will be given to the issues of access, cost and quality.

Multidisciplinary Approaches to Health Services Research. Lecture 3 hours; 3 credits. Uses theory and research findings from areas such as Biology, Psychology, Sociology, Economics, Urban Studies, and Health Services to achieve an understanding of health services and problems. Emphasizes methods of analysis and of developing alternatives related to multidisciplinary perspectives.

Research Design and Application. Lecture 3 hours; 3 credits. Prerequisite: graduate-level courses in research design and statistics or permission of the instructor. Emphasis is on exploring the advantages/disadvantages and uses of non-experimental, quasi-experimental, and experimental designs in health-related research with an opportunity to move into research education, and clinical practice. (cross-listed with PT 810)

Qualitative Research Methods. Lecture 3 hours; 3 credits. An exploration of qualitative research methods including participant observation, ethnography and the generation of grounded theory. Individual interviews and focus group methods will be covered and historical, content analysis, phenomenological and montage approaches will also be discussed. Health related examples of published research in a variety of fields will be utilized to exemplify the methods.

Measurement of Health Phenomena. Lecture 3 hours; 3 credits. Prerequisite: graduate-level courses in research design and statistics or permission of the instructor. An overview of measurement theory with emphasis on the development, testing, and refinement of norm- and criterion-referenced data collection instruments for health-related research.

Theory in the Health Sciences. Lecture 3 hours; 3 credits. Introduction to the philosophy of science by studying the nature and purposes of theory for the health sciences. Standards for evaluation of theories will be given. Selected theories and supporting research from the health services literature will be discussed and critically evaluated.

Services for the Aging. Lecture 3 hours; 3 credits. A wide variety of services for older persons are examined. Each service will be studied from the following perspectives: 1) need, 2) assessment, 3) alternative intervention strategies, 4) concepts, and 5) public responses.

Public Policy for the Aging. Lecture 3 hours; 3 credits. This course will study as broadly as what governments do and do not do. Policies concerning older persons will be examined primarily at the federal level. Emphasis will be on the of the aging policy in this country, policy development process and the role of aging advocacy groups.

Health Economics. Lecture 3 hours; 3 credits. This course describes the application of economic tools to analyze the operation of markets for health care and insurance. Topics covered include the consumption and costs of health care in the United States, the viewpoints of players in the health care market, and an overview of both supply and demand analysis and cost effectiveness analysis. Complexities of economics unique to health care will be detailed. Further, students will employ these principles in several case studies of current and classic issues in health economics. (Cross-listed with CHS/CPS 580)

Policy and Politics of Health. Lecture 3 hours; 3 credits. This course enables the student to develop a systematic and analytical frameworks for understanding health care policy issues. The policy process is covered in detail. Timely policy issues are also discussed.

Administration in Health Services. Lecture 3 hours; 3 credits. Prerequisite: graduate-level course in management/administration. A study of resource management and organizational theory pertaining to the delivery of health care.

International Health. Lecture 3 hours; 3 credits. This course will introduce the student to the political, social, cultural and ethical issues involved in disease prevention and health promotion in developing countries. Specific emphasis will be on incidence/prevalence, morbidity/mortality, and identified health problems in specific regions and countries. This course will also identify international health prerogatives aimed at improving health status through education and intervention.

Topics in Health Services. 1-3 credits. Prerequisites: Ph.D. standing or permission of the graduate program director. Designed to provide the advanced student with an opportunity to study independently or in small groups and investigate specific topics of current interest in the health services.

Health Care Research Methodologies I. Lecture 3 hours; 3 credits. Prerequisite or corequisite: HLSC 710/810. This course is an applied approach to the selection and application of bivariate and multivariate statistical techniques in health services research. Emphasis is placed on handling large data sets and the use of a computer for manipulation of quantitative data.

Decision Analysis in Health Care. Lecture 3 hours; 3 credits. This course teaches students the art and science of decision making. It covers expected utility theory, decision tree analysis, cost-benefit analysis, and psychological aspects of the decision-making process in the context of health policy research.

Health Care Delivery System. Lecture 3 hours; 3 credits. This course provides the student with an opportunity to analyze the American health care system. The health care system is composed of complex organizational dynamics and structures which predicate the interaction between the major components of the system: personnel who provide service; institutions in which care is provided; financing mechanisms which pay for care; and the government which attempts to regulate it. This course is designed for in-depth analysis and synthesis of all aspects of health care delivery with an emphasis on improving the delivery and access to care.

Internship in Health Services. 3 credits. Available for pass/fail grading only. Health services field experience for students in the Ph.D. in Health Services Research program. Supervised work experience in a health services agency. A completed research project which is publishable or presentable at a professional conference is required to complete the course.

Development of Grants and Contracts in the Health Professions. Lecture 3 hours; 3 credits. Designed as a “hand-on” approach in effective grantmanship, this course will guide the
understanding of organizations as social entities, the structure of the American health care system, and basic managerial responsibilities. Emphasis on theories of organizations, management tasks and styles, structure and trends in the health care system, the planning framework for health care, organizational and community assessment, public health settings and services. Lectures, reading, and written assignment.

606. Environmental Health Science. Lecture 3 hours; 3 credits. An introduction to chemical, physical and biological factors affecting human health and disease. Emphasis on skills to detect environmental factors in health problems and to determine course of action and methods of control to prevent disease and maximize environmental quality. Lectures, readings, and required assignments.

608. Ethics in Public Health Practice Lecture. 1 hour; 1 credit. An examination of the central principles, concepts, and values in public health ethics. Emphasis is on identifying ethical issues in public health practice using lecture, readings, and group activities.

624. SAS Statistical Package for Windows. Lecture 3 hours; 3 credits. A beginner’s course in data management and basic data analysis using SAS system. The course will introduce the students to data base construction, data base management and statistical programming analysis. This is a hands-on course which will be taught using demonstration and experimental activities in the computer laboratory.

650. Research. 3 credits. Supervised research on a specialized topic.

699. Health Administration/Internship. 0-12 credits. Available for pass/fail grading only. An approved research project written under the supervision of a faculty advisor, in which the student demonstrates the capacity to design and complete independent applied research. The completed project must be approved by the dissertation committee.

702. Biostatistics II. Lecture 3 hours; 3 credits. Topics from inferential statistics and probability modeling will be discussed and illustrated using data selected from real-life related applications. Data analysis emphasizing power interpretation of results and familiarity with SAS software.

711. Epidemiological Methods I. Lecture 3 hours; 3 credits. Prerequisites: MPH 602 and 603. Introduces the elements of study design, data analysis, and inference in epidemiological investigation.

713. Health Data Systems. Lecture 3 hours; 3 credits. A review of the availability, use and interpretation of data obtained from traditional and new data systems used for population health monitoring. Included will be public health surveillance systems, vital statistics, hospital discharge data, Health Plan Employer Data and Information Set (HEDIS), immunization information, school health data, and regulatory agency data relevant to health; data quality and policy and legislative issues pertaining to access and analysis from these sources.

714. Epidemiology in Health Care Delivery. Lecture 3 hours; 3 credits. A study of the methods and applications of epidemiologic tools in the evaluation and improvement of health care delivery and in changing health behaviors. Emphasis on outcomes research and program evaluation.

715. Current Issues in Epidemiology. Lecture 3 hours; 3 credits. Prerequisite: MPH 603. Discussions with experts experienced in the diverse applications of epidemiology in current research and practice. Emphasis on emerging infectious diseases, environmental and occupational health, chronic diseases, and community intervention trials. Lectures, discussions, and assignment of one research project to be presented to the class.

718. Epidemiological Methods II. Lecture 3 hours; 3 credits. Prerequisites: MPH 624, 702 and 711. Coverage of statistical design and analysis concepts and methods in epidemiological research.

721. Health Care Strategy. Lecture 3 hours; 3 credits. Examination of strategy-making issues for health care organizations, including analysis of economic incentives, financial strategies, development of mission and goals and formulation and implementation of long range strategies to accomplish those goals.

722. Methods of Program Evaluation. Lecture 3 hours; 3 credits. Examination of methodologies for designing and conducting program evaluation and research in health care settings. Experimental, quasi-experimental, and non-experimental procedures will be covered.

723. Policy and Politics of Health. Lecture 3 hours; 3 credits. An introduction to the policy process, frameworks for understanding health policy issues, background research necessary for policy implementation, and implementation strategies.

727. Organizational Management. Lecture 3 hours; 3 credits. Examines theories and concepts from the behavioral and social sciences as a basis for understanding human behavior within organizations, specifically in health care.

733. Financing Health Care. Lecture 3 hours; 3 credits. Students will examine financial evaluation of the health care industry, the source of funds, and the effects of changing patient policies. Other topics of interest will be financial strategies, budgets and capital outlay. (cross-listed with CHP 635)

786. Community Practicum. 3 credits. Opportunity to apply knowledge and skills gained in a program in a community setting under a preceptor. 120 clock hours.

795. Topics. 1-6 credits.

796. Independent Study. 1-6 credits.

Medical Technology — MEDT

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.

440/540. Statistical Applications and Data Analysis in the Clinical Laboratory. Lecture 3 hours; 3 credits. Prerequisite: 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.
Nurse Anesthesia—NURA

These courses are coordinated through the School of Nursing.

649. Medical Physical Sciences. Lecture 3 hours; 3 credits. Prerequisite: admission to the program.

650. Pharmacology of Anesthesia Drugs. Lecture 4 hours; 4 credits. Prerequisite: NURA 650. Prepares the R.N. for a role on the anesthesia patient care team and in the administration of anesthesia by teaching analysis, synthesis, and evaluation skills in selecting and discussing appropriate anesthesia drugs for utilization in patient care situations.

652. Principles of Anesthesia Practice I. Lecture 4 hours; 4 credits. Prerequisite: NURA 650. Prepares the R.N. for a role on the anesthesia patient care team and in the administration of anesthesia by teaching a basic level of expertise in understanding and using anesthesia equipment in a competent and safe manner.

653. Principles of Anesthesia Practice II. Lecture 2 hours; 2 credits. Prerequisite: NURA 652. Prepares the R.N. for a role on the anesthesia patient care team and in the administration of anesthesia by teaching a basic level of cognitive, affective, and psychomotor expertise for the preoperative, perioperative, and postoperative anesthesia periods.

654. Professional Aspects of Anesthesia. Lecture 3 hours; 3 credits. Prerequisite: admission to the program. A study of the unique goals, difference means, distinctive content, and special problems of health/anesthesia care and education in this country. Includes such areas as management, organization, legal aspects, professional adjustments, ethics, psychology, and history.

655. Principles of Anesthesia Practice III. Lecture 4 hours; 4 credits. Prerequisite: NURA 653. Continuation of role preparation in administration of anesthesia.

660. Pharmacotherapeutics for the Nurse Anesthetist. Lecture 3 hours; 3 credits. Prerequisite: admission to the program. This course is designed to expand the graduate nurse anesthetist student’s understanding of pharmacological principles including pharmacokinetics and pharmacodynamics in the advanced practice role of nurse anesthesia.

664. Advanced Physical Assessment for Nurse Anesthetists. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: NUR 646, 647, NURA 652. Emphasis on physical assessment skills, interviewing skills, pathophysiological concepts, airway evaluation and management skills as related to anesthetic care plan and decision making.

754. Anesthesia Practicum. 4 credits. Prerequisite: NURA 652. Orientation to the operating room and anesthesia. Additional selected clinical experiences.

755-756-757-758. Clinical Practicum A,B,C,D. 6 credits for 755, 10 credits for 756, 757, 758. Each course consists of orientation to the Operating Room and the Anesthesia Department. Prerequisite: admission to the program. Provides actual administration of general and regional anesthesia with qualified clinical instructors (Anesthesiologists and/or CRNA’s). Weekly classroom sessions consist of clinical conferences; journal club; and seminars dealing with current topics, including, but not necessarily limited to, respiratory, cardiovascular, thoracic, neuro, regional, obstetrical, pediatric, and special areas of anesthesia. Various special projects and competency examinations are administered throughout this phase.

759. Advanced CRNA Clinical Course. 12 credits. Prerequisite: B.S.N. degree with CRNA license. This advanced placement credit is awarded to the certified registered nurse anesthetist who has demonstrated knowledge of selected complex nursing concepts for the provision of anesthesia services.

Nursing—NURS

610. Theoretical Foundations for Nursing Practice. Lecture 3 hours; 3 credits. This course focuses on development of advanced knowledge of nursing and non-nursing models, concepts, and theories as the supporting framework for professional nursing practice. Emphasis is placed on both analysis and application of the models, concepts, and theories to various client populations and nursing practice settings. Students are expected to support conclusions regarding a theory’s utility through presentation of supportive research findings.

611. Research Design. Lecture 3 hours; 3 credits. Builds upon the knowledge of the research process learned at the baccalaureate level. This course focuses on the development of research and scientific inquiry skills necessary for advanced practice. Emphasis is placed on investigation of research problems and the understanding of research design.

613. Issues in Advanced Nursing Practice. Lecture 3 hours; 3 credits. Prerequisites: NURS 610, 611. This course focuses on development of skills in data analysis and implementation of various statistical methodologies. Tool development and technologies for presentation of data are explored.

618. Visionary Leadership: Transformative Strategies in Focus Area. Lecture 3 hours; 3 credits. Emphasis is placed on the process learned at the baccalaureate level. This course focuses on the development of research and scientific inquiry skills necessary for advanced practice. Emphasis is placed on investigation of research problems and the understanding of research design.

617. Strategic Leadership: Transformational Strategies in Focus Area. Clinical experience 8 hours; 2 credits. Prerequisite: NURS 616. This practicum course emphasizes the advanced practice nurse’s role in strategic planning and program development. Students enrolled in this advanced practice course will continue clinical practice experiences in a chosen focus area.

618. Visionary Leadership: Transformational Strategies in Focus Area. Clinical experience 8 hours; 2 credits. Prerequisite: NURS 617. This practicum course is the culminating course in a series of courses that target clinical experiences for the advanced practice nurse. The practicum emphasizes the advanced practice nurse’s role in the implementation of change, meeting strategic initiatives, program evaluation, and outcome management in a chosen focus area. Application of futuristic and visionary theory to health care system trends is explored to provide optimal strategic positioning in future health care markets.

619. Advanced Nursing Practice IV. Clinical 24 hours; 6 credits. Prerequisite: NURS 674, 676. This clinical course provides an opportunity for concentrated clinical practice in the advanced nursing practice role.

620. Professional Relationships and Human Resources Management. Lecture 3 hours; 3 credits. Prerequisite: admission to program or approval of instructor. This course focuses on the constructive use of power, influence and politics impacting nursing and the health care system. Theories of group dynamics, motivation and incentives will be used to underpin skill development in negotiation and conflict resolution.

634. Nurse Educator/Faculty Internship I Classroom Instruction. 2 credits. Corequisite: NURS 636. This practicum course is designed to provide the student with experience in classroom instruction. A nursing master teacher in an entry-level nursing education program mentors the student. Students consult with the role coordinator to select a site for the completion of this experience.

635. Instructional Delivery Methods in Nursing Education. Lecture 3 hours; 3 credits. Corequisite: NURS 634. The enhancement of nursing education through technology-based instruction utilizing a variety of resources and models is explored. Reports of best practices, research findings and learning-related theories to guide the development of media-supported instruction, skill acquisition in a simulated environment, and the creation and nurturing of learning communities in cyberspace are examined.

640. Research Methods. Lecture 3 hours; 3 credits. Prerequisite: NURS 611. This course focuses on development of skills in data analysis and implementation of various statistical methodologies. Tool development and technologies for presentation of data are explored.

642. Advanced Maternal Child Nursing II: Common Health Problems and Health Promotion of Children. Lecture 3 hours; 3 credits. This course provides knowledge and skills needed to promote and nurture the health of children from neonates to adolescents. The management of common health problems is also a focus.

644. Clinical Teaching Methods for the Nurse Educator. Lecture 2 hours; 2 credits. Prerequisite: NURS 649. This course describes practice settings for nursing clinical instruction, identifies characteristics of effective clinical teachers, describes models and methods for clinical instruction that facilitate learning, and explores clinical evaluation methods and instruments.

645. Nursing Curriculum Design and Course Development. Lecture 3 hours; 3 credits. Corequisite: NURS 645. Prerequisite: NURS 634 and 636. This course describes practice settings for nursing clinical instruction, identifies characteristics of effective clinical teachers, describes models and methods for clinical instruction that facilitate learning, and explores clinical evaluation methods and instruments.

646. Structure and Function for Advanced Nursing Practice I. Lecture 3 hours; 3 credits. Prerequisite: admission to the program. This
course is designed to provide indepth knowledge of structure and function of the human body as the necessary basis for the advanced practice of nursing. The course emphasizes analysis and application of the structure and function of the cardiorespiratory systems to the advanced practice of nursing.

648. Disease Processes for Advanced Practice. Lecture 3 hours; 2 credits. Prerequisites: NURS 646 and 647. This course examines topics in selected disease processes. The course focuses on the significance of the disease for advanced nursing practice.

649. Nurse Educator/Faculty Internship II Clinical Instruction. 2 credits. Corequisites: NURS 644, 645. Prerequisites: NURS 634 and 636. This course is designed to provide the student with field experience in clinical instruction. A nursing master teacher in an entry-level nursing education program mentors the student. Students consult with the role coordinator to select a site for the completion of this experience.

654. Assessment and Evaluation in Nursing Education. Lecture 3 hours; 3 credits. Corequisite: NURS 676. Prerequisites: NURS 634, 636, 644, 645, and 649. This course concentrates on strategies to measure and improve nursing student performance in the classroom, as well as enhance course and program effectiveness. Emphasis is on the selection of instruments, data collection methods and reporting procedures to guide assessment and evaluation processes that are appropriate for what is being examined.

658. Advanced Nursing Practice in Women's Health I. Clinical experience 8 hours; 2 credits. Corequisites: NURS 663, 664, and 762. Prerequisites: NURS 636, 644, and 645. This course focuses on the development of advanced practice skills in the care of women.

659. Advanced Nursing Practice in Women's Health II. Clinical experience 8 hours; 2 credits. Corequisite: NURS 787. Prerequisites: NURS 668, 669, 670, 671, 762, and 766. This course focuses on the development of advanced practice skills related to perinatal practice in the care of women.

660. Advanced Nursing Practice in Women's Health III. Clinical experience 24 hours; 6 credits. Corequisite: NURS 686. Prerequisites: NURS 658, 659, 661, 663, 664, 670, 671, 672, 714, and 787. This course focuses on the integration of clinical practice skills in the care of women including health promotion, illness management, reproductive needs, and lifespan care.

661. Pharmacotherapeutics for Primary Health Care Providers. Lecture 3 hours; 3 credits. Prerequisite: admission to the program. This course is designed to expand the graduate nurse practitioner student's understanding of pharmacological principles, including pharmacokinetics and pharmacodynamics.

663. Health Promotion and Maintenance. Lecture 2 hours; 2 credits. Corequisite: NURS 611. Prerequisites: NURS 610, 714. This course provides the nurse practitioner student the opportunity to incorporate strategies of risk analysis and reduction, screening, lifestyle change, and disease detection and prevention in family health care.

664. Primary Care for Women. Lecture 3 hours; 3 credits. Corequisite: NURS 663. Prerequisites: NURS 661, 670, 671, 672, and 714. This course will explore current clinical concepts related to the care of healthy and pregnant women. Roles and responsibilities of the family nurse practitioner in these subspecialties will be discussed.

665. Advanced Family Nursing I Practicum. Clinical 8 hours; 2 credits. Prerequisites: NURS 661, 670, 671, 672, 714. Corequisites: NURS 663, 664, 672. This course provides the opportunity to practice clinical decision making and primary care assessment skills within a primary care setting. Collaborative strategies will be emphasized in the position of health promotion/maintenance strategies and the management of common health problems.

670. Advanced Pathophysiology. Lecture 3 hours; 3 credits. Corequisites: NURS 671 and 672. This course explains the pathophysiology of disease as it relates to advanced practice and assessment for prevention and management of health conditions.

671. Advanced Physical Assessment. Laboratory 3 hours; 1 credit. Corequisites: NURS 670 and 671. This laboratory course provides the advanced practice student a hands-on opportunity to practice physical assessment skills needed by nurse practitioners.

672. Advanced Physical Assessment Laboratory. Laboratory 3 hours; 1 credit. Corequisites: NURS 670 and 671. This laboratory course provides the advanced practice student with an opportunity to practice physical assessment skills needed by nurse practitioners.

674. Advanced Maternal Child Nursing Practice II. Clinical 8 hours; 2 credits. Prerequisites: NURS 661, 670, 671, 672. Continued advanced practice nursing in the care of children and their families.


676. Professional, Ethical and Legal Concepts of Nursing Education. Lecture 3 hours; 3 credits. Corequisite: NURS 654. Prerequisites: NURS 634, 636, 644, 645, and 681. This course examines the professional, ethical and legal responsibilities of nurse educators to create positive learning environments for students. Emphasis is on issues that may violate the collaborative partnerships between faculty and student including due process, education malpractice, academic dishonesty, sexual harassment, and documentation of academic failure in the clinical or academic setting. Clinical and academic issues will be utilized. Principles of organizational behavior and human resource management will be explored in the context of health care system needs.

686. Synthesis of Advanced Practice Concepts in Adolescent Focus. Lecture 3 hours; 3 credits. Prerequisite: NURS 665. This capstone course focuses on the synthesis of advanced practice concepts in the care of children. It provides a foundation for the development of practice in pediatric care.

705. Primary Care Approaches for Children. Lecture 3 hours; 3 credits. Corequisite: NURS 764. Prerequisites: NURS 661, 663, 664, 665, 670, 671, 672, and 762. This course for the family nurse practitioner focuses on primary care health problems in the pediatric population. Emphasis is placed upon assessment and management of healthy and ill children.

714. Family and Community Focused Practice I. Corequisite: NURS 787. Prerequisites: Admission in the FNP program. Corequisite: NURS 610. Focus is on assessing psycho-social problems in primary care setting. Student will develop skills in assessing the most common psychiatric disorders, substance abuse and disruptive behavior disorders. Assessment of the patient in the context of the family will be stressed.

724. Management of Chronic Problems and Illnesses. Lecture 3 hours; 3 credits. The focus on this course is on the management of chronic and acute illness in children.

730. Entrepreneurship for the Advanced Practice Nurse. Lecture 3 hours; 3 credits. Prerequisite: admission to program or approval of instructor. This course is designed to acquaint the APN in clinical informatics issues confronting health care organizations. Decision-making strategies are based on cost benefit of clinical informatics techniques to support quality patient care. Students have opportunities to explore clinical informatics strategies in the classroom and apply clinical informatics techniques through individual projects.

735. Organizational Leadership. Lecture 3 hours; 3 credits. Prerequisite: Admission to program or approval of instructor. This course provides a theoretical foundation and focuses on leadership theory and assessment strategies for use in the health care system. Theories on leadership, organizations, policy, administration, and change will be applied to current health care system issues. Assessment tools for applications of theories will be utilized. Principles of organizational behavior and human resource management will be explored in the context of health care system needs.

740. Strategic Leadership. Lecture 3 hours; 3 credits. Prerequisites: admission to program, NURS 735, or approval of instructor. Corequisites: NURS 617. Principles of organizational strategy and program development are the major components for this course. Relevant theories associated with organizational development, setting program strategic initiatives, strategic
planning, and organizational level analysis and evaluation will be explored.

**745. Visionary Leadership.** Lecture 3 hours; 3 credits. Prerequisites: NURS 735, 740, admission to program or approval of instructor. Corequisites: NURS 735, 740. The final course in the leadership series provides the opportunity to examine outcomes at the program and health care system level and project future health care system needs. The focus is on activities necessary for effective evaluation of health care programs and meeting strategic initiatives by successfully implementing change. Capability for visionary planning profound changes within the health care system will be developed. Transformation/Futuristic theory will be applied to envision market change for health care systems to be strategically positioned for future trends.

**762. Advanced Family Nursing I: Management and Evaluation of Health Care System.** Lecture 3 hours; 3 credits. Corequisites: NURS 658 (for women’s health nurse practitioner students), 663, 664, and 665 (for family nurse practitioner students). Prerequisites: NURS 661, 670, 671, 672, and 714. Focus is on acute health problems in the primary care setting, including assessment and management. Integration of geriatric content relating to acute illnesses will be added.

**764. Advanced Family Nursing II Practicum.** Clinical 16 hours; 4 credits. Prerequisites: NURS 661, 663, 664, 665, 670, 671, 672, 714, and 762. Corequisite: NURS 705. The purpose of this clinical course is to prepare the family nurse practitioner to deliver primary care services to families in which a patient has either acute, women’s health or pediatric care disorders.

**765. Advanced Family Nursing II: Management of Chronic Illnesses.** Lecture 3 hours; 3 credits. Corequisites: NURS 767 and 768. Prerequisites: NURS 661, 663, 664, 665, 661, 670, 671, 672, 705, 714, 762, and 764. The focus of this course is on the accurate diagnosis and management of chronic health problems within the primary care setting for the family nurse practitioner (FNP).

**767. Advanced Family Nursing III Practicum.** Clinical 20 hours; 5 credits. Prerequisites: NURS 661, 663, 664, 665, 670, 671, 672, 705, 714, 762, and 764. Corequisites: NURS 765 and 768. This clinical emphasizes integration of primary care skills and clinical course decision-making in populations with acute chronic, complex, pediatric or women’s health disorders for family nurse practitioner students.

**768. Nursing Seminar in Complex Health Problems.** Seminar 2 hours; 1 credit. Corequisites: NURS 765, 767. Prerequisites: NURS 613, 640, 705, 764. The focus of this seminar course is to explore clinical topics with an emphasis on the integration of primary care skills in advanced nursing practice.

**780. Financial Issues in Nursing Administration.** Lecture 3 hours; 3 credits. Corequisites: NURS 617 and 640. Prerequisites: NURS 616, 735. This course focuses on planning, designing, and monitoring of a nursing budget with special emphasis on personnel, supply, and capital equipment budgeting. Specific financial problems of a nursing service department are addressed.

**787. Advanced Perinatal Nursing.** Lecture 3 hours; 3 credits. Corequisite: NURS 659. Prerequisites: NURS 658, 661, 663, 664, 670, 671, 672, 714, and 762. This course focuses on the advanced nursing management of perinatal health for women.

**795/895. Topics.** 3 credits. Prerequisite: Ph.D standing or permission of the instructor. Designed to provide the advanced student with an opportunity to investigate specific topics of current interest in the health services.

**Physical Therapy — P T**

**600. Neurophysiology Seminar.** Lecture 1 hour; 1 credit. This instructional sessions are intended to help the student apply the material covered in the neurophysiology lectures. This seminar is designed to prepare the student for the next course which require the application of neuroological and neurophysiological principles to develop total care plans for patients with functional movement disorders.

**621. Introduction to Physical Therapy.** Lecture 2 hours; 2 credits. Students will be exposed to basic medical terminology, patient management skills involving draping, positioning, transfers, and gait training with assistive devices.

**627. Theory and Practice I.** Lecture 3 hours; laboratory 5 hours; field experience 2 hours. This course is designed to provide the student with an understanding of the major systems. The courses integrate with the student with an understanding of integrated neuroscience and neurophysiology. Emphasis will be placed upon basic neurophysiologic principles at the cellular level.

**630. Concepts in History for Physical Therapy.** Lecture 1 hour; 1 credit. The emphasis in this course in history is on connective tissue, muscles, nerves of the nervous system as well as the skeletal system. The course is intended to give the physical therapy student a basic understanding of cell structure and function in these major systems. The course integrates with human anatomy and human neuroanatomy.

**634. Clinical Sciences I.** Lecture 3 hours; 3 credits. A series of lectures designed to acquaint the student with the clinical areas related to pathological conditions frequently seen in physical therapy practice. The course develops an understanding of the disease processes and guides the student in the application and analysis of pathology in the care of the patient.

**635. Clinical Sciences II.** Lecture 3 hours; 3 credits. This course is designed to acquaint student with medical aspects and pathological conditions associated with musculoskeletal and cardiopulmonary disease and disorders. Subunits also include presentations on cancer, hospice care, and child/elder abuse.

**640. Patient Evaluation I.** Lecture 2 hours; laboratory 2 hours; 3 credits. A beginning course in patient examination skills which focuses on documentation, vital signs and history/interviewing skills, Respiratory and cardiac examination, range of motion, surface anatomy palpation, reflex testing, and vascular status assessment are introduced.

**641. Patient Examination II.** Lecture 2 hours; laboratory 2 hours; 3 credits. A continuation of the study of patient evaluation. The focus of this course is on the musculoskeletal respiratory and cardiovascular systems, and includes evaluation of NURS 641. This course is intended to prepare the student for the next course which require the application of neurological and neurophysiological principles to develop total care plans for patients with functional movement disorders.

**655. Clinical Problem Solving I.** Lecture .5 hour; field experience 2 hours; 1-2 credits. On-campus and community-based supervised experience where students have the opportunity to employ clinical evaluation and treatment skills on a standardized patient population.

**656. Clinical Problem Solving II.** Field experiences 4 hours/week; 1 credit. Part-time small group clinical experiences in the local community physical therapy facilities.

**665. Biomechanics/Kinesiology I.** Lecture 1 hour; 3 credits. This course will review the musculoskeletal system and its selective contributions to normal movement. Students will be instructed in manual muscle testing techniques, as well as faulty patterns of muscle recruitment in substitution for various movements and activities.

**666. Biomechanics/Kinesiology II.** Lecture 1 hour; laboratory 2 hours; 2 credits. Students will learn to assess the motor and function of joints and muscle tissue, tissues of the nervous system as well as the skeletal system. The course integrates with the student with an understanding of integrated neuroscience and neurophysiology. Emphasis will be placed upon basic neurophysiologic principles at the cellular level.

**695. Topics in Physical Therapy.** Lecture 1-3 hours; 1-3 credits. Specially designed courses concerning specific clinical based topics relevant to physical therapy.

**792. Neuroscience I.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 889. Neuroscience I is the first course in a series of courses that provide the student with an understanding of integrated neuroanatomy and neurophysiology. Emphasis will be placed upon basic neurophysiologic principles at the cellular level.

**793. Neuroscience II.** Lecture 3 hours; 3 credits. Prerequisites: FT 792 and BIOL 889. Neuroscience II is the second course in the sequence. From the foundation of Neuroscience I, the course will build to the progressively higher order of structural functional relationships that control behavior.

**803. Research Seminar.** Seminar 2 hours; 1 credit. A seminar in which faculty and students present research findings in a platform and research poster format.

**810. Research Design and Application for Physical Therapists.** Lecture 3 hours; 3 credits. This course introduces the student to the basic concepts of research including developing hypotheses, understanding sample selection, data collection and aspects related to validity and reliability. The end-product of this course is the development of a research proposal.

**822. Research Proposal and Case Study Development.** Lecture 2 hours; 2 credits. A course designed to instruct the student in the method of data collection and presentation of clinical case studies in preparation for the case study.
826. Theory and Practice III. Lecture 2 hours; laboratory 4 hours; 4 credits. A continuation of the important aspects of physical therapy practice. This semester is made up of the following units: spinal cord injury, pediatric neurologic dysfunction, and adult neurologic dysfunction. The course focuses on treatment procedures including proprioceptive neuromuscular facilitation, current motor control and motor learning concepts, and neurodevelopmental treatment.

827. Theory and Practice IV. Lecture 2 hours; laboratory 4 hours; 4 credits. This course covers advanced and special interest areas of practice such as joint mobilization, sports medicine, special testing equipment, mechanical traction application, and discharge planning for orthopedic patients.

836. Clinical Sciences III. Lecture 3 hours; 3 credits. This course continues with the presentation of pathologies and clinical manifestations of selected patient populations. Units within this course include pediatric, adult neurology, and spinal cord injury.

851. Patient Evaluation. Lecture 3 hours; 3 credits. The continuation of a series in clinical areas. Emphasis areas in this course are on radiology, pharmacology, hand management, burn care, foot care, and a unit in health planning including community and federal government involvement.

842. Patient Evaluation III. Lecture 2 hours; laboratory 2 hours; 3 credits. This course covers the important evaluative elements associated with the neurology patient, pediatrics, electrodiagnosis including nerve conduction testing, amputee problems, and the geriatric patient.

857. Clinical Problem Solving III. Lecture .5 hour; field experience 2 hours; 1-2 credits. Students evaluate videotapes of various neurological and pediatric patients being examined and treated by physical therapists in a clinical setting. Using the clinical problem solving approach they assess the efficacy of these therapeutic regimens. A local, supervised, part-time clinical experience in pediatrics or adult neurology is performed in the fall semester.

858. Clinical Problem Solving IV. Lecture .5 hour; laboratory 2 hours; 1-2 credits. Small group discussions of orthopedic case studies are presented in a seminar format.

865. Prosthetics and Orthotics. Lecture 3 hours; 3 credits. Prerequisites: PT 665 and 666. This course addresses the examination, assessment and fabrication issues associated with the development of prosthetics and orthotics for selected patient populations.

871. Clinical Internship II. Field experience 40 hours/week; 8 weeks; 4 credits. The student is provided an opportunity to apply academic philosophy, theory, and practices during a period of clinical education. This internship or PT 872 will consist of a rehabilitation experience (pediatric or adult neurology). The student will be required to collect data for a research case study during this internship or PT 872.

872. Clinical Internship III. Field experience 40 hours/week; 8 weeks; 4 credits. The student is provided an opportunity to apply academic philosophy, theory, and practices during a period of clinical education. This internship or PT 871 will consist of a rehabilitation experience (pediatric or adult neurology). The student will be required to collect data for a research case study during this internship or PT 871.

873. Clinical Internship IV. Field experience 40 hours/week; 8 weeks; 4 credits. A fourth experience for physical therapy students. Students spend eight weeks at different facilities in a full-time internship. This course provides an opportunity to develop on-site innovative clinical investigations with program and clinical faculty coordination/supervision.

874. Clinical Internship V. Field experience 40 hours/week; 8 weeks; 4 credits. A final experience for physical therapy students. Students spend eight weeks at different facilities in a full-time internship. This course provides an opportunity to develop on-site innovative clinical investigations with program and clinical faculty coordination/supervision.

880. Psychosocial Aspects of Patient Care. Lecture 2 hours; 2 credits. This course focuses upon the emotional and psychological elements associated with illness and disease. Students will learn the various societal and personal views of sickness and chronic illness as well as the coping mechanism employed by individuals and families when facing disease and terminal illness.

881. Patient Management Issues in Aging. Lecture 2 hours; 2 credits. This course describes various changes in individuals due to aging of the nervous, cardiopulmonary and musculoskeletal system. Effects on gait and equilibrium will be discussed. Issues addressing sexuality, nutrition, health care placement options, and social support in American society will be presented.

882. Practice Management. Lecture 3 hours; 3 credits. This course is designed to provide the physical therapy student with a review of the principles and practices of managing and administering physical therapy in various clinical settings. The course stresses the principles of management administration in patient care in clinical environments.

883. Professional Issues in Physical Therapy. Lecture/seminar 2 hours; 2 credits. This course is for the identification, analysis, and discussion of issues currently facing the physical therapy profession. The issues focus on the ethical questions as well as the role relationships of physical therapists in the greater health care delivery system of the United States.

884. Clinical Teaching and Professional Communication. Lecture 3 hours; 3 credits. This course is designed to meet the needs for patient instruction, education within the classroom and clinic, and peer continuing education. The focus of the course is on clinical communication in the teaching/learning process.

890. Differential Diagnosis Seminar. Lecture 3 hours; 3 credits. Prerequisites: PT 634, 635, 836, and 837. The focus of this seminar is on the integration of the student’s knowledge in the areas of the foundation and clinical sciences through the application of problem solving in differential diagnosis.

891. Seminar in Integrative Case Studies. Lecture/seminar 3 hours; 3 credits. This course provides the faculty and students the forum to present clinical case studies. The students will have collected the data for their individual case presentations during the previous summer internships.

894. Topics in Clinical Science. Lecture 2 hours; 2 credits. This course is designed for students to select the study of one of the clinical sciences in a more detailed and extensive manner. Examples would be advanced knowledge in the area of neurology, pediatrics, geriatrics, cardiopulmonary or orthopedic physical therapy. The student(s) work with a faculty member and clinical specialist. The course includes a combination of didactic and clinical experiences.

895. Topics in Physical Therapy. Lecture 1 hour; 1 credit. Specially designed courses concerning clinically based topics relevant to physical therapy practice.

896. Topics in Special Exams. Lecture 2 hours; 2 credits. This course is designed for the student to learn more about the examinations needed in a specialized area of physical therapy practice. This course is directed by a faculty member in cooperation with a clinical specialist in the content area. The course involves a combination of didactic and clinical experiences.

897. Independent Study/Research. 2 credits. This specialized independent study/research course is made available to students so that they may elect the opportunity to work with a faculty member who has an established research area. The student will be able to extend his/her understanding and knowledge of how research is conducted in the field of physical therapy.

999. Physical Therapy 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.
College of Sciences

www.sci.odu.edu/

Richard V. Gregory, Dean
Joseph H. Rule, Associate Dean for Research and Graduate Studies

Ph.D.  Applied Experimental Psychology
       Biomedical Sciences
       Chemistry
       Computational and Applied Mathematics
       Computer Science
       Ecological Sciences
       Oceanography
       Physics

Psy.D.  Clinical Psychology

Master’s  Biology
         Chemistry
         Computational and Applied Mathematics
         Computer Science
         Ocean and Earth Science
         Physics
         Psychology
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 of Sciences 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 a Masters of Science in Education in the respective field.

Programs in the College of Sciences have developed graduate programs in the basic and applied sciences that meet the needs of the Eastern Virginia region, the state, and the nation. These programs address a variety of challenges, ranging from basic research to the quest for solutions to contemporary problems in science. The importance of these challenges is reflected by the more than $16 million in funded grants and contracts for educational and research endeavors currently generated by the college. The college also provides the Mid-Atlantic States with much-needed graduate programs in broad fields of concentration leading to both master’s and doctoral degrees. Related program emphases within the major areas of study are designed to meet the professional needs of the students and communities served.

The college’s faculty of 160 highly skilled professional educators is devoted to guiding students toward an assimilation of the most current scientific theories, research, and practices.

College Financial Aid
The College of Sciences has established teaching and research assistantship stipends that range from $5,250 to $20,500. The responsibility for distributing these assistantship stipends lies in each department. In addition, each department has fellowship and tuition exemption funds available for competitive distribution.

Dominion Graduate Scholars
The College of Sciences offer a number of very competitive awards for graduate students newly admitted into Ph.D. programs. Some of these are Dominion Graduate Scholar appointments that carry a stipend of $18,000 for a 12-month period and full tuition exemptions. These Scholars must be enrolled in at least six hours of graduate courses each semester, and three graduate credits during the summer to meet institutional eligibility requirements. These students are expected to be scholars in residence and spend full time in pursuit of their studies. Since the teaching or research experience will be more limited than for other awards, the Scholars will have sufficient time to devote to their academic studies. All admission materials are considered as a part of the evaluation process. Students apply to specific graduate programs and may inquire about the Dominion Graduate Scholarship. After a student has been appointed to a Dominion Scholarship, the Graduate program director will submit a copy of their letter-of-offer, letter-of-acceptance and the awardee’s credential summary. Minimum criteria for eligibility are as follows:
1. GRE scores of either:
   a. 1200 combined verbal and quantitative, or
   b. 1300 in any two of verbal, quantitative, or analytical.
2. Undergraduate GPA of 3.20 overall and 3.50 in the major, out of 4.00 maximum.
3. Evidence of research aptitude by undergraduate thesis/research, publications, M.S. thesis and/or letters of reference.
4. Information concerning the Dominion Graduate Scholar Program may be obtained from the graduate program director for the program of interest.

Doctor of Philosophy - Biomedical Sciences
R. James Swanson, Graduate Program Director
Wayne L. Hynes, Track Coordinator for Pure and Applied Biomedical Sciences
Patricia A. Plehan, Track Coordinator for Clinical Chemistry
Nancy Xu, Track Coordinator for Biological Chemistry

The Departments of Biological Sciences and, Chemistry and Biochemistry at Old Dominion University and the Departments of Pathology and Anatomy, Biochemistry, Pharmacology, Physiology, Microbiology and Immunology, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Surgery, and Urology at Eastern Virginia Medical School jointly offer course work and research opportunities leading to the Ph.D. degree in biomedical sciences.

In this interdisciplinary program all students are required to master a broad knowledge of the basic biomedical sciences. Integration of the basic courses is reinforced by a rotation of laboratory experiences and by special seminars that highlight disciplinary interrelationships and approaches to biomedical research. The student progresses from the common core of basic courses to in-depth study of specific biomedical problems. This includes advanced doctoral courses and the doctoral research project. Under the guidance of the graduate faculty, the breadth provided by the spectrum of biomedical disciplines is maintained throughout the focus on an area of specialization.

The program graduate will be a scientist with a broad biomedical education and a demonstrated ability to carry out original and creative research, cognizant of the disciplinary interfaces and implications and capable of pursuing and/or recommending continuing lines of study. He/she will be prepared to bridge the gap between the bench and the bed, to share in discovery of the grant proposal and the pursuit of science. The graduate is capable of serving in an industrial, governmental, or academic teaching or research setting, either independently or as a member of a team.

Admission
The requirements for admission to the biomedical sciences Ph.D. program are as follows:
1. A bachelor’s degree from an accredited college or university with a B (3.00) average. Students with advanced degrees are encouraged to apply.
2. Completion of the Graduate Record Examination (GRE); verbal + quantitative ≥ 1,000.
3. Prior training in biology (two years), calculus and/or statistics, and organic chemistry (one year). Additional courses in biology, chemistry, and physics are recommended.
4. Certain tracks (e.g., clinical chemistry) may have additional prerequisite course work that must be satisfied before the formal graduate program of study can begin.

Virginia residency laws from the Code of Virginia apply to tuition charges and for other privileges accorded only to residents of Virginia.

Curriculum and Requirements
To accomplish the objectives of the program, the student:
1. Selects one of the approved tracking defining basic and advanced course work options;
2. Enrolls in the basic biomedical sciences courses to develop a broad foundation for more advanced course work and dissertation research;
3. Selects appropriate advanced course work approved by the guidance committee;
4. Completes at least 79 credit hours beyond the bachelor’s degree or 48 credit hours beyond the master’s degree;
5. Rotates through three laboratories developing research questions and techniques in a variety of disciplines;
6. Presents two seminars;
7. Passes either (1) written and oral qualifying examinations on course work or (2) an NIH-style grant proposal written on a research question in an area not specific to the planned research in the mentor’s laboratory and an oral exam on the grant proposal and the coursework;
8. Develops an interdisciplinary research proposal in NSF or NIH format that is accepted by the guidance committee;
9. Performs research to demonstrate the ability to carry out original and creative research; and

The student’s curriculum is designed with the assistance and approval of a guidance committee. The following guidelines established by the track that most closely matches the student’s interests. The following tracks are approved within the biomedical sciences program: biological chemistry, clinical chemistry, pure and applied biomedical sciences (all at ODU), and molecular and integrative biosciences (at EVMS).

The program of study in each track is divided into three phases:
Phase I (basic course work) introduces the student to much of the same basic science information as the medical student and provides the opportunity for applying of different backgrounds to strengthen their training in preparation for the more advanced phases. Courses are taught at both Old Dominion University and Eastern Virginia Medical School.
Phase II (specialization in an area of interest) enables students to develop depth of knowledge through intensive study in advanced course work and tutorials.
Phase III (research and dissertation) allows students to develop excellence in creative research in interdisciplinary problems in the Biomedical Sciences. The program handbook describes in greater detail the development of the course sequences and the qualifying steps for progress through each of the phases leading to the award of the Ph.D. degree.

**Application Procedure**

The completed application for the biomedical sciences Ph.D. program will include the following items:

- Transcripts of all college course work. Transcripts will be official transcripts sent by the registrars of the colleges attended.
- Graduate Record Examination (GRE) test scores, sent directly from the Educational Testing Service to the Old Dominion University Graduate Admissions Office.
- A statement of personal goals and academic objectives.
- Three letters of recommendation, preferably from faculty members at colleges attended who are familiar with the applicant’s academic and research capabilities.
- A completed application form.
- Receipt of the application fee. Checks should be made payable to Old Dominion University.

Domestic student applications to Old Dominion University should be sent with all related documents and materials to the Office of Graduate Admissions, Old Dominion University, Norfolk, VA 23529-0050.

International student applications should be sent with all related documents and materials to Old Dominion University, Office of International Admissions, Old Dominion University, Norfolk, Virginia 23529-0050, USA.

It is the responsibility of the applicant to ensure that all application materials are received and the application is complete in all respects.

**Financial Aid**

Sources of financial aid available to biomedical sciences Ph.D. students from both institutions include (1) waivers of tuition, (2) research and teaching assistantships and (3) loans.

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## Department of Biological Sciences

110 Mills Godwin Building
Norfolk, Virginia 23529-0266
(757) 683-3595
http://sci.odu.edu/biology/

Lynton J. Musselman, Chair
Wayne L. Hynes, Assistant Chair, and Biology MS Graduate Program Director
John R. Holsinger, Ecological Sciences Ph.D. Graduate Program Director

The Department of Biological Sciences provides a broad selection of course offerings. The degree program in biology allows for the selection of elective subjects most suited to the individual’s vocational interests.

### Master of Science—Biology

Wayne L. Hynes, Graduate Program Director

Students in the Master of Science program develop a curriculum centered on their particular interest such as: botany, ecology, immunobiology, infectious diseases, marine biology, microbiology, physiology, reproductive biology, systematic biology, and zoology. In addition, there are two specially designed concentration areas in biotechnology and wetland ecology. Students in these concentrations must satisfy all the requirements for the M.S. degree in Biology.

Facilities in the Department of Biological Sciences include: electron microscopy, terrestrial and aquatic animal care facilities; laboratories for radiobiological assay, biomechanics, environmental pollution, marine benthic ecology, biotechnology, spectroscopy, cell culture, protein separation, DNA sequencing, GIS (Geographic Information System) and digital imaging, as well as a herbarium, zoological museum, and modern animal and greenhouse facilities. New aquatic and field science wet laboratories and expanded microscopy facilities are under construction. In addition, excellent opportunities exist for research and instruction off-campus at Eastern Virginia Medical School, and field research sites including: Blackwater Ecologic Preserve, Virginia Coast Reserve-Long Term Ecological Research Site, Virginia Institute of Marine Sciences Eastern Shore Marine Laboratory, and other regional agencies and facilities.

### Admission Information

Students who wish to enter this program should apply to the Master of Science in biology program and indicate their proposed field of study in the Statement of Interest, a required component of the application. Applications for admission can be obtained via the Internet at http://admissions.odu.edu/graduate.php or from:

Office of Graduate Admissions
Old Dominion University
Norfolk, VA 23529-0050
(757) 683-3637

Requirements for regular admission to the master’s program in biology are:

1. A bachelor’s degree in biology or a related field from an accredited college or university;
2. A grade point average of 3.00 in biology subjects and at least 2.80 overall (on a 4.00 scale);
3. Satisfactory scores on the General portion of the Graduate Record Examination (GRE) [Verbal+Quantitative ≥1000] or on the Medical College Admission Test (MCAT) [24 minimum]
4. Three letters of recommendation;
5. An essay describing professional goals and motivation for graduate study in biology; and
6. Written acknowledgment from a Department of Biological Sciences faculty member agreeing to serve as the student’s major advisor, if the student is accepted.

Students without a biology degree, or who do not meet all of the admission standards, but are otherwise qualified, may be admitted on a provisional status. For this purpose, the student satisfies the requirements of approved entry systems of other institutions. The Test of English as a Foreign Language (TOEFL) is required of all applicants whose native language is not English.

### Degree Requirements

Two degree options are available — thesis and non-thesis. A minimum of 31 semester hours of graduate credit is required of thesis students and 37 of non-thesis students. Three-fifths of these credits must be at the 600-level or above and in structured courses. Research (BIOL 698) is required of all students. All students must deliver a scientific presentation in an appropriate public forum. For this purpose, the presentation should be at a scientific meeting. Course work, including any required courses, is selected according to the interest of the student, with the guidance and approval of the student’s faculty advisory committee. All students will complete a comprehensive exam (written or oral) that covers the student’s program of study. A substantial research project and a defense of the written thesis (BIOL 699) are required of students selecting the thesis option.

### Master of Science - Wetland Biology Concentration

The wetland biology concentration has been structured to contain essential clusters in the following disciplines: plant identification, wetland and aquatic ecology, soils and hydrology, regulation, technical application, topical seminars, internships, and research and/or thesis. Required curriculum course are: BIOL 519, 543, 550, OES 508, and 622.

### Master of Science - Biotechnology Concentration

The biotechnology program is designed to enable the student to learn basic skills in cell and molecular biology, with the flexibility to develop a curriculum in the areas of infectious diseases, immunology, physiology, or environmental molecular biology. The graduate program in biotechnology stresses the development of laboratory skills at the molecular and cellular level (which may be applied to the whole organism).

Biotechnology students are required to take four core courses in addition to the research and presentation requirements; Molecular and Immunological Techniques (BIOL 507), Cellular and Molecular Biology (BIOL 523), Biochemistry (CHEM 521/523), and Molecular Genetics (BIOL 755). The remaining coursework is selected according to the interest of the student, with the guidance and approval of the student’s faculty advisory committee.

### Master of Science - Biology Courses

Many pertinent graduate courses are offered for the Master of Science in Biology programs that can be applied toward the degree requirements. Such courses include, but are not limited to the following:

**Biotechnology, Infectious Diseases, Immunology, Physiology**

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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BIOL 507</td>
<td>Molecular and Immunological Techniques</td>
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<td>BIOL 509</td>
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<td>BIOL 523</td>
<td>Cellular and Molecular Biology</td>
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BIOL 524 Comparative Animal Physiology 5
BIOL 530 Microbial Pathogenesis 3
BIOL 590 Advanced Human Physiology 3
BIOL 593 Human Neurophysiology 2
BIOL 704 Disease Vector Ecology 4
BIOL 705 Advanced Microbiology 4
BIOL 712 Electron Microscopy 4
BIOL 716 Endocrinology 5
BIOL 730 Emerging Infectious Diseases 3
BIOL 745 Advanced Immunology 3
BIOL 755 Molecular Genetics 3
BIOL 789 Gross Anatomy 6

Environmental Biology
BIOL 500 Vascular Plant Families 5
BIOL 501 Entomology 4
BIOL 504 Conservation Biology 5
BIOL 512 Plant Physiology 4
BIOL 515 Marine Ecology 3
BIOL 519 Wetland Delineating Plants 5
BIOL 520 Ichthyology 5
BIOL 522 Field Study Ornithology 3
BIOL 528 Physiological Ecology of Animals 3
BIOL 531 Mammalogy 5
BIOL 533 Cave Biology 4
BIOL 538 Dendrology 4
BIOL 541 Animal Behavior 4
BIOL 542 Marine Ecology Lab 2
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BIOL 545 Community Ecology 3
BIOL 546 Comparative Biomechanics 3
BIOL 548 Population Ecology 3
BIOL 550 Principles of Plant Ecology 4
BIOL 553 Herpetology 5
BIOL 554 Marine Ecology Lab 3
BIOL 557 Microbial Ecology Lab 1
BIOL 632 Marine Microbiology 4
BIOL 521 Ornithology 3
BIOL 707 Ecosystem Ecology 5
BIOL 720 Systematic Ichthyology 3
BIOL 728 Simulation Models: Ecosystem and Global Applications 5
BIOL 749 Biogeography 3
BIOL 750 Marine Benthic Ecology 3
BIOL 752 Quantitative Ecology 3

Master of Science in Education - Biology
Refer to the Darden College of Education section of this catalog.

Doctor of Philosophy - Ecological Sciences
John R. Holsinger, Graduate Program Director

Program Description
The primary goal of the doctoral program in ecological sciences is to provide advanced training in ecological, evolutionary and integrative biology. The program has notable strengths in a broad range of biological subdisciplines, including ecosystem studies, experimental ecology, population biology, conservation biology, systematics, evolutionary biology, and comparative and functional morphology. Program faculty conduct studies in a variety of terrestrial, freshwater, and marine environments on several continents, and their research focuses on a broad spectrum of taxa, including, but not limited to, vascular plants, polychaetes, mollusks, crustaceans, insects, fishes, amphibians, and reptiles. Many faculty combine active field research with parallel laboratory studies. Quantitative approaches are encouraged and the opportunity exists to obtain a master’s degree in statistics while pursuing a doctorate in ecological sciences. The program is enhanced by excellent on-campus resources that include an electron microscopy lab, sequencing lab, herbarium, GIS facilities, greenhouse, and digital imaging facilities. Field research sites have been established in the Virginia Coastal Reserve, Blackwater Ecologic Preserve, Great Dismal Swamp, Atlantic Ocean, Chesapeake Bay, and other areas. A new facility for experimental aquatic research is under construction.

Admission
Application forms for admission to the Ph.D. program in ecological sciences are available from the Office of Admissions and online (http://web.odu.edu/oduhome/admissions.shtml). The following should be sent to the Admissions Office:
1. the completed application form;
2. official transcripts from all universities attended;
3. Graduate Record Examination (GRE) scores;
4. Test of English as a Foreign Language (TOEFL) score (from students whose native language is not English);
5. three letters of recommendation, including one from the applicant’s major advisor; and,
6. a statement of professional goals that includes specific research interests.

The financial aid form (if applicant is requesting financial aid) should be sent to the Director, Ecological Sciences Ph.D. Program, Department of Biological Sciences, Old Dominion University, Norfolk, VA 23529-0266. Deadlines for application to the program are July 15 for the fall semester, November 1 for the spring semester, and April 15 for the summer term. Financial aid applications should be received by March 1 for the fall semester.

To qualify for admission, a student needs: (1) a satisfactory academic average (overall GPA score of at least 3.0 on a 4.0 scale), (2) overall GPA in the sciences of at least 3.0, (3) GRE scores near the 70th percentile on each of the examination sections (verbal, quantitative, and analytical), (4) a TOEFL score of at least 550 (for students whose native language is not English); and (5) satisfactory letters of recommendation and statement of professional goals as stated above. In addition, a master’s degree is desirable but not required. The applicant is expected to have a background in the sciences, with an appropriate undergraduate degree and substantial course work in biology, chemistry or geology. While personal interviews are desirable, contact with a faculty member in the specific research area is required. This member must agree to be the major advisor, at least provisionally.

Program Requirements
Program requirements are designed to provide a firm foundation in conceptual elements of ecological, evolutionary, and integrative biology, while moving students expeditiously toward their own research. In general, students must complete 48 hours beyond the master’s degree or, in the absence of the master’s, 70 hours beyond the bachelor’s degree. The student’s program of study should be broad and balanced. Course work varies with each student, depending on background and goals. Enrollment in a weekly ecology seminar is required, on average, one semester each year. Professional experience (environmental management or teaching) is encouraged. A five-member advisory committee of faculty is selected to guide the student through his or her course of study and to provide initial approval of the dissertation research. This committee also administers the comprehensive written and oral candidacy examinations, which are taken after all required course work is completed and the research skill requirement (proficiency in one foreign language or computer programming) is satisfied. The written candidacy exam must be passed before the oral exam may be taken. Once the candidacy exams are completed and the advisory committee approves a written dissertation prospectus, the student advances to candidacy. At that time, the dissertation committee is formed to supervise the research, and the student’s attention turns almost exclusively to his or her own research. However, students continue to participate in seminar courses on a variety of topics, and an average of one seminar course per year of residency on campus is required. At the conclusion of their research, the student submits a dissertation to the committee and presents a public defense of this work.

Courses
Many graduate courses pertinent to the Ph.D. in Ecological Sciences can be applied toward the degree requirements. Such courses include, but are not limited to, the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 500</td>
<td>Vascular Plant Families</td>
<td>5</td>
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<tr>
<td>BIOL 501</td>
<td>Entomology</td>
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<td>BIOL 504</td>
<td>Conservation Biology</td>
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<td>BIOL 512</td>
<td>Plant Physiology</td>
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<td>Marine Ecology</td>
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<td>BIOL 519</td>
<td>Wetland Delineating Plants</td>
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<td>BIOL 520</td>
<td>Ichthyology</td>
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<td>BIOL 522</td>
<td>Field Studies in Ornithology</td>
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<td>BIOL 528</td>
<td>Environmental Impact Assessment</td>
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<td>BIOL 531</td>
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<td>BIOL 533</td>
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<td>BIOL 541</td>
<td>Animal Behavior</td>
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<td>BIOL 542</td>
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<td>BIOL 543</td>
<td>Environmental Impact Assessment</td>
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<td>BIOL 545</td>
<td>Community Ecology</td>
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<td>BIOL 546</td>
<td>Comparative Biomechanics</td>
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<td>BIOL 548</td>
<td>Population Ecology</td>
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<td>BIOL 550</td>
<td>Principles of Plant Ecology</td>
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<td>BIOL 553</td>
<td>Herpetology</td>
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<td>BIOL 557</td>
<td>Microbial Ecology Lab</td>
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<td>BIOL 720</td>
<td>Systematic Ichthyology</td>
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<td>BIOL 728</td>
<td>Simulation Models: Ecosystem and Global Applications</td>
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<td>BIOL 749</td>
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<td>BIOL 750</td>
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<td>BIOL 752</td>
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<td>BIOL 545</td>
<td>Community Ecology</td>
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COLLEGE OF SCIENCES 223
The Department of Chemistry and Biochemistry offers a program of study leading to the degree of Master of Science in chemistry. This program offers a sound academic background of course work and research to prepare the student for further graduate study or employment in fields requiring an advanced degree. Areas of specialization within the program include analytical chemistry, biochemistry, biogeochemistry, clinical chemistry, environmental chemistry, marine chemistry, materials chemistry, medicinal chemistry, organic chemistry, and physical chemistry.

**Admission**

An application, transcripts, two letters of recommendation from former college teachers, and Graduate Record Examination (GRE) scores (aptitude section) are required for consideration of admission to the program. Admission to regular status requires a grade point average of 3.00 in the major and 2.8 overall (on a 4.00 scale). General university admission requirements apply. Undergraduate courses in organic, inorganic, analytical (quantitative and instrumental analysis), physical chemistry and calculus are required for regular admission. Deficiencies in any of these areas will be identified and must be rectified by taking undergraduate courses.

**Program Requirements**

**Writing Proficiency Policy.** Each graduate student entering the program must prepare an essay or a short paper (up to 500 words) to be submitted to the departmental graduate committee for the evaluation of the student's writing proficiency. The graduate committee will evaluate this paper and refer the student to the Writing Center if remedial assistance in writing is necessary.

**Options.** Candidates for the master's degree have two options in their program: the research/thesis option and the non-thesis option. Within each of these options, students may choose one of the several sub-discipline tracks described below.

**Courses.** A minimum of 31 hours is required for the thesis option, including six hours for research and thesis. A minimum of 34 hours is required for the non-thesis option, including three hours for independent study. Up to 15 hours may be taken in related courses given by other departments provided they are approved by the Graduate Studies Committee of the Department of Chemistry and Biochemistry. At least 60% of the credit hours must be from 600-level courses or higher.

### Curriculum Core Areas

- **Biology:**
  - BIOL 546 Comparative Biomechanics: 3 credits
  - BIOL 548 Population Ecology: 3 credits
  - BIOL 550 Principles of Plant Ecology: 4 credits
  - BIOL 573 Herpetology: 5 credits
  - BIOL 578 Microbial Ecology: 3 credits
  - BIOL 579 Microbial Ecology Lab: 1 credit
  - BIOL 632 Marine Microbiology: 4 credits
  - BIOL 807 Ecosystem Ecology: 5 credits
  - BIOL 808 Ecological Sciences Seminar: 3 credits
  - BIOL 820 Systematic Ichthyology: 1 credit
  - BIOL 828 Simulation Models: Ecosystem and Global Applications: 5 credits
  - BIOL 831 Systematics and Speciation: 3 credits
  - BIOL 849 Biogeography: 3 credits
  - BIOL 850 Marine Benthic Ecology: 4 credits
  - BIOL 852 Quantitative Ecology: 4 credits

**Admission Requirements**

- Satisfactory completion of a minimum of 78 credit hours beyond the Bachelor's degree, or 48 credit hours beyond the master's degree, in five of the six core areas.
- A minimum of 78 credit hours beyond the Bachelor's degree and 48 credit hours beyond the master's degree, in five of the six core areas.

**Research and Thesis.** During their first semester (and no later than the end of their first academic year) students enrolling in the research/thesis option are required to interview the chemistry graduate faculty, choose a graduate faculty research advisor, and develop a research committee. The student must write a research proposal describing his/her proposed research project, and present it to his/her research committee for approval. Upon completion of their research, the student must write a formal thesis acceptable to his/her research committee.

**Non-Thesis Option.** No later than the end of their first academic year, students enrolling in the non-thesis option are required to interview the chemistry graduate faculty and choose a graduate faculty independent study advisor. Non-thesis students and their independent study advisor will then agree upon an independent study project. Upon completion of their independent study project, non-thesis students must write a formal independent study report acceptable to their independent study advisor and the Graduate Studies Committee.

**Comprehensive Examination.** All students must pass an oral examination in their field of concentration. This examination will form part of the research thesis defense for research/thesis students, and part of the oral presentation of the independent study report for non-thesis students. This oral examination/presentation will provide a measure or allow assessment of the student's chemical knowledge and/or capability.

**Master of Science in Education - Chemistry Major**

Refer to the Darden College of Education section of this catalog.

**Doctor of Philosophy – Chemistry**

The Ph.D. program in chemistry prepares students in the application of chemical principles to address many of society's technical, environmental and biomedical problems. Students will be able to provide leadership in industrial, governmental and educational institutions in directing research and/or development to solve these problems. The Ph.D. degree in chemistry is granted to students who have: (1) mastered advanced knowledge of definite sub-fields of chemistry; (2) become familiar with research in these specific fields and developed perceptions of opportunities for further scientific advances; and (3) demonstrated the capacity to perform original, independent, and scholarly scientific investigation in their specific field and interpret their results.

All students admitted to the program must read and understand the regulations and policies described here and elsewhere throughout this catalog relevant to Old Dominion University’s requirements for Ph.D. degrees. The essential credit requirements for the chemistry Ph.D. are: a minimum of 78 credit hours beyond the Bachelor’s degree and 48 credit hours beyond the master’s degree.

**Admission**

Consideration for admission to the Ph.D. program in chemistry requires a formal application, undergraduate/graduate transcripts, three letters of recommendation (at least two from former college teachers), and scores on the general section of the Graduate Record Examination (GRE). There are three types of admission decisions: Regular Status (no conditions), Provisional Status (with conditions), and Denied. Admission to regular status requires a GPA of 3.00 in the major and 2.8 overall (based on a 4.00 scale). General Old Dominion University admission requirements apply. In addition, a Bachelor of Science degree (or equivalent) with a major in chemistry (or another science) is required, although applications from majors in inorganic, analytical (quantitative and instrumental analysis), physical chemistry and calculus are required for admission to regular status. Course deficiencies will be addressed by requiring students to take appropriate undergraduate course work.

**Program Requirements**

The minimum requirements for the Ph.D. degree in chemistry are:

1. Satisfactory completion of a minimum of 78 credit hours beyond the Bachelor’s degree, or 48 credit hours beyond the master’s degree, including the dissertation requirement.
2. In preparation for the Ph.D. candidacy examination and in a manner consistent with existing master’s requirements, students will complete a minimum of three courses, one in each of the six chemistry curriculum areas.
Department of Computer Science

Engineering & Computational Sciences Bldg.
4700 Elkhorn Ave, Suite 3300
Norfolk, VA 23529-0162
http://www.cs.odu.edu/

Kurt J. Maly, Chair
Hussein Abdel-Wahab, Graduate Program Director

Programs

The Department of Computer Science offers programs leading to the Master of Science with a major in computer science, an accelerated five year combined B.S.C.S. and M.S. with a major in computer science and the Doctor of Philosophy in computer science. The Department of Computer Science also offers a Master of Science and Master of Engineering in computer engineering (jointly with the Department of Electrical and Computer Engineering in the Batten College of Engineering and Technology) and a Master of Science in computer science with a computer information sciences emphasis (jointly with the Information Technology Department in the College of Business and Public Administration).

Computer science traces its foundation to mathematics, logic and engineering. Studies in computer science encompass theory, experimental techniques, and engineering methodology. The computer science curriculum exposes students to aspects of each of these disciplines and fosters an appreciation and understanding of them. Students are exposed to the broad theoretical basis of computer science through lecture and laboratory experience.

The Computer Science Department offers a set of courses to professionals who need supplementary experience; these courses include database administration, network design and administration, and UNIX system administration.

A graduate of the computer science program will have a broad fundamental knowledge of the field and in-depth knowledge in a particular subject area. To acquire breadth, graduate students in the department are required to take core courses which together with the undergraduate core courses cover major aspects of computers and computation. At the master’s level, the department supplements breadth study in the following areas: networking, security, software engineering, computational foundations, database engineering, digital libraries, high performance scientific computing and bioinformatics. At the Ph.D. level, areas of specialization are limited only by the interests of the available faculty.

Computing Facilities

The department has over 750 high-end workstations running various flavors of the UNIX operating system and Microsoft operating system. 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 also has access to the National Lambda Rail allowing connection to select research institutes at 10GBPS. The department has two datacenters with over 75 servers running various research and instructional applications. Over 10 terabytes storage space is available within the department. The department has four clusters with 32 node dual opteron processors.

Admission

Students entering a graduate program in the Computer Science Department must have a bachelor’s degree from an accredited college or university. In addition, an applicant must have a strong background in computer science. Students who do not have a sufficient background in computer science may enter the master’s program as provisional students and make up for their deficiencies by taking appropriate courses. An applicant for the Ph.D. program is expected to have a master’s degree in computer science or a related field.

Applicants are required to take the GRE aptitude test; for the computer information sciences emphasis (described below), the GMAT aptitude test may be used. Two letters of recommendation from faculty members of academic institutions are required in addition to all transcripts at the post-secondary level. For students whose native language is not English, a TOEFL score of 550 or higher is also required.

Each application for a graduate program is evaluated individually by the departmental graduate committee.

Master of Science - Computer Science

Requirements

The departmental requirements for the master’s degree are described below. All these requirements must be satisfied in addition to the University requirements outlined under the Academic Information section of this Catalog.

Core courses: CS 550, 555, 600, and 665.

Colloquium: Attend at least 10 colloquiums as detailed below.

Comprehensive examination: Pass at least at the MS level as detailed below.

Course options: Two options are available for candidates for master’s degrees: thesis option and non-thesis option.

Thesis Option. A minimum of 31 credit hours is required, including 24 credits of course work, six credits of thesis research and one credit of colloquium. The candidate is required to write a thesis and make an oral presentation of the results.

Non-thesis Option. A minimum of 34 credit hours is required, including 30 credits of course work, three credits of project work and one credit of colloquium. The candidate is required to prepare a written report on the project and to present it orally.

Course restrictions: No more than six credits of the following courses may be counted towards the degree: CS 697, CS 791 and CS 796. At least three credits counted toward the computer science degree must be taken at the 700-level from courses other than CS 791 and CS 796.

Time Limit. All requirements for the master’s degree must be completed within six years.

Master of Science - Computer Information Systems

Emphasis

Requirements

This area, offered jointly with the Information Systems and Technology Department of the College of Business and Public Administration, is appropriate for students with either a bachelor’s degree in business administration with a major in information systems and a computer science minor or with a bachelor’s degree in computer science with a business administration minor.

Core courses: CS 551 or IT 664, CS 554 or IT 665, CS 555, and IT 672. Two must be taken from each department.
Accelerated B.S. and M.S. in Computer Science

This program allows for exceptionally successful students to earn both a B.S. and M.S. in Computer Science within five years by allowing them to count up to 12 credits of graduate coursework toward both their undergraduate and masters degrees in Computer Science.

Master’s Degree - Computer Engineering Major

Entrance Requirements

An undergraduate degree in an Accrediting Board for Engineering and Technology (ABET)-accredited computer engineering program is an ideal preparation for the program, though students with degrees in either computer science or electrical engineering should be able to enter the program with very few deficiencies (typically no more than three courses) and are encouraged to apply.

Requirements

All students are required to take four core courses: CS 555, 665; ECE 544 and 642. Students must also take four electives from an approved list of computer science, electrical and computer engineering and mathematics courses with at least one selection from computer science and one selection from electrical and computer engineering. Each student must pass a written and/or oral comprehensive examination and a writing proficiency examination.

Master of Science

A minimum of 31 credits is required, including 24 credits of approved course work, six credits of research work, and one credit of colloquium. The candidate is required to prepare a thesis.

Master of Engineering

A minimum of 31 credits is required, including 30 credits of approved course work and one credit of colloquium.

Doctor of Philosophy - Computer Science

Requirements

A candidate for the doctoral degree in computer science must meet all of the following requirements in addition to the University requirements outlined under the Academic Information section in this Catalog:

1. Pass the diagnostic examination at the Ph.D. level;
2. Complete a minimum of 27 credit hours of course work beyond the master’s degree (or equivalent);
3. Pass the candidacy examination;
4. Attend at least 20 colloquia as detailed below;
5. Complete the dissertation work of 24 credit hours or more; and,

The above must be completed within eight years after admission to the Ph.D. program.

Diagnostic Examination. Students who have been admitted to study toward the doctoral degree in computer science must pass the diagnostic examination at the Ph.D. level before the end of 12 hours of postmaster’s course work or the end of their second semester, whichever comes first. See the details below.

Advisor. Upon admission to the Ph.D. program, a faculty advisor will be assigned to the student for general guidance. The student, however, is expected to have found a dissertation advisor by the time he or she passes the diagnostic examination.

Course Requirements. Students must complete the course work as specified below:

1. A minimum of 27 hours beyond the master’s degree. At least 9 out of these 27 credit hours should be non-topics courses;
2. At least 18 hours must be from the 800 level;
3. At least 18 hours must be in computer science; and
4. A maximum of six hours may be transferred into the Ph.D. program from postmaster’s course work done elsewhere.

Candidacy Examination. Near the end of the course work the student must pass a candidacy examination. This examination is designed to test the student’s knowledge of computer science as well as background knowledge on the dissertation topic. The student is required to prepare a literature critique on the dissertation topic and a dissertation research proposal including a research plan. The student must pass this examination no later than three years after acceptance into the Ph.D. program.

Dissertation. A minimum of 24 credit hours of dissertation work is required. The work must represent an achievement in research and must be a significant contribution in the field.

Publication. Students are required to publish (or have in a revision process) at least one paper in a refereed journal or refereed conference proceedings based on their dissertation work.

Dissertation Defense. The examination will be oral and the examination committee must have the completed dissertation at least two weeks before the examination date. In addition to the defense, students are required to give a public oral presentation on their dissertation results.

Time Requirement. Ph.D. students should normally be full time. Students who wish to pursue their study on a part-time basis must spend at least two semesters on campus or at an off-campus facility engaged in full-time graduate study. A full-time student can be expected to satisfy all the Ph.D. requirements in three years when entering with an M.S. degree in computer science or four years with a baccalaureate degree in computer science. No student (full time or part time) will be allowed to study for the Ph.D. degree beyond eight years from the date of admission into the program.

Comprehensive/Diagnostic Examination

The comprehensive/diagnostic examination for the general emphasis area is an in-depth test in the core areas of computer science: analysis of algorithms, computer architecture, database systems, communication networks, operating systems, and software engineering. The comprehensive/diagnostic examination for the computer information sciences emphasis covers the core courses for that emphasis.

The examination is used both as a comprehensive examination for the master’s degree and as a diagnostic examination to screen possible Ph.D. students. There are consequently three outcomes for this examination: Ph.D. pass, M.S. pass and fail. Passing the comprehensive/diagnostic examination at the master’s level is required for the master’s degree while passing this examination at the Ph.D. level is necessary for Ph.D. students.

Colloquium Activities

The Computer Science colloquium series brings in researchers and practitioners from around the region, country and the world to speak of topics of interest in Computer Science. Attendance at these colloquia is an important part of a graduate education. MS students are expected to attend 10 colloquia while the Ph.D. students are expected to attend 20 colloquia during their tenure at ODU. For further details of the graduate program, please consult the Graduate Handbook of the Computer Science Department and the department web page www.cs.odu.edu
economics, actuarial science, business (operations and market research),
banking, and medicine. Students will learn to use methods of applied mathematics, probability, statistics, biostatistics, numerical analysis, and scientific computing in seeking solutions to such problems. For work in computational and applied mathematics, training in an additional field of application is a necessity.

The desire and ability to use mathematics to bring together various disciplines is the unique characteristic of an applied mathematician. Not only has mathematical modeling and solving of societal and scientific problems increased the demand for applied mathematicians, but the flexibility and breadth of knowledge inherent in this discipline make it attractive for those who do not want to become irreversibly specialized.

Old Dominion University is one of the few American institutions offering a program expressly in applied mathematics. There are approximately 22 graduate program faculty members in the Department of Mathematics and Statistics, and current enrollment in the program is about 50 students. Areas of faculty research include analytical and numerical modeling in oceanography and meteorology, computational fluid dynamics and stability theory, elasticity and fracture mechanics, combustion theory, magnetohydrodynamics, mathematical biology, numerical analysis and approximation, optimization, applied probability, statistical inference, reliability, multivariate statistics, generalized linear models, estimating equations, biostatistics, nonparametric statistics, bioinformatics, and high performance computing.

Facilities within the metropolitan area include the NASA/Langley Research Center, the Virginia Modeling, Analysis and Simulation Center (VMASC), and the Eastern Virginia Medical School.

The required core courses are: MATH 605, 618, 632, 637, 638, 693; either MATH 622 or 721; and at least 15 additional credit hours of approved graduate course work.

Applied Mathematics Option. Students are required to take MATH 618, 632, 637, 693; either MATH 622 or 721; and at least 15 additional credit hours of approved graduate course work.

Statistics Option. In this option, students are required to take STAT 505, 535, 537, 625, 626, 627, 628, 632, 640 and at least six additional credits of approved graduate course work.

Biosciences Option. In this option, the required courses are STAT 505, 535, 537, 540, 550, 625, 626, 627 or 628, 640, and two 600-level courses from either the College of Health Sciences or the Eastern Virginia Medical School offerings in epidemiology, community health, or history of diseases. Also required is the master's project, STAT 632, involving the use of statistical techniques in medical or health related real-life settings.

Master of Science - Computational and Applied Mathematics

Admission

An applicant to the master’s program in computational and applied mathematics should have a bachelor’s degree in mathematics, statistics, computer science, or an application area with a strong mathematics component (e.g., physics or engineering). Undergraduate mathematics preparation should include calculus work in linear algebra, advanced calculus, differential equations, probability, and numerical methods. Undergraduate averages of 2.80 overall (4.00 scale) and 3.00 in the major and related mathematics courses are required.

A student who does not fully meet all requirements for admission as a regular graduate student may be allowed, with permission of the program director, to enroll as a provisional graduate student. Students lacking adequate preparation will be required to make up their deficiencies by taking appropriate undergraduate courses in addition to those specified for the master’s program.

A formal application form, official transcripts and two letters of recommendation should be forwarded to the Office of Admissions. It is recommended that applicants supply Graduate Record Examination aptitude scores. The following material should be mailed directly to the director of the graduate program in computational and applied mathematics, Department of Mathematics and Statistics: a list of all mathematics courses taken and other courses closely allied to the applicant’s primary interests in applied math or statistics along with the texts used (titles and authors), chapters studied or topics covered, and grades. This information should be enclosed with the financial aid application (if the applicant is submitting one).

Students may enroll in the program on either a full-time or part-time basis. Courses are offered on a regular basis during the late afternoon and early evening hours, which allows part-time students to obtain master’s degrees or post-master’s graduate credit.

Requirements

The M.S. candidate must complete a minimum of 31 normal credit hours of course work designed to fulfill an option in either applied mathematics, statistics or biostatistics. With approval of the graduate program director, up to six of these credits may be chosen from a field of application (e.g., geology, oceanography, ecosystem analysis, computer science, economics, health sciences, operations research, physics and engineering mechanics) in which the student applies analytical and numerical techniques to another discipline. All programs of study must be approved by the graduate program director, and substitutions may be made only with his or her approval.

Master’s Project Requirement. The M.S. candidate will be assigned to a faculty advisor for a master’s project. Each student will enroll in MATH 632 or STAT 632 to complete his/her project. The master’s project is designed not only to broaden students’ analytical competency but also to enhance students’ writing and reporting skills in a technical subject.

Colloquium Requirement. In order to develop an appreciation for the breadth of contemporary research in applied mathematics and statistics, all M.S. candidates will attend and succinctly summarize and evaluate in writing at least eight professional seminars given by research faculty or external seminar visitors. The Richard F. Barry Colloquium Series is run by the department throughout the academic year. The department also conducts seminars jointly with other departments.

Prerequisites. Prerequisite courses for the applied mathematics option are MATH 501, 508, 509, 517, 518 and 522. At most, three of these can be applied towards the 30-credit degree requirement. Prerequisite courses for the Statistics and Biostatistics options are MATH 316, STAT 331, 431/531, 532, 535 and 537. Only STAT 532, 535 and 537 can be applied towards the 30-credit degree requirement.

Doctor of Philosophy - Computational and Applied Mathematics

Admission

Applicants who appear to be qualified for study at an advanced graduate level may be admitted to the doctoral program in computational and applied mathematics. These will be students with very strong backgrounds in mathematics, statistics, computer science, or application areas with a mathematics component (e.g., physics or engineering). Students may be admitted directly to the Ph.D. program with either a bachelor’s or a master’s degree. A grade point average of 3.00 (4.00 scale) in the major and related mathematics courses is required.

Requirements

Course Requirements. A minimum of 55 normal credit hours of course work beyond the bachelor’s degree (24 credit hours beyond the master’s degree) and exclusive of doctoral dissertation work is required. Each student will be assigned a guidance committee, and together they will plan a complete program of course work designed to meet the student’s objectives and to fulfill an option in applied mathematics, statistics or biostatistics. The student is strongly encouraged to select courses in more than one of these option areas and in a field of application whenever such courses contribute appropriately to his or her program. Each program, however, must be directed and approved by the student’s guidance committee.

While the individual program will depend on the nature of the student’s preparation prior to entering, each participant will ordinarily be required to complete one of the following options:

Applied Mathematics Option. The required courses are MATH 605, 618, 622, 627, 637, 638, 693, 817; one of the sequences MATH 801-802 or 803-804; and one of the sequences MATH 821-822 or 823-824.

Statistics or Biostatistics Option. The required core courses are: MATH 517, STAT 547, 550, 625, 626, 627, 628, 630, 640, 827, 828. Students who wish to concentrate in Biostatistics must take STAT 540 and at least six credits

Master of Science in Education - Mathematics

Refer to the Darden College of Education section of this Catalog.

Doctor of Philosophy - Computational and Applied Mathematics
at the 700-level from either the College of Health Sciences or the Eastern Virginia Medical School offerings in epidemiology, community health, or history of diseases.

**Colloquium Requirement.** In order to develop an appreciation for the breadth of contemporary research in applied mathematics and statistics, all Ph.D. candidates will attend and succinctly summarize and evaluate in writing at least 16 professional seminars given by research faculty or external seminar visitors. The Richard F. Barry Colloquium Series is run by the department throughout the academic year. The department also conducts seminars jointly with other departments.

**Foreign Language.** A foreign language is not required.

**Admission to Candidacy Examination.** At the end of the core mathematics or statistics coursework and prior to selecting a dissertation advisor, the student must pass an Admission to Candidacy Examination designed to test scholarly competence and knowledge and to give the examiners a basis for constructive recommendations on subsequent study. The written portion of this examination will be based upon an examination syllabus that will be provided to each student. The outcome of this examination will be reported to the vice provost for graduate studies and research as passed, failed, additional work to be completed, or to be re-examined. In the event of a re-examination, the outcome must be reported as passed or failed. This decision is final. The examination must be passed at least eight months prior to the granting of the degree.

**Dissertation.** A doctoral dissertation representing an achievement in research and a significant contribution to the field is required. Students must register for Research 898 or 899 each semester in which they are doing substantial work on their dissertations. A minimum of 24 hours of such research credit is required.

**Defense of Dissertation.** This examination will be oral and must be completed at least four weeks before the date on which the degree is to be conferred. The dissertation committee members must have the completed dissertation at least two weeks before the date of the oral examination. Under normal circumstances, it is expected that the student will have had a research paper accepted for publication prior to the dissertation defense.

### Department of Ocean, Earth and Atmospheric Sciences

406 Oceanography and Physics Building  
Norfolk, VA 23529  
757.683.4285  
http://www.odu.edu/sci/oceanography/

Richard Zimmerman, Chair  
Fred C. Dobbs, Graduate Program Director

**Mission**

The Department of Ocean, Earth and Atmospheric Sciences acquires and disseminates knowledge of the earth system, including the relationships among the biological, chemical, geological, and physical components of our planet. It is critical that we understand both natural and human-induced processes that change this system so we are prepared to meet present and future challenges. With curiosity, creativity, scholarship, and respect as cornerstones of our philosophy, we strive to increase scientific knowledge and literacy through excellence in research, education, and service to the Commonwealth of Virginia and society in general.

**General Description of Graduate Degrees**

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 has both thesis and non-thesis options. Areas of emphasis are biological, chemical, and physical oceanography and geological sciences. Interdisciplinary studies are encouraged. The curriculum is designed to prepare graduates for professional practice in their area of interest. Official transcripts, letters of recommendation, TOEFL scores (international students), a statement of goals and interest for graduate study should all be submitted to the Office of Admissions by February 1 for full consideration. Scores on the GRE verbal, analytical, and quantitative sections are required.

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 three buildings. The Oceanography/Physical Sciences Building contains state-of-the-art teaching laboratories, computer facilities, and research laboratories for geological sciences and 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 Center for Quantitative Fisheries Ecology is housed close to campus. 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.

### Graduate Certificate in Spatial Analysis of Coastal Environments

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 graduate certification are required to complete the 500-level courses.

1. **Core Courses:** GEOG 504 and OCEN 514 (six credits)
2. **Interpretive Analysis Courses:** Select two three-credit courses from the following: GEOG 502, OEAS 536, GEOG 522, GEOG 590, OEAS 595, or GEOG 595 (six credits)
3. **Capstone Seminar:** GEOG/OEAS 519 (three credits)

### Master of Science - Ocean and Earth Sciences

Fred C. Dobbs, Graduate Program Director

**Admission**

Applicants who have obtained a bachelor’s degree in a science (e.g., biology, chemistry, geology, physics), mathematics, or engineering, with a minimum 3.00 grade point average in their major and a 2.80 overall grade point average, are eligible for regular admission to the program. At least one semester of calculus is also required. Ocean and earth sciences are interdisciplinary; consequently, it is expected that applicants have science courses outside their major.

For students wishing to study geological sciences, an undergraduate major in geology is required for regular admission. Students wishing to study physical oceanography should have majored in physics, mathematics, engineering, computer science, meteorology or related physical sciences. Such applicants must have completed 36 hours in one of these fields and completed mathematics through partial differential equations.

An applicant who does not meet all requirements for admission as a regular graduate student may be admitted as a provisional graduate student. Students lacking adequate preparation for the program may make up deficiencies by taking appropriate undergraduate courses.

**Requirements**

The student shall meet all University requirements for graduate degrees outlined in the Requirements for Graduate Degree section in this Catalog. This includes at least 30 hours of graduate study, demonstration of competency in oral communications and demonstration of proficiency in technical writing. A maximum of 12 hours of credit may be transferred into a graduate degree program from non-degree status at Old Dominion University or from another
accomplished institution, except in the case of an approved interinstitutional program.

Course Distribution. A minimum of 12 hours of basic course work in the four sub-disciplines of oceanography is required of all M.S. students. This core program consists of OEAS 604, 610, 620, and 640. A student must achieve a grade of B or better in each of the four core courses. The student is chosen from a list of approved graduate courses (or graduate courses and research hours for thesis option students). At least 60 percent of all courses must be at the 600 level or above. For the non-thesis option, up to three hours of research may be used to meet course requirements. For the thesis option, up to six hours of research may be used to meet the course requirements.

Non-Thesis Option. For the non-thesis option, the student will demonstrate competency in oral communications by successfully completing OEAS 691 (1 credit). Proficiency in writing may be established by presenting for evaluation either a professional paper or technical report prepared by the student or a report on a current area of research in oceanography. This document must be approved by the student’s advisor and the graduate program director. A student in the non-thesis program must pass a written comprehensive examination testing breadth of knowledge in oceanography. The examination is given twice yearly, normally in October and March. The examination grades are fail, pass, or pass with distinction. A student who fails the examination may retake it only once.

Thesis Option. Before a student embarks on thesis research, a thesis advisory committee must be formed. Further information on University guidelines for forming this committee can be found in the Requirements for Graduate Degrees section of this Catalog. The student must also submit a thesis proposal with outlines of research to be undertaken and identification of the resources required for completion of the research. Guidelines for the preparation of the thesis proposal are available from the graduate program director. Any student whose thesis research requires departmental funding must obtain prior approval from the department chair and graduate program director. No funds will be given without this approval. The thesis proposal requires the approval of the graduate program director, the department chair, and the student’s thesis advisory committee.

As part of the thesis requirement, the student is required to present a public defense of the research. The public defense and approval of the thesis by the student’s Thesis Committee meet the requirements for demonstration of competency in oral communication and presentation of proficiency in technical writing; this also satisfies the comprehensive examination requirement. Students in the thesis program should consult the Graduate Program Director regarding the preparation of the M.S. thesis, scheduling a thesis defense, and the final submission of the thesis.

Shipboard Experience. Each student is required to have at least ten days of shipboard experience. Scheduled class field trips may not be counted toward this requirement.

Request to Graduate. The student should obtain a copy of the form Application for Graduation from the Registrar’s Office and complete this application. The deadline for submitting this application is listed in the class schedule each semester and usually falls near the end of the semester preceding the one during which graduation is anticipated. It is the student's responsibility to meet these deadlines and submit the necessary paperwork for graduation.

Removal of Incompletes. At least one month prior to graduation, all incomplete grades should be cleared. An Academic Record Change form is available for this purpose, and the instructor of the course and the department chair need to sign this form.

Doctor of Philosophy - Oceanography

Fred C. Dobbs, Graduate Program Director

Admission

The doctoral degree in oceanography is granted to students who have (1) mastered definitive fields of knowledge, become familiar with research in these specific fields, and developed perceptions of opportunities for further advances; (2) demonstrated the capacity to do original, independent, scholarly investigation or creative work in their specific fields; and (3) shown the ability to integrate the field of specialization with the larger domains of knowledge and understanding.

All students in the oceanography Ph.D. program are responsible for reading and understanding the regulations and policies set forth here and throughout this Catalog regarding requirements for the Ph.D. degree. The essential credit requirements for the Ph.D. are as follows. The student shall complete 48 credit hours beyond the master’s degree or 78 credit hours for students admitted to the program with a bachelor’s degree. Up to 24 credits can be granted for dissertation.

Requirements

Major Advisor and Guidance Committee. A major advisor must be identified to the graduate program director (GPD), at least provisionally, prior to admission to the program. After receiving admission to the program and enrolling, students consult with the GPD and their major advisor about initial course work. Before completion of nine semester hours (i.e., before the end of the student’s first semester), the student will form a guidance committee in consultation with the major advisor. Please see the graduate program director and the Requirements for Graduate Degrees section of this Catalog for further information on forming a guidance committee.

Plan of Study—Curriculum Plan. Sometime in the first year of study, the student shall prepare a plan of study with the aid and approval of the guidance committee. Students should see the graduate program director and refer to the Requirements for Graduate Degrees section of this Catalog for further information on preparing a plan of study.

Course Work Requirements. Students who do not have an M.S. degree in oceanography normally complete the 12 hours of core courses (OEAS 604, 610, 620, and 640) within the first year. However, waiving the requirement to take any of these core courses requires the approval of the graduate program director. Students must achieve a grade of B or better in each of the core courses. Any student receiving a C (2.0) or lower in any graduate course will be dropped from the program. In consultation with the advisor and guidance committee, students will plan a complete program of course work designed to meet their objectives (see the section above). Depending on the departmental status of the student, the following credit hours are also required:

Those entering the Ph.D. program with an M.S. degree in oceanography must complete any needed core courses (see above), 24 credit hours of lecture courses and at least 24 credit hours of dissertation research, for a minimum of 48 credit hours; and

Those entering the Ph.D. program with a B.S. or M.S. degree in a discipline outside of oceanography shall complete 12 credit hours of the core courses listed above, 24–42 credit hours of additional lecture courses and 24–42 credit hours of dissertation research, for a total of 78 credit hours.

In the non-thesis program, each student must complete a minimum of 72 hours of research. The student must achieve a grade of B or better in each of the core courses, must be in specialty areas of oceanography outside of the student’s major area of emphasis. A maximum of 12 graduate credit hours may be transferred into a graduate degree program from non-degree status at Old Dominion University or from another accredited institution, except in the case of an approved interinstitutional program.

Diagnostic Examination. The guidance committee shall administer a written and oral diagnostic examination during the first semester of residence (or before nine credit hours have been completed) for students entering the program with an M.S. degree in oceanography. For students matriculating with a bachelor’s degree or an M.S. degree in another field, the guidance committee shall administer the diagnostic examination no later than the third semester of residence (or before completion of 27 credit hours). The diagnostic examination will be prepared by the student's guidance committee in consultation with the graduate program director. The results of this examination are used as guidance for the curriculum plan. The guidance committee may also recommend to the graduate program director, based on the student’s performance in the four oceanography core courses, that the diagnostic examination be waived. This must be done in writing, in a memo signed by all members of the student’s guidance committee.

Computer Language Skills. To satisfy this requirement the student must solve a substantial problem by writing an original computer program. The student’s advisor in consultation with the GPD and the student's committee develops the problem and a reasonable timetable for its completion. The problem must be solved independently with no help from others. The results will be evaluated by the advisor and guidance committee who will determine whether the student has solved the posed problem to their satisfaction. This requirement should be completed before taking the candidacy exam.

Ship Time Requirement. Each student is required to have at least ten days of shipboard experience. Scheduled class field trips may not be counted toward this requirement.

Competency In Oral Communication. Competency in oral communication must be established before taking the candidacy examination. It is generally achieved by passing OEAS 691 (1 credit seminar class) in the student’s second or third year of study. Exceptions will only be considered by the graduate program director when requested in writing by the student’s advisor and guidance committee. In general, an exception will be granted only if the student can demonstrate oral competency based on past experience, or if the student has made two oral presentations at national scientific meetings before having taken the candidacy exam.

Proficiency In Writing. Proficiency can be established by the satisfactory evaluation of a student’s refereed paper, professional paper, or dissertation by the faculty. Generally, completion of the dissertation satisfies this requirement.

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Candidacy Exam. Near the completion of course work and before becoming heavily involved in dissertation work, the student shall pass a candidacy examination designed to test scholarly competence and knowledge of oceanography. The exam has written and oral portions prepared by the guidance committee. Additional details on the structure, form and content of the candidacy exam are available from the graduate program director and in the Requirements for Graduate Degrees section in this Catalog.

Formation of a Dissertation Committee. After the candidacy examination has been passed and the dissertation committee formed, the guidance committee’s responsibilities are completed. The dissertation committee is a new committee and is formed to supervise the student’s dissertation research. Students should see the graduate program director or refer to the Requirements for Graduate Degrees section in this Catalog for further information on the formation of a dissertation committee.

Changes to the dissertation committee must be made in advance of the oral dissertation defense. Such changes are made only with the approval of the GPD and college dean.

Admission to Candidacy. Admission to candidacy is a formal step that occurs after the student has: 1. passed both parts of the Ph.D. candidacy examination; 2. filed a dissertation prospectus approved by the student’s dissertation committee; and, 3. completed all formal course work.

The student must be admitted to candidacy at least 12 months before the time the degree is expected to be received, but usually not before the completion of one-and-a-half years of graduate work.

Dissertation Preparation. General courses and procedures governing the submission of a doctoral dissertation are given in the Guide for Preparation of Theses and Dissertations (obtained at http://sci.odu.edu/sci/about/information/thesis/index.shtml). Students should read this guide carefully before beginning to write their dissertation. Writing the dissertation as chapters that can be submitted for publication is encouraged.

Please note that the thesis and dissertation guide in place at the start of the fall semester will remain in force for the entire semester, and any changes made to the guide over the academic year (and the dates of these changes) will be listed on the cover page of the guide. Changes to the previous guide will also be noted on the cover page of the guide, or in a separate document that can be downloaded from the same site as the complete guide. For more information on dissertation preparation and approval in the College of Sciences, see http://sci.odu.edu/sci/about/information/thesis/index.shtml.

Dissertation Defense. The format of a dissertation defense is determined by the dissertation committee with the approval of the GPD. The defense is chaired by the director of the dissertation committee. The chair will act as moderator, ruling on questions of procedure and protocol that may arise during the defense. Students should see the graduate program director or refer to the Requirements for Graduate Degrees section in this Catalog for further information on the format of the dissertation defense.

Satisfactory performance on this examination (oral dissertation defense) and adherence to all regulations outlined above complete the requirements for the Ph.D. degree. All requirements for the doctoral degree must be completed within eight calendar years from the date of initial registration in the program.

Dissertation Acceptance and Submission. Once the dissertation committee has approved the dissertation, the student and major advisor must go over the entire dissertation to ensure that it adheres to the format described in the Guide for Preparation of Theses and Dissertations before submitting the dissertation to the GPD for review. Three days should be allowed for this review. Once the GPD has approved the dissertation, the student submits the dissertation to the associate dean in the College of Sciences for approval. All approvals must be completed by the day before commencement. However, the associate dean generally requires that all dissertations be submitted prior to this deadline. Students should consult with the GPD for further details.

Request to Graduate. The student should obtain a copy of the form Application for Graduation from the Registrar’s Office and complete this application. The deadline for submitting this application is listed in the Guide to Enrollment each semester and usually falls near the end of the semester preceding the one during which graduation is anticipated. It is the student’s responsibility to meet these deadlines and submit the necessary paperwork for graduation.

Removal of Incompletes. At least one month prior to graduation, all incomplete grades should be cleared. An Academic Record Change form is used for this purpose, and the instructor of the course and the department chair need to sign this form.
Doctor of Philosophy - Physics

Requirements

The broad requirements for the Ph.D. degree are (1) satisfactory performance in a designated core of graduate courses, (2) successful completion of the Ph.D. Candidacy Examination, which has both written and oral parts, (3) successful completion of a teaching requirement, and (4) satisfactory completion of a dissertation. Each student’s course of study must have the advance approval of the graduate program director.

Course Requirements

Eighty-five graduate credits beyond the undergraduate degree or 48 graduate credits beyond the master’s degree must be taken and must include the following courses:

- PHYS 601 Mathematical Methods of Physics I 3
- PHYS 603 Classical Mechanics 3
- PHYS 604 Electromagnetic Theory I 3
- PHYS 621 Quantum Mechanics I 3
- PHYS 607 Seminar I 1
- PHYS 684 Electromagnetic Theory II 3
- PHYS 807 Statistical Mechanics 3
- PHYS 808 Applied Physics Laboratory I 3
- PHYS 811 Computational Physics 3
- PHYS 821 Quantum Mechanics II 3
- PHYS 830 Advanced Seminar I 1
- PHYS 832 Advanced Seminar II 1

A minimum of six additional credits for specialized courses at the 800 level must be taken. A student may waive or substitute for any of these courses with the approval of the graduate program director.

Up to 12 credits from other University departments may be used to meet this requirement if approved by the graduate program director. A student may waive either PHYS 831 or PHYS 832, with the approval of the graduate program director, if he or she presents a paper at a scientific meeting. Before formation of his or her dissertation committee, a student is formally advised about these courses and other academic matters by graduate faculty advisors. There is no foreign language requirement.

Ph.D. Candidacy Examination

A student admitted to the Ph.D. program in physics becomes a bona fide candidate for the Ph.D. degree by passing the Ph.D. Candidacy Examination. The purpose of this comprehensive examination is to determine if a student has the foundation and maturity to begin research in physics. A student who fails to pass the Ph.D. Candidacy Examination within the allowed number of attempts explained below will be dismissed from the Ph.D. program. However, that student would still have the opportunity to satisfy the requirements for the M.S. degree in physics.

The Ph.D. Candidacy Examination consists of two parts—the Written Examination and the Oral Examination. Each part must be passed independently in order to pass the Ph.D. Candidacy Examination.

Written Examination: The written examination is given two times each year—in late August and early January. A student admitted to the Ph.D. program must take this examination by the beginning of his or her third semester of graduate study. In circumstances such that the student has not had the appropriate courses to meet this deadline, he or she may petition the Graduate Program Committee for an extension. If a student fails this examination, he or she is allowed a second attempt, which must be at the time when the Written Examination is next given. In all but the most extraordinary circumstances, a student is dismissed from the Ph.D. program after failing the written examination twice.

The written examination consists of two days of testing, with eight problems each day. Problems on the first day are from classical mechanics and classical electrodynamics; problems on the second day are from classical electrodynamics and quantum mechanics. All 16 problems must be solved. Graduate-certified faculty members of the Department of Physics grade this examination.

Examination problems are included from both the level of advanced undergraduate physics courses (300, 400, and 500 numbered courses) and the level of the first semester of graduate quantum mechanics (PHYS 621), the first semester of graduate electricity and magnetism (PHYS 604), and graduate classical mechanics (PHYS 603). The difficulty of these questions is typical of those within the textbooks currently used in the courses cited, and a list of those textbooks is available upon request.

Oral Examination: The Oral Examination is a one-hour presentation given by a student to an oral examination committee (normally consisting of his or her dissertation committee, minus the external member), meeting in closed session, on a topic relevant to the student’s dissertation research. This presentation must be made within one year after a student passes the written examination. A request for extension of the deadline must be made in writing to the Graduate Program Committee.

A student’s dissertation advisor, in consultation with the student, may choose from two possible formats for this presentation: (1) a presentation by the student directly on his or her dissertation research or (2) a presentation on a specific topic that the student has been assigned to investigate for several months. (A student just beginning research might benefit from the second option.) For either option, the student must write a short paper of 10 or fewer pages on his or her presentation topic and give it to all members of the oral examination committee at least two weeks before the scheduled date of the examination. The committee, by majority vote, will determine whether the student passes or fails the oral examination. A student who fails the oral examination will be allowed a second attempt. The student’s dissertation advisor will decide the format and timing of such a second attempt, with the provision that the second attempt must be completed within six months of the first attempt.

Teaching Requirement

Each candidate for the Ph.D. degree must earn a minimum of four teaching credits, which are defined in the following way: One such credit is awarded for teaching a one-hour recitation for one semester in the Department of Physics, and two such credits are awarded for teaching a one-semester laboratory course in the Department of Physics. The graduate program director may approve the substitution of an equivalent amount of teaching experience in the Department of Physics for this requirement.

Dissertation

The dissertation is the final and most important requirement that must be completed by a candidate for the Ph.D. degree in physics. It must be based on original research in physics that makes a contribution to existing knowledge and be of sufficient quality and interest to merit publication in a refereed physics journal. Research that is classified by the U. S. Government (in a way that restricts its distribution) is not a suitable basis for a dissertation, as one essential characteristic of a dissertation is that its contents must be disseminated freely.

The candidate’s dissertation research is supervised generally by his or her dissertation committee. Close supervision is provided by the candidate’s research advisor, who is a member of the dissertation committee. There may be a tenured, tenure-track, research, or adjunct member of the graduate-certified faculty of the Department of Physics. If the research advisor is a tenured or tenure-track member of the faculty, he or she is the chair of the candidate’s dissertation committee. If the research advisor is an adjunct or research faculty member, a tenured or tenure-track graduate-certified faculty member must serve as co-advisor and also serve as chair of the dissertation committee. The dissertation committee is composed of at least five members, a majority of whom must be tenured or tenure-track members of the graduate-certified faculty of the Department of Physics and one of whom must be a tenured or tenure-track faculty member of the graduate-certified faculty in a department of Old Dominion University other than the Department of Physics. It is the responsibility of the research advisor and the candidate to nominate prospective members for the dissertation committee to the graduate program director, who must formally approve the membership of the dissertation committee.

The format of the dissertation is specified by the Guide for Preparation of Theses and Dissertations, and variations allowed within the Department of Physics are specified by the graduate program director.

Dissertation Defense

The final examination that a candidate must pass in order to receive the Ph.D. is an oral examination by the dissertation committee based on the candidate’s public presentation of the results contained in his or her dissertation. This defense is conducted in two phases: (1) a public presentation in front of the dissertation committee that is open to any person who may wish to attend and direct relevant questions to the candidate and (2) a closed session between the candidate and the dissertation committee in which the candidate is questioned further by that committee. The dissertation committee determines by majority vote whether the candidate passes or fails this final oral defense. If
the candidate fails, he or she is allowed only one additional attempt to pass at a later time.

Applied Physics Endorsement
A student who meets all other requirements for the Ph.D. in physics may receive an applied physics endorsement by completing PHYS 809 and 812.

Department of Psychology

Mills Godwin Bldg.
Norfolk, VA 23529
http://sci.odu.edu/psychology/
http://sci.odu.edu/psychology/

Janis Sanchez-Hucles, Chair

Graduate Study
The Department of Psychology offers a program of study leading to the degree of Master of Science with a major in psychology and programs leading to the Doctor of Philosophy with majors in applied experimental psychology, human factors psychology and industrial/organizational psychology. The department also participates in a program leading to the degree of Doctor of Psychology in clinical psychology. This program, under the direction of the Virginia Consortium Program in Clinical Psychology, is a joint venture of the Department of Psychology at Old Dominion University, the College of William and Mary, and Norfolk State University and the Department of Psychiatry and Behavioral Sciences at Eastern Virginia Medical School.

Master of Science - Psychology

Perry M. Duncan, Graduate Program Director

The master’s program in psychology offers a course of study leading to the Master of Science with a major in general psychology. The master’s degree program is appropriate for students wishing to enter a doctoral program at Old Dominion or another university or for those seeking the master’s as a terminal degree. The curriculum is designed to provide a strong background in research methods and general psychology so that the student will have a wide range of choices for future professional development.

Graduate students are encouraged to work closely with members of the faculty and to participate in the research and other professional activities that are available within the department. Faculty are involved in research in the general areas of clinical, social, developmental, neuropsychological, human factors, organizational, personnel, and community psychology. Currently, faculty and students are engaged in research projects on various topics, including: body image, psychological testing, coping with stress and depression, personal relationships, metacognition, parenting, work-family conflict, adaptive automation, community interventions to improve driving and pedestrian behavior, modeling and simulation, reactions to alarms, vigilance, human use of in-vehicle navigation systems, telework, women and minorities in information technology occupations, coping with chronic disease, behavioral psychopharmacology, and personnel selection.

Admission
To qualify for admission, a candidate must meet the general University admission requirements. In addition, the candidate must present: (1) undergraduate courses in statistics and experimental psychology and nine additional hours in psychology; (2) official scores on the aptitude section of the Graduate Record Examination (GRE) (applicants who do not have a bachelor’s degree in psychology must also take the advanced psychology GRE test); and (3) transcripts of all undergraduate and graduate work. A brief statement by the student outlining personal goals and academic objectives and three letters of reference (at least two of which are from former college or university teachers) are required. All credentials in support of applications should be sent to the Office of Admissions.

Requirements
To qualify for the Master of Science in psychology, a student must meet the following requirements:

1. The student must maintain a B average (3.00 on a 4.00 scale) in a minimum of 36 hours of course work.
2. The student is required to successfully complete a core of courses established by the faculty with at least a B (3.00) average in these courses. The core courses consist of the following: PSYC 713 and 714 (Research Project I & II), 727 and 728 (Statistics and Research Methods I & II), 731 (Cognition) or 741 (Sensation and Perception), and 651 (Developmental) or 749 (Advanced Social). Completion of the core is a prerequisite for beginning work on the thesis (including registration for PSYC 698 and 699), or non-thesis comprehensive exam. Full-time students must complete the core courses in the first year, and part-time students must do so in the first two years. Following completion of the core course requirements, students will elect either the thesis or non-thesis option for completing the degree. Students choosing the thesis option complete 30 hours of course work plus six hours of research and thesis. The thesis option is required for students wishing to pursue doctoral training. Prior to beginning research, the student will submit to the graduate program director a written thesis proposal. When the student has completed the research, a written thesis must be submitted to the thesis committee. Completion of the thesis depends on the acceptance of the written thesis by the thesis committee and the graduate program director, as well as on passing an oral examination in a public defense of the thesis.

The educational and professional goals of some students are better served by completing the work for the master’s degree without the thesis component. Students who elect the non-thesis option complete 36 hours of course work, including at least three hours of practicum. Non-thesis students are required to pass a comprehensive exam in an area of expertise identified by the student in conjunction with his/her comprehensive exam committee. Prior to preparation for the exam, the student will submit to the graduate program director a proposed reading list.

Writing proficiency is essential for successful performance in this program. When it appears that remediation is required in writing skills, the student will be referred to the Writing Center for diagnosis and writing improvement activities. Student performance will be monitored by the graduate program director. Students will be advised when their performance does not meet minimum requirements.

Certificates of Concentration
Certificates of concentration may be earned by students receiving a master’s degree in psychology. To obtain a certificate in one of three possible areas, the student must complete 12 credit hours of courses relevant to the area of concentration and maintain a minimum GPA of 3.00 in those courses. Course credit hours to fulfill the core requirements for the master’s degree may not be used toward a certificate of concentration. The student must also complete a research project or practicum relevant to the area of concentration. A research project must be documented to the master’s program committee in the form of either a written paper or a conference presentation. The following is a list of the three areas and the relevant courses for each area:

- Psychopathology and Assessment
  - Required: PSYC 661, 663, and 664
  - Other relevant courses: PSYC 653, 672

- Quantitative and Assessment
  - Required: PSYC 723, 663 and/or 664
  - Other relevant courses: PSYC 726, 745, 763

- Applied Cognitive Psychology
  - Required: PSYC 731 and 741 (only three credit hours count toward certificate)
  - Other relevant courses: PSYC 651, 663, 672, 749, 770

Courses not listed, but relevant to a certificate, may be used to fulfill the requirements for the certificate as approved by the master’s program committee. The student should make such requests in writing to the master’s program chair.

Doctor of Philosophy - Applied Experimental Psychology

James P. Bliss, Program Director

Admission
The graduate program in applied experimental (AE) psychology admits students at two levels: with a master’s degree or with a bachelor’s degree. Degrees held must be in psychology or a related field. Each applicant must submit:

1. official scores on the Graduate Record Examination (GRE), including general aptitude and advanced psychology sections;
2. a brief statement outlining personal goals and academic objectives; three letters of reference, at least two of which are from former college/university teachers or research supervisors; and,
3. transcripts of all prior academic work.
Overview of Topical Areas
The AE program is designed to provide (a) broad doctoral training firmly based on psychological theory and basic behavioral science, (b) great depth of knowledge broadly spread over the fundamental areas of experimental psychology, and (c) concentration in an area of experimental psychology for applied settings. The Old Dominion AE psychology program at Old Dominion University is to provide graduate training consisting of four phases: (1) a core of basic psychology, acquired primarily at the master’s level; (2) in-depth training in statistics, methodology, and grant and manuscript writing; (3) research experience in a field of AE psychology; and (4) completion of a dissertation representing a significant contribution to AE psychology. For example, two research fields with which numerous faculty members are involved are health psychology and developmental psychology.

Requirements
The Ph.D. degree in AE requires at least 84 semester hours of credit beyond the bachelor’s degree or at least 48 semester hours of post-master’s training. The student should hold the master’s degree upon entering the Ph.D. program, completion requires approximately five years of study. The student is required to complete a core of master’s-level courses with at least a B average. The core courses consist of the following: PSYC 813 and 814 (Research Project I and II); PSYC 827 and 828 (Statistics and Research Methods I and II); either PSYC 831 (Cognition) or 841 (Sensation and Perception); and either PSYC 651 (Developmental) or 649 (Advanced Social). A minimum of 48 hours of master’s level courses is required, based on the faculty’s and the Ph.D. programs evaluation of the student’s performance and interest.

Graduate Student Teaching. Teaching a course is an experience that is worthwhile regardless of the eventual career role(s) a student envisions, and the experience should be taken seriously for its professional value. Benefits associated with teaching a course include expanding and solidifying knowledge about general and AE psychology, polishing communication skills, and establishing professional identification. Although there are other ways to acquire these benefits (e.g., presentations at conferences, consulting experiences, organizing and conducting workshops), teaching a course systematically builds these experiences into a student’s Plan of Study. Moreover, any student who plans an academic career should teach one or more courses in preparation for that career. The student should also recognize that during the course of graduate training, financial support is often provided by the Psychology Department from graduate teaching assistant or adjunct teaching funds. This type of financial support almost always requires that the student be partially or fully responsible for teaching a course. The student should be prepared for an eventual obligation to teach a psychology course by enrolling in Teaching of Psychology (PSYC 815).

Dissertation. The doctoral dissertation must represent an achievement in research and a significant contribution to knowledge in the major area of study. The dissertation defense. An oral exam to evaluate the dissertation defense is the final examination for the Ph.D. degree. The exam should be prepared for an eventual obligation to teach a psychology course by enrolling in Teaching of Psychology (PSYC 815).

Doctor of Philosophy - Human Factors Psychology
James P. Bliss, Program Director
Admission
The graduate program in human factors (HF) psychology admits students with bachelor’s or master’s degrees from psychology or related fields. Each applicant must submit: (1) official scores from the verbal, quantitative, and analytical sections of the Scholastic Assessment Test (SAT); (2) a brief statement by the student outlining the prospective student’s personal goals and academic objectives; (3) three letters of reference, at least two of which are from former college or university teachers; and (4) transcripts of all prior academic work including grades for experimental methods and statistics courses or equivalent. Applicants are also encouraged to submit a writing sample.

Overview of the Topical Areas
The HF doctoral program follows the scientist-practitioner model with emphasis on psychological theory and behavioral science, statistics and research methodology, and practical experience, and fundamental and innovative areas of human factors/engineering psychology. The following is a partial list of these areas: aviation psychology, behavioral modeling, complex system operation, display design, driving and navigational performance, behavior ergonomics, human-computer interaction, perception and performance, medical systems, neuropsychology, simulation, team performance, training, usability testing, warnings and alarms, virtual environments, information processing and workload.

Requirements
The program requires at least 84 semester hours of credit beyond the bachelor’s degree or approximately 48 hours of postmaster’s education. For the individual entering with a bachelor’s degree, the general plan of graduate education consists of four phases: (1) a core of basic psychology, acquired while working toward the master’s degree; (2) breadth in the general area of human factors psychology, (3) research and applied experience in human factors psychology, and (4) completion of a dissertation representing a significant professional contribution to human factors psychology. For the individual entering with a master’s degree, a minimum of 48 hours of doctoral-level credits is required, based on the faculty’s and the Ph.D. programs director’s review of the student’s educational background. Students who enter with a master’s degree will typically pursue a plan of study identical in spirit to the latter three phases of the plan of study followed by a student entering with a bachelor’s degree (see phases listed above).

For the student with a bachelor’s degree, completion of the program requires approximately five years of study. For the student who holds the master’s degree upon entering the Ph.D. program, completion will require approximately three years. A student entering the program with a bachelor’s degree must complete the first phase of the program by meeting the requirements for the master’s degree in general psychology (i.e., 36 semester hours with appropriate course work). The student is required to complete successfully a core of master’s-level courses, with at least a B average (3.00) in these courses. The core courses consist of the following: PSYC 813 and 814 (Research Project I and II), 827 and 828 (Statistics and Research Methods I and II), 831 and 832 (Research Methods I and II), and 841 (Sensation and Perception). The student is required to complete the following courses: (a) three courses from the following: PSYC 734/834 (Proseminar in Applied Experimental Psychology); and, (b) a writing examination (e.g., presentations at conferences, consulting experiences, organizing and conducting workshops).
(Cognition), 841 (Sensation and Perception) and one of the following: 651 (Developmental) or 849 (Advanced Social). Completion of the first phase requires two years of study.

During the second semester of the student’s second year, the student forms a guidance committee of graduate faculty members who assist in developing a plan of study tailored to the student’s needs and interests. The plan of study outlines the student’s minimum of 48 hours of postmaster’s education.

Candidacy Examination. Prior to admission to candidacy (i.e., the beginning of formal work on the dissertation), each student is required to pass a qualifying examination covering the breadth of the general HF discipline as well as the student’s primary area of concentration. The examination consists of a written part (eight hours) and an oral part (two hours).

Publication and Application. Prior to graduation, students are required to demonstrate their ability to assume first authorship in a refereed journal, and to create an application of research methodology and/or computing skills. An example of such an application might include a data analysis program, a simulation program or a patentable technology innovation.

Practical Experience. The student must obtain professional practice experiences during the course of graduate education. An internship is one excellent option for meeting this requirement. However, the student can also meet the requirement by participating in at least two applied research projects or consulting activities under the direct supervision of Ph.D. psychologist(s). The student’s guidance committee establishes the criteria for meeting the professional-practice experience requirement and judges the adequacy of the experiences.

Dissertation. The doctoral dissertation must represent an achievement in research and a significant contribution to knowledge in the major area of study. It is equivalent to no more than 24 semester hours of course work.

Dissertation Defense. An oral examination in defense of the dissertation is required. The aim of the defense is to explore with the candidate the methodological and substantive contributions of the completed dissertation.

Research Opportunities. Lab facilities are available for research in cognition, human perception and performance, modeling and simulation, and psychophysiology. Facilities include personal workstations, local area networked testing stations, sound-attenuated testing chambers, driving simulators, flight simulators, a human-computer interaction laboratory, and EEG and ERP recording equipment. Access to University computing and multimedia development facilities is also available. To complement the program’s emphasis on modeling and simulation, students also have access to the Virginia Modeling, Analysis and Simulation Center (VMASC). VMASC is an ODU-affiliated research and development center where scientists from a number of disciplines create and test computer models and simulation applications to benefit industrial, academic, and governmental interests.

Research is supported by private sector, local, state or federal governmental organizations (e.g., National Science Foundation, National Institutes of Health, NASA, etc.), or one of the military services. Doctoral students are encouraged to become engaged in one of these research programs early in the process of their education.

Doctor of Philosophy - Industrial/Organizational Psychology

James P. Bliss, Program Director

Admission

The Doctor of Philosophy (Ph.D.) program in industrial and organizational (I-O) psychology admits students with bachelor’s or master’s degrees from psychology or related fields. Each applicant must submit: (1) official scores on the Graduate Record Examination including the verbal, quantitative, analytical writing, and psychology tests; (2) a brief statement outlining the prospective student’s personal goals and academic objectives; (3) a sample of recent academic writing (e.g., a paper required in an undergraduate course); (4) three letters of reference, at least two of which are from former college or university teachers; and (5) transcripts for all prior academic work.

Overview of the Topical Areas

The program covers current theoretical and practical issues and topics within I-O psychology. The following is a partial list of these areas: job analysis, psychological testing, selection systems, human resource development, human resource management, study of work organizations and organizational influences on individuals, work motivation, work-family interface, job satisfaction, organizational commitment, leadership, group and team processes, organization development and change and perceived fairness in the workplace, new forms of work organization such as telework and virtual teams, and international aspects of I-O psychology.

Requirements

The program requires at least 84 semester hours of credit beyond the bachelor’s degree or approximately 48 hours of postmaster’s education, which includes up to 24 dissertation research credits. For the individual entering with a bachelor’s degree, the general plan of graduate education consists of four phases: (1) course work in general psychology, acquired while working toward the master’s degree; (2) broad education in the general area of I-O psychology, (3) research and professional-practice experience in I-O psychology, and (4) completion of a dissertation representing a significant professional contribution to I-O psychology. For the individual entering with a master’s degree, a minimum of 48 hours of doctoral-level credits is required, based on a review of the student’s educational background by the faculty and the Ph.D. programs director. The entering student holding a master’s degree must pursue a plan of study identical in spirit to the latter three phases of the student with the bachelor’s degree (see phases listed above).

For the student with a bachelor’s degree, completion of the program requires approximately five years of study.

For the student who holds the master’s degree upon entering the Ph.D. program, completion requires approximately four years. A student entering the program with a bachelor’s degree must meet the requirements for the master’s degree in general psychology (i.e., 36 semester hours with appropriate course work). The student is required to complete a core of master’s-level courses with at least a B average. The core courses consist of the following: PSYC 813 and 814 (Research Project I and II); PSYC 827, 828, 823, 826, and 845 (Statistics and Research Methods I, II, III, IV, and Psychometric Theory). In addition, students must take PSYC 850 (Organizational Psychology) or 863 (Personnel Psychology). The student must complete one of the following: PSYC 651 (Developmental), 831 (Cognition), 841 (Sensation and Perception), or 849 (Advanced Social). Attaining the master’s degree requires two years of study.

During the second semester of the student’s second year, the student must form a guidance committee of graduate faculty members who assist in developing a plan of study tailored to the student’s needs and interests. The plan of study outlines the student’s minimum of 48 hours of postmaster’s education.

Candidacy Examination. Prior to admission to candidacy (i.e., the beginning of formal work on the doctoral dissertation), each student is required to pass a qualifying examination covering the student’s areas of specialization. The candidate is examined broadly in the areas, not merely in a single aspect of concentration. The examination consists of a written part (12 hours) and an oral part (two hours).

Practical Experience. The student must obtain professional practice experiences during the course of graduate education. An internship is one excellent option for meeting this requirement. However, the student can also meet the requirement by active involvement in applied research or consulting activities under the direct supervision of one or more Ph.D. psychologists. The student’s guidance committee establishes the criteria for meeting the professional-practice experience requirement and judges the adequacy of the experiences.

Dissertation. The doctoral dissertation is a significant and creative research achievement and a significant contribution to knowledge in I-O psychology. An oral examination in defense of the dissertation is required. The aim of the defense is to evaluate the doctoral candidate’s mastery of the methodological and substantive contributions of the completed dissertation.

Research Opportunities. Laboratory and field research programs are conducted by the I-O faculty on such diverse topics as selection systems, training systems, development and implementation of performance appraisal systems, team performance and assessment, work-family interface, workplace diversity and inclusion, organizational change, innovation management, telework, virtual teams, and international I-O issues. Research is supported by a variety of agencies such as the National Science Foundation; National Institutes of Health; the NASA/Langley Research Center; the Virginia Modeling, Analysis and Simulation Center; and the military services. Students are encouraged to become engaged in one of these research programs early in the process of their education.

Doctor of Psychology - Clinical Psychology

Robin J. Lewis, Graduate Program Director

The Department of Psychology participates in a program that awards the degree of Doctor of Psychology (Psy.D.) in clinical psychology. This program, offered through the Virginia Consortium Program in Clinical Psychology, is a joint venture of the Departments of Psychology at Old Dominion University, the College of William and Mary, and Norfolk State University and the Department of Psychiatry and Behavioral Sciences at Eastern Virginia Medical School. The combined efforts of these institutions give considerable breadth

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and depth to this unique program. The emphasis of the program is on the training of highly skilled psychologists. The program uses a “practitioner-scientist” model that emphasizes a balanced integration of clinical and scientific training. The program is fully accredited by the American Psychological Association.

**Admission**

Detailed information about the program and a downloadable application are available at the program’s website: [www.sci.odu.edu/vcep](http://www.sci.odu.edu/vcep). To be admitted to the Doctor of Psychology program, the student must have a baccalaureate degree and an acceptable background in psychology. In addition, the applicant must present: (1) official scores on the Graduate Record Examination; (2) a brief statement outlining personal goals and academic objectives; and (3) three letters of reference. A personal interview is also required.

**Requirements**

The Doctor of Psychology program provides students with a high level of professional training. The program consists of a minimum of four years of post-baccalaureate training. The curriculum involves a specific sequence of required courses to ensure mastery of the knowledge and skills necessary for professional competence. The first two years (six semesters) provide for an intense program of basic behavioral science and clinical courses and practica. In the third year, students complete their advanced training practica and course work as well as an empirical doctoral dissertation. The one-year full-time clinical internship is completed during the fourth year. The internship is not provided by the Virginia Consortium.

**Student Evaluation.** Students are regularly evaluated in both course work and practicum activities. A formal evaluation of students’ progress is conducted annually. At the end of the second year, each student is evaluated through a written and oral comprehensive examination that covers both course and clinical competence.

**Dissertation Award**

The David Leigh Pancoast Award is given to the student in the Virginia Consortium Program in Clinical Psychology with the outstanding doctoral dissertation.
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 learned through both field and laboratory work.

402/502. Pathophysiology. Lecture 4 hours; 4 credits. Prerequisites: BIOL 250-251 or permission of the instructor. A study of abnormal conditions. 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. Lectures will cover 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.

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.

412/512. Plant Physiology. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: BIOL 292. Corequisites: BIOL 293 and CHEM 311. A study of plant physiology, particularly the means by which the bacterium is perceived by plants. A laboratory and greenhouse oriented course covering plant nutrients, cell metabolism-, respiration, photosynthesis, nitrogen metabolism, and plant hormones.

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 the 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 115N, 116N or permission of the instructor. A combined lecture and field study of birds with emphasis on identification, behavior, and structure. Extensive field trips, including at least one weekend, are taken.

423/523. Cellular and Molecular Biology. Lecture 3 hours; 3 credits. Prerequisites: BIOL 293 and 303. The molecular organization of eukaryotic 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 biochemistry and physiology of microbial metabolism. The course deals primarily with 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 primates 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/oceanic, terrestrial, freshwater, 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. An 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.

432/532. 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 subterranean organisms and 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.

439/539. Microbial Physiology Laboratory. 4 hours; 2 credits. Prerequisite or corequisite: BIOL 425 or permission of the instructor. A laboratory deal with the 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 estuarine habitats. Assignments will include evaluation of environmental impact conditions within this region.

444/544. Experimental Marine Ecology. Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisite: BIOL 331. A laboratory/field course in which students are instructed in experimental design and the use of qualitative ecological techniques in addressing scientific questions in marine ecology. The course includes lectures on techniques, field exercises where techniques are employed, 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 understand fundamental ecological 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 range of topics will be covered, including aerial flight in insects, wind resistance in trees, jet propulsion in squid, flow by developing skills in statistical analyses and modeling to objectively weigh the evidence presented in support of these paradigms.

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 reconstruct 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, 293 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 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 anatomy of representative species is included and compared in the laboratory. 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: senior, junior or graduate standing. Recent of the structure, synthesis and properties of key nano-materials and their impact on living systems.

461/561. Human Cadaver Dissection. Lecture 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 tag tests using human tissue. The major emphasis will be on head, neck, trunk, and joints, and some with 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 historical origins of major concept areas in 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. Lecture 3 hours; 3 credits. Prerequisite: BIOL 315 or equivalent or permission of instructor. Study of the interactions between microorganisms, particularly bacteria, and their environment. Emphasis is placed on nutrient cycling and the influence of microbes on global mineral dynamics. The effects of physical and chemical factors on distribution and activity of microbes in their environment and applications of these interactions are studied (biotechnology).

479/579. Microbial Ecology Laboratory. Laboratory 3 hours; 1 credit. Corequisite or prerequisite: BIOL 478/578. A laboratory for measurement of microbial numbers and activity in natural environments.

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 used.

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.

492/592. Human Neuroanatomy. Lecture 3 hours; 3 credits. Prerequisites: BIOL 250 and 251. An advanced course in the anatomy of the human brain and spinal cord.

493/593. Human Neurophysiology. 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 study of 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.

498/598. Topics in Biology. Offered upon request; time to be arranged; 1-3 credits each semester. Prerequisite: permission of the department chair or 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,
arthology, and extremities. Dissection of human cadaver material will be required.

605. Current Biological Concepts. Lecture 3 hours; 3 credits. A biology refresher course which will also update students as to major biological concepts concerning cell structure and function, genetics, diversity and ecology. Emphasis will be placed on the development of projects teachers may use for classroom presentations. The course cannot be used by graduate-level students in fulfilling their graduate program course requirements.

608. Graduate Seminar. 1 credit. Presentation of reports or reviews of history or literature, and discussion by graduate students, staff and visiting scientists on modern developments in biology.

609. Special Readings. 3 credits. Reading and discussion course designed to explore a field of specific interest.

620. Biometry. Lecture 4 hours; 4 credits. Prerequisite: STAT 130M. A first course, or a refresher course, in statistical methods and experimental design for graduate students in biology and the natural sciences. The focus is on application and hypothesis testing with examples drawn from biological research. Topics covered: regression, correlation, t-tests, ANOVA, multiple regression, and contingency table analyses among other topics. Experimental design is covered in depth. Alternative methods to parametric statistics and an overview of common multivariate techniques are also discussed. The course requires significant work outside the classroom for homework exercises and an independent project.

632. Marine Microbiology. Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: BIOL 315 or permission of the instructor. A study of marine microorganisms in relation to their environment. Emphasis is placed on the influence of physical and chemical factors on the distribution and function of microorganisms in the marine environment.

661. Special Topics in Biology. 1-3 credits. Supervised projects and practicums selected to meet the specific objectives of the student.

669. Seminar. 3 credits. With approval of Advisory Committee.

695. Topics. 1-3 credits. A specially designed course concerning specific topics in the biological, environmental or allied health fields.

698. Research. 1-3 credits.

699. Thesis. 3 credits. This course is selected with the recommendation of the faculty advisor.

702/802. Biomedical Sciences Journal Club. 1 credit. Review and discussion of current papers in the areas of biomedical sciences. Student presentation, discussions and readings in this field required.

704/804. Disease Vector Ecology. Lecture 3 hours; laboratory 3 hours; 4 credits. Study of the role of insects, ticks and other invertebrates in the transmission of disease. Emphasis is on biochemical and physiological aspects of microbial survival in the vector and transmission to vertebrate hosts by these vectors. Laboratory includes experiments to study how pathogens (non-human) are acquired, maintained and transmitted.

705/805. Advanced Microbiology. Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: BIOL 315 or other microbiology course. Investigate microbiology from historical perspectives to modern molecular microbiology; ecological and biomedical components; bacteria and viruses. Laboratory will involve designing experiments conducting and evaluating results.

707/807. Ecosystem Ecology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisite: a general ecology course. Ecological principles at ecosystem level of biological organization. Discussion of energy flow, nutrient cycling, ecosystem stability and ecosystem modeling. Laboratory involves field trips and methods of measuring ecosystem parameters.

708/808. Ecological Sciences Seminar. 1 credit.

712/812. Electron Microscopy. Lecture 1 hour; laboratory 6 hours; 4 credits. Prerequisite: permission of the instructor. Lectures will cover theory and concepts of specimen preparation and operation of scanning and transmission electron microscopes. The laboratory experience will include all phases of electron microscopy from specimen preparation to finished micrograph.

714/814-715. Biomedical Sciences Laboratory. 2 credits. Prerequisite: approval of the program director. Three laboratory rotations (6 credits) are required by the curriculum.

716/816. Endocrinology. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 312 and 313 or permission of instructor. The biochemical integration of hormones and related agents on vertebrate physiology with emphasis on human endocrinology. Recent literature will be stressed.

720/820. Systematic Ichthyology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: BIOL 320. A systematic survey of fishes emphasizing life history, anatomy, identification and classification.

728/828. Simulation Models: Ecosystem and Global Applications. Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisite: STAT 130M. Development of simulation models with emphasis on ecosystem, landscape and global scale processes, such as global carbon models used to predict global climate change.

730/830. Emerging Infectious Diseases. Lecture 3 hours; 3 credits. Prerequisite: BIOL 313. Discussion on current studies into new and reemerging infectious diseases with an examination of the infectious agent and factors involved in disease emergence, prevention and elimination.

731/831. Systematics and Speciation. Lecture 3 hours; 3 credits. Principles of systematic biology and discussion of speciation theory, with emphasis on generation, analysis, and interpretation of taxonomic data and application of these data to a better understanding of classification and speciation processes. Modern theories of evolutionary biology and phylogenetics will be stressed. A research paper is required.

745/845. Advanced Immunology. Lecture 3 hours; 3 credits. Current concepts in cellular and molecular immunology. A course encompassing the biology of infectious retroviruses such as HIV, the human immunodeficiency virus and related elements in the human genome. Students will learn about the structure, genetics, biology, evolution, and diseases associated with retroviruses and endogenous retroelements.

770. Advanced Study. Tutorial; 3 credits. Under the guidance of members of the graduate faculty and with the approval of the program track coordinator, the student will carry out in-depth studies of selected topics relevant to the area of specialization. Extensive surveys and analyses of the literature. Written reviews, comprehensive and synoptic, and oral presentations are required of each student.

789/889. Gross Anatomy. Lecture 4 hours; laboratory 4 hours; 6 credits. Prerequisite: anatomy course at any level—BIOL 250, 251, 301, 314, or 330. An intensive study of all systems from a regional approach. Extensive dissection required in lab. Clinical applications utilized.

795/895. Special Topics. 1-4 credits. Prerequisite: permission of the instructor.

861. Ecological Sciences Internship. 3-6 credits. Must have approval of advisory committee.

880. Advanced Study. Tutorial; 3 credits. Under the guidance of members of the graduate faculty and with the approval of the program track coordinator, the student will carry out in-depth studies of selected topics relevant to the area of specialization. Extensive surveys and analyses of the literature. Written reviews, comprehensive and synoptic, and oral presentations are required of each student.

898. Research. 1-6 credits.

899. Dissertation. 1-6 credits.

999. Biological Sciences 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Biomedical Sciences — BIMD

702/802. Medical Molecular and Cellular Biology. Lecture 4 hours; 4 credits. Prerequisites: CHEM 311 and 313. The course provides a foundation in biochemistry and molecular biology. In-depth course covering DNA and RNA structure and function protein synthesis, regulation of gene
expression, membrane transport and chromosome structure/function in human genetics.

703/803. Medical Biochemistry. Lecture 4 hours; 4 credits. Prerequisites: CHEM 311 and 313. In-depth lecture continuing BIMD 702/802, covering enzymes, glycolysis, citric acid cycle, oxidative phosphorylation, lipids, nitrogen metabolism, hemmetabolism, iron, calcium, vitamins, and nutrition.

706/806. Pharmacology. Lecture 4 hours; laboratory 3 hours; 5 credits. Prerequisite: CHEM 541. Lectures, discussions, and computer laboratory study of the mechanisms of drug action in biological systems.

708/808. Medical Neuroscience. Lecture 4 hours; laboratory 3 hours; 5 credits. Prerequisites: BIOL 250/251. Survey course in neuroanatomy and neurophysiology with lectures and laboratories. Basic structure and function of the nervous system is covered with clinical emphasis on problem solving and lesion localization.


725/825. Neurocytology-Ultrastructure of the Nervous System. Lecture 2 hours; 2 credits. Prerequisite: BIOL 592 or BIMD 708/808. Lectures, class discussions, and seminar presentations focusing on current concepts in neurobiology including cellular organization, synaptic structure, neural regulation, neuronal degeneration, regeneration and sprouting.

726/826. Medical Histology. Lecture 2 hours; laboratory 6 hours; 5 credits. A lecture/laboratory course to provide students with an understanding of how cells become specialized to form tissues, and how these tissues form organs. In addition, the basis for understanding structure-function relationships in normal organs and how they are affected by mechanisms.

739/839. Current Topics in Biochemistry and Molecular Biology. 1 credit. Discussion and student presentations of current research in biochemistry and molecular biology.

741/841. Introduction to the Research Literature. 1 credit. Designed to train students in the interpretation of research literature. Students will assess the introduction, methods, results and discussion sections of four journal articles.

743/843. Foundations in Molecular Biology. Lecture 3 hours; 3 credits. Prerequisite: BIMD 748/848. The objective of this course will be the critique and/or discussion of journal articles in molecular biology. The articles will include traditional landmark publications that will provide a strong historical grounding in molecular techniques and ideas and include the latest techniques and molecular directions, such as genomics and proteomics.

744/844. Signal Transduction. Lecture 3 hours; 3 credits. Prerequisite: BIMD 702/802, BIMD 748/848, CHEM 541, and BIOL 523. An advanced course to increase the student’s knowledge about cellular signals responsible for regulating cell processes. The course will consist of lectures followed by critique and discussion of assigned journal articles.

745/845. Molecular Cytogenetics. Lecture 4 hours; 4 credits. Discussion of the structure and function of chromosomes at the molecular level.

747/847. Mammalian Reproduction. Lecture 3 hours; 3 credits. A review of classic papers beginning with Mendel, with an emphasis on thought processes and experimental strategies that have been used historically. Goal is to improve students’ appreciation of the evolution of genetic research, and its impact on modern approaches.

748/848. Concepts in Cell Biology and Physiology. Lecture 3 hours; 3 credits. Prerequisite: CHEM 541. An overview of selected topics in contemporary cell and molecular biology including the molecular genetic basis of normal and aberrant cell growth, cytoskeleton, extracellular matrix, lipids, signal transduction, oncongenes, and growth factors.

753/853. Special Topics in Genetics. 1 credit. Prerequisites: BIOL 332 or equivalent and CHEM 541. Focus is on certain areas of current genetic technology with an ultimately to the search in cancer biology. Format is designed for reading and interpretation of scientific literature in this area.

757/857. Advanced Cardiovascular Sciences. 3 hours; 3 credits. Prerequisites: CHEM 541, BIMD 706/806. Advanced coverage of processes of cardiovascular function and disease processes with emphasis on physiology, biochemistry and pharmacology.

756/856. Advanced Cardiovascular Sciences. Lecture 3 hours; 3 credits. Prerequisites: CHEM 541, BIMD 706/806. Advanced coverage of processes of cardiovascular function and disease processes with emphasis on physiology, biochemistry and pharmacology.

757/857. Current Topics In Cardiovascular Sciences. Lecture 1 hour; 1 credit. Prerequisites: CHEM 541 and BIMD 702/802. A survey of current areas of cardiovascular research.

765/865. Neuropharmacology. Lecture 3 hours; 3 credits. Prerequisite: BIMD 706/806. Examination of mechanisms of drug interactions with the central periphery nervous systems.

769/869. Advanced Topics in Cell and Molecular Pharmacology. Lecture 3 hours; 3 credits. Prerequisite: BIMD 706/806. A review of current scientific papers in specific areas of cell and molecular pharmacology chosen by the faculty and students.

773/873. Advanced Endocrinology. Lecture 3 hours; 3 credits. Prerequisite: BIOL 490/590. The focus will be on reproductive biology, diabetes and obesity. Students will have readings in current endocrine literature with critiques and discussions to include round-table discussions.

772/872. Biochemical and Physiological Basis of Nutrition. Lecture 3 hours; 3 credits. Prerequisite: BIOL 590. An advanced course which details physiological and biochemical aspects of nutrients. Included in this course will be protein turnover kinetics, physiology of nutrient absorption, effect of endocrine status on nutrient partitioning and growth and the biochemical pathways for amino acids, carbohydrates (300), lipids, minerals and vitamins. Physiological and biochemical aspects as they pertain to health and disease will also be discussed.

773/873. Responsible Conduct in Science. 1 credit. Series of four sessions exposing graduate students to moral and ethical dilemmas in biomedical sciences. The course will also expose students to peer review processes as related to submission of grants and manuscripts.

774/874. Current Topics in Growth Factor Physiology. Lecture 3 hour; 1 credit. Prerequisites: BIMD 590, 716/816. This course will examine current literature in the area of growth factor research and the manuscripts chosen for discussion will be critically evaluated. Topics within this area may include: angiogenesis, oncosignals nerve regeneration, fetal development or tissue growth and will not require previous in depth knowledge of specific areas for discussion. Students will be expected to read and comprehend current literature and will gain a broad perspective of growth factor physiology.

801. Medical Gross Anatomy. Lecture 3 hours; laboratory 6 hours; 6 credits. The anatomy of the human body is presented in lecture and lab. A complete dissection is accomplished in lab sessions. Regional dissections begin with the upper extremity and back and continue with thorax, abdomen perineum and pelvis, lower extremity head and neck.

804. Medical Microbiology. Lecture 7 hours; laboratory 1 hour; 7 credits. Prerequisites: BIOL 115N/116N, CHEM 111 and 113. A general survey course covering basic aspects of immunology, virology, bacteriology, mycology and parasitology. Introduces the immune system as well as the causes, diagnosis, treatment and prevention of human bacterial, viral, fungal, and parasitic diseases. The traditional lecture-based format is augmented by laboratory sessions and clinical correlation conferences.

805. Special Topics in Genomics and Bioinformatics. Lecture 1 hour; 1 credit. Prerequisites: CHEM 541 and BIOL 523, or BIMD 802 and BIOL 307 or BIMD 748/848. The objective of this course is to provide an introduction to the methods, concepts, and practice of molecular sequence-related data management and analysis in molecular biology.

809. Medical Microbiology - Bacteriology. Lecture 2 hours; laboratory (optional) 1 hour for additional credit; 2 credits. Prerequisites: BIMD 802 and 803. The bacteriology component of the Medical Microbiology course. Structure, growth and genetics of bacteria. Genetics of antibiotic resistance and basis of antimicrobial action. Introduction to medically important bacteria that infect major organ systems, properties of the organism, pathogenesis and immunity, epidemiology, clinical manifestations, laboratory diagnosis and treatment, and control.

810. Medical Microbiology - Virology. Lecture 2 hours; 2 credits. Prerequisites: BIMD 802 and 803. The virology component of the Medical Microbiology course. Introduction to basic principles of viral structure, replication, and genetics. Discussion of medically important viruses that infect major organ systems, properties of the organism, pathogenesis and immunity, epidemiology, clinical manifestations, laboratory diagnosis and treatment, prevention and control.

811. Medical Microbiology - Mycology and Parasitology. Lecture 1 hour; 1 credit. Prerequisites: BIMD 802 and 803. The mycology and parasitology component of the Medical
Microbiology course. Introduction to medically important fungi and parasites that infect major organ systems; properties of the organism, pathogenesis and immunity, epidemiology, clinical manifestations, laboratory diagnosis and treatment, prevention and control. 6 credits. Pre-requisites: BIMD 740/840. An overview of cancer biology. Following an introduction to the pathology and natural history of cancer, specific topics including tumor cell behavior and diagnosis and treatment of cancer will be covered.

812. Medical Microbiology - Immunology. Lecture 2 hours; laboratory (optional); 2 credits. Prerequisites: BIMD 802 and 803. The course covers basic and clinical aspects of immunology and an understanding of how the immune system functions, the structural and genetic basis of antibody specificity and diversity; the roles of different functional sets of lymphocytes in antibody- and cell-mediated immune response, and the basis of immune regulation. The second part of the course emphasizes the functions of the immune system in human disease (allergies, immunodeficiencies, autoimmunity) and a discussion of immunological aspects of organ transplantation, immunity to tumors, and vaccination.

814. Biomedical Sciences Laboratory. 2 credits. Laboratory rotation with a pre-designated faculty member in which student obtains hands-on experience. Designed for students to sample different types of research models, techniques, and subject matter without the commitment of dissertation level involvement.

830. Biochemical and Cellular Endocrinology. Lecture 3 hours; 3 credits. Prerequisites: CHEM 541, BIMD 706/806, BIOL 716/816, BIOL 590. An in-depth evaluation of the role of protein/steroid receptors in regulation of cell to cell communication. Students will have readings in current scientific literature.

840. Current Topics in Molecular Biology. 3 credits. Prerequisite: CHEM 541. Student presentation and discussion with the faculty. Emphasis is placed on theory and techniques of research in eukaryotic gene structure and organization, regulation of gene expression, control of transcription and translation, and post-translational processing. Students will read scientific papers, engage in class discussions, and make oral presentations.

842. Current Topics in Molecular and Integrative Biology. 1 credit. Available for pass/fail grading only. Seminar presentations by students and faculty in the areas of tumor biology, immunology, and molecular biology. Specific papers concerning major scientific advancements are discussed and critiqued. (Offered fall and spring each year)

849. Special Topics in Molecular and Cellular Immunology. 2 credits. Prerequisite: BIOL 509. A critical review of current scientific papers in diverse areas of immunology such as viral, transplantation and tumor immunology, autoimmunity, and pathogenesis. Student presentations, discussions and readings in these areas.

852. Virology. Lecture 3 hours; 3 credits. Prerequisite: CHEM 541. Mammalian DNA and RNA viruses. Viral structure, classification, replication, gene regulation, pathogenesis, tumorigenesis, and immunology are included. Research methodologies will be covered.

854. Tumor Biology. Lecture 3 hours; 3 credits. Prerequisite: BIMD 740/840. An overview of cancer biology. Following an introduction to the pathology and natural history of cancer, specific topics including tumor cell behavior and diagnosis and treatment of cancer will be covered.

890. Applied Statistics for Biomedical Research. Lecture 4 hours; 4 credits. This course will provide students with an understanding of and experience in the use of basic and advanced statistical methods for biomedical research. The course will also introduce students to the use of various statistical package computer programs for analyzing data.

895. Special Topics in Biomedical Sciences. 1-3 credits. Prerequisite: approval of program director.

897. Seminar. 1 credit. Active participation in organized, possible track-relevant established departmental seminar series. Students will be required to attend the seminar and participate in discussions, as well as to present their own work to other seminar participants. Development of skills associated with oral presentations, slide production, and interactive scientific communication will be stressed.

898. Research. 1-6 credits.

899. Dissertation. 1-6 credits.

999. Biomedical Sciences 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Chemistry and Biochemistry — CHEM

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 verification of structure 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. 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 used by the students in this course, will be discussed and/or demonstrated.

425/525. ICP-MS and Laser Ablation Techniques. 1-3 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 molecular constituents, bioenergetics, enzymes, major metabolic pathways, biosignaling, nucleic acid structure, and genetic information transfer pathways fundamental to biochemistry.

442W/542-444/544. Biochemistry Laboratory. Laboratory 4 hours; 2 credits. CHEM 441/541 is prerequisite or corequisite to CHEM 442W/542. CHEM 442W/542 is prerequisite to 444W/544 and 544W/544 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, enzymeology, nucleic acids, and general biochemistry 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 enzymeology 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.

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; 1 credit. Prerequisite: CHEM 313. 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.

610. Seminar. Lecture and discussion 1 hour; 1 credit.

631. Clinical Chemistry Lecture. Lecture 3 hours; 3 credits. Prerequisites: CHEM 311-313, 312-314, 321, 322, and 541. CHEM 631 and 632 are designed to be taken concurrently. Clinical analysis of carbohydrates, proteins, lipids, enzymes, hormones.

632. Clinical Chemistry Laboratory and Instrumentation. Laboratory 4 hours; 2 credits. Prerequisite or corequisite: CHEM 631. Design and use of automated clinical laboratory apparatus, chromatography, electrophoresis, fluorometry, immunoassay and spectrophotometry.

665. Biochemistry-Biophysics Colloquium. Lecture and discussion 1 hour; 1 credit. Prerequisite: permission of the instructor. Papers from the current literature.

669. In-Service Practicum. 6 credits; 50 hours per credit. Prerequisites: CHEM 631, 632. One semester of work experience in local hospital, forensic, or industrial laboratory. Available for pass/fail grading only.

685-687. Frontiers in Chemistry. 1-3 credits each semester. Emphasis on topics of current interest in the department chair. Topics representing the most recent advances in various fields of chemistry or ones which represent an interdisciplinary advancement.

695. Selected Topics. 1-3 credits each semester. Prerequisite: permission of the department chair.

698. Master’s Research. 1-9 credits.

699. Master’s Thesis. 3 credits.

701. Advanced Analytical Chemistry. Lecture 3 hours; 3 credits. Prerequisites: CHEM 333, 423, 424, 425 or permission of the instructor. The theoretical foundation of analysis with emphasis on recent analytical developments and current literature.

703. Chromatographic Separations by HPLC and GC. Lecture 3 hours; 3 credits. Prerequisites: CHEM 333, 425. This course covers basic principles of chromatography emphasizing high performance liquid chromatography (HPLC) and gas chromatography (GC), as well as separation modes, instrumentation, detection methods, quantification, and sample preparation including solid phase extraction. Examples from environmental sciences, biosciences and industry will be stressed.

704. HPLC and GC Laboratory. Laboratory 4 or 6 hours; 2 or 3 credits. Corequisite: CHEM 703.

705. Applied Spectroscopy. Lecture 3 hours; 3 credits. Prerequisites: CHEM 333, 423 or permission of the instructor. A study of spectroscopic methods as applied to analytical chemistry. Emphasis will be in areas of emission, absorption, diffraction, and mass spectrometric methods.

715. Automation and Management of the Clinical Chemistry Laboratory. Lecture 1 hour; 1 credit. Prerequisite: CHEM 631 or permission of the instructor. The basic principles of management of the clinical chemistry laboratory and regulatory issues in laboratory management are presented.

717. Quality Control in the Clinical Laboratory. Lecture 1 hour; 1 credit. Prerequisite: CHEM 631 or permission of the instructor. Introduction to quality control procedures used in the clinical laboratory. Discussion of Levy-Jennings quality control charts, methods of trend analysis and interpretation of quality control data as an aid to problem solving. Regulatory aspects of quality control are also presented.

719. Statistical Tests for the Clinical Laboratory. Lecture 1 hour; 1 credit. Prerequisite: CHEM 631 or permission of the instructor. Discussion of use of parametric and nonparametric statistical tests in the clinical laboratory. Application of statistical procedures to methodology development, determination of referenced populations and as an aid in interpreting laboratory data.

720. Experimental Design and Data Treatment. Lecture 3 hours; 3 credits. Prerequisite: CHEM 321. A hands-on approach to experimental design and multivariate data analysis. Modern computer-based chemometric theories will be presented.

723. Modern Synthetic Organic Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 721 or permission of the instructor. Synthetic methods involving such techniques as hydrosilation, metal hydride reductions, stereospecific syntheses, and electrochemical preparations.

725. Physical Organic Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 415/515. Discussion of how and why organic reactions happen and the various ways to answer these questions through experiments. Topics include molecular orbital (MO) theory, pericyclic reactions, kinetics, and kinetic isotope effects.

726. Medicinal Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 721 or permission of the instructor. Study of the chemistry and mode of action of various medicinal and physiologically active compounds.

727. Drug Design. Lecture 3 hours; 3 credits. Prerequisite: CHEM 721. A systematic examination of the modern synthetic approaches to drug design and drug modifications as they relate to various classes of pharmacologically active organic compounds.

728. Neurochemistry. Lecture 2 hours; 2 credits. Prerequisites: CHEM 311, 313. An introduction to the essentials of the chemistry associated with neural conduction and transmission as it relates to normal and abnormal physiological function.

731. Advanced Clinical Chemistry. Lecture 3 hours; 3 credits. Prerequisites: CHEM 631, 632. Interpretation and use of clinical chemistry laboratory data. The laboratory course consists of six to seven independent HPLC and GC exercises based on examples from environmental, bioscience, and industrial applications.


741. Stable Isotope Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 425. This course investigates the stable isotope systematics of carbon, nitrogen, hydrogen, oxygen and sulfur in biological, chemical and geological systems. Course material includes analytical methods, fractionations and applications of stable isotope analyses in a wide range of natural systems. Recommended to graduate students in chemistry, earth sciences and biological sciences with an interest in environmental processes.

743. Organic Geochemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 313. Organic geochemistry is the study of organic compounds that are originally produced by photosynthesis and altered as they cycle through the soils, atmosphere, rivers, oceans, and crustal rocks. This course will include the carbon/oxygen cycles, biomarkers, organic matter diagenesis/catagenesis, analytical techniques used in organic geochemistry, and an introduction to carbon isotopes.

748. Environmental Chemistry Laboratory. Laboratory 6 hours; 3 credits. Prerequisite: CHEM 321 or permission of the instructor. Study of the basic principles and methods of trace chemical analysis of environmental systems, including spectroscopic, chromatographic, and electrochemical instrumental methods, in addition to wet chemical methods.

749. Environmental Chemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 321. An overview of the natural chemistry systems operating in the atmosphere, in the terrestrial environment (both water and soils), and in the ocean. Focus will be on the effects of human activities may have on them. Specific topics include the origin and evolution of the earth and life, the chemistry of the atmosphere (including the ozone layer and greenhouse effect), the organic and inorganic components of soil and water, chemical weathering of rocks, metal complexation, biochemical processes in soil and water, and global-scale chemical processes.

753. Clinical Toxicology. Lecture 3 hours; 3 credits. Prerequisite: CHEM 333. Comprehensive overview of ab initio (quantum) calculations and molecular dynamic simulations, the two most widely used computational methods. Plus a brief overview of other computational applications in chemistry.

762/862. Advanced Techniques in Biochemistry. Laboratory 2-6 hours; 1-3 credits. Prerequisites: CHEM 541, 542, 543. A laboratory course in modern experimental methodology and instrumentation in biochemistry.

765. Advanced Biochemistry. Lecture and discussion 3 hours; 3 credits. Prerequisites: CHEM 541 and 543 or permission of the instructor. Chemical basis of cellular control mechanisms, physical biochemistry, enzyme mechanisms, cell function.

767. Enzymology. Lecture 3 hours; 3 credits. Prerequisite: CHEM 441/541. Consideration of experimental methods for determining the kinetic and substrate rate equations from enzymes, examination of various models of enzyme catalysis, comprehensive pr esentation of the mechanisms of coenzyme action, and studies of mechanism of enzyme action.

768/868. Internship in Clinical Laboratory Management. 1-3 credits. Prerequisites: CHEM 669, 869. Practical training in day-to-day direction of a clinical laboratory. At a clinical laboratory under the supervision of the laboratory director.

769. Nucleic Acids Biochemistry. Lecture 3 hours; 3 credits. Prerequisite: CHEM 541 and 543 or permission of the instructor. A comprehensive presentation of the chemistry of RNA and DNA.
Modern concepts of gene regulation, the control over transcription, RNA processing and translation, cell cycle control and molecular carcinogenesis.

775. Physical Biochemistry. Lecture 3 hours; 3 credits. Prerequisites: CHEM 333 and 541. Physical characterization of macromolecules, polarized light, absorption and fluorescence, sedimentation and transport hyrodynamics, electrophoretic mobility, light scattering, and structural x-ray crystallography of proteins and nucleic acids.


793/893. Clinical Pathology Conferences. 1 credit. Prerequisites: CHEM 631 and 632. The student will attend clinical pathology conferences held at local hospitals to gain insight into the diagnosis and treatment of various pathophysiological conditions.

795. Selected Topics in Biochemistry. Lecture and discussion 3 hours; 3 credits. Prerequisite: permission of the instructor. Thorough coverage of areas selected to meet special needs and interests.

796/896. Selected Topics in Clinical Chemistry. Lecture 1-3 hours; 1-3 credits. Prerequisite: CHEM 631 or permission of the instructor. Subject matter includes the most recent advances in clinical chemistry.

802/803. Biomedical Sciences Seminar. Lecture 3 hours; 1 credit each term. One 3 credit each semester. This course can be repeated with the approval of the program director.

814-815. Biomedical Sciences Laboratory. 2 credits each semester. With approval of the program director.

816. Biomedical Sciences Laboratory. 2 credits. With approval of the program director.

869. In-Service Practicum. 6 credits. One semester experience in advanced techniques used in the clinical laboratory.

895. Selected Topics in Biomedical Sciences. Lecture 1-3 hours; 1-3 credits each semester. Lecture and discussion of recent advances in the field of biomedical sciences.

898. Doctoral Research. 1-6 credits.

899. Dissertation. 1-6 credits.

999. Chemistry 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be re-registered for at least one graduate credit each term until the degree is complete.

Computer Science — CS

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 solutions, develop 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 critiqued for constructive commentary. Students will design and develop a project prototype, and demonstrate the prototype to a formal panel along with delivering 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, 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, eigenvalue problems, iterative solutions, numerical integration and differentiation, nonlinear equations, iterative solution of linear systems.

418/518. Web Programming. Lecture 3 hours; 3 credits. Prerequisites: CS 312 and 340. Laboratory work required. Overview of Internet and web protocol architecture, including HTTP and HTML; server-side scripting 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. Theory and implementation of database applications on 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 Web-site 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.

450/550. Database Concepts. Lecture 3 hours; 3 credits. Prerequisites: CS 381 and either CS 330 or 361. Laboratory work required. OSI and TCP/IP reference models and protocols. Hardware and software system models for databases. File and hierarchical databases. Overview of the 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.

454/554. Network Management. Lecture 3 hours; 3 credits. Prerequisite: CS 455. Laboratory work required. The administration of computer networks and their interaction with wide area networks: network topologies for local and wide area networks, protocol models and services, management of distributed file services, routing and configuration, security, monitoring and trouble-shooting.

455/555. Introduction to Networks and Communications. Lecture 3 hours; 3 credits. Prerequisites: CS 270, 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 DBA administration skills in the ORACLE database environment. Creating database objects, querying and manipulating, and PL/SQL programming. Use of database administration tools. 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 administering a SOLARIS/UNIX operating system 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 devices, 3-D graphics, curved surfaces, solids, and realism techniques 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, Frame-Relay, routers, switches and WAN security design.

475/575. Introduction to Computer Simulation. Lecture 3 hours; 3 credits. Prerequisite: 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 design of current Windows® programming environments. Topics include: Shell Script Programming, X Windows (Xlib and Motif), UNIX internals (I/O, Processes, Threads, IPC and Signals), Network Programming (UDP/TPC 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 platform. This course will cover the software architecture of current Windows® programming environments. Topics include desktop and network application programming.

480/580. 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 artificial intelligence research. Areas of discussion include: natural language and vision processing, machine learning, machine logic and reasoning, expert systems, and robotics.


495/595. Topics in Computer Science. 1-3 credits. Prerequisite: permission of the instructor. Independent study under the direction of an instructor.

600. Algorithms and Data Structures. Lecture 3 hours; 3 credits. Prerequisite: CS 361. Design of efficient algorithms and the mathematical analysis of their performance. Topics to be covered include: mathematical preliminaries, sorting and order statistics, advanced data structures, linear programming, exploring graphs, parallel algorithms, randomized algorithms, transformation of the domain, and NP-completeness. (offered fall)

635. Parallel Computer Architecture. Lecture 3 hours; 3 credits. Prerequisite: CS 665. This is a first course in parallel architecture, with an emphasis on the description and evaluation of commercially available machines. Topics to be covered include: parallelization and performance metrics, scalability and the "laws" of AMDahl and Gustavson, computational similarity, models of computation, parallelization paradigms, network characteristics and topology, communication calculus and templates, pipelining and parallelism, processor types, memory hierarchy, cache coherence, latency hiding mechanisms, routing algorithms, and languages and libraries to support parallel architecture.

648. Computational Geometry and Applications. Lecture 3 hours; 3 credits. Prerequisite: CS 483 or equivalent. This course is concerned with the design and analysis of algorithms for geometric problems. The geometric problems arise in such fields as image processing, computer vision, graphics, VLSI, spatial planning, and robotics. Topics to be covered include: convex hulls, triangulations, proximity graphs, covering problems, nearest neighbor searching, point inclusion problems, polygonal meshing, extremal polygons, polygon decomposition, distance computations, the diameter of a set, and intersection problems.

650. Computer-Aided Design. Lecture 3 hours; 3 credits. Prerequisites: CS 361, MATH 211 (or 205). Laboratory work required. Theory and application of interactive design systems. Topics include representation and approximation of curves and surfaces, splines and variational properties, tensor product interpolants and Coon's patches.

656. Database Methodology. Lecture 3 hours; 3 credits. Prerequisite: CS 450/550. Laboratory work required. Analysis, design and implementation of database applications using modern software engineering methods. Database CASE tools. Analysis using process, function, and dataflow analysis in conjunction with entity relationship modeling. Database diagrams and database design. Application suite design and high level design of applications. Refining implementations.

657. Applied Logic for Artificial Intelligence. Lecture 3 hours; 3 credits. Prerequisite: CS 480 or 580. Applications of logic. First order predicate calculus as a reasoning agent, deductive reasoning and resolution refutation, nonmonotonic reasoning, induction, reasoning with uncertain information, reasoning about knowledge and belief, meta level reasoning and reasoning about architectures for intelligent agents.

660. 3D Computer Graphics. Lecture 3 hours; 3 credits. Prerequisite: CS 460 or 560. Laboratory work required. The mathematical tools needed for the geometrical aspects of 3D computer graphics. Fundamentals: homogeneous coordinates, transformations, and perspective. Theory of parametric and implicit curve and surface models: polar forms, Bezier arcs and de Casteljau subdivision, continuity constraints, B-splines, tensor product, and triangular patch surfaces. Representations of solids and conversions among them. Geometric algorithms for graphics problems, with applications to ray tracing, hidden surface elimination, etc.

665. Computer Architecture. Lecture 3 hours; 3 credits. Prerequisite: CS 270. A detailed and quantitative study of the architecture of modern uniprocessor systems. The major components are: the technology drivers, performance measures, instruction sets (including 80X86, VAX, and a generic RISC which is very similar to the MIPS series), processor implementation, advanced pipelining and superscalar features, cache and memory design, and I/O. The emphasis is on obtaining quantitative measures of performance, describing interactions of the various components, studying trade-offs between the components in commercial processors, and integration into a complete computer system including interaction of the software and hardware. (offered spring)

669. Practicum. 1-3 credits.

686. Algorithmic Graph Theory. Lecture 3 hours; 3 credits. Prerequisite: CS 600. Investigate a variety of graph algorithms, both sequential and parallel, known to have applications to such areas as scheduling, robotics, computational geometry, VLSI, and VLSI design. Students will learn graph algorithms both sequential and parallel in a hybrid environment: the course contains formal lectures along with team projects.

690. Colloquium. Lecture 1 hour; 1 credit. A one-hour weekly lecture given by faculty from Old Dominion and other institutions. One-hour weekly lecture given by faculty from Old Dominion and other institutions.

691. Master's Seminar. Seminar 3 hours; 3 credits. Prerequisite: permission of instructor. Graduate seminar presentation concerning technical topics of current interest in computer science.

697. Independent Study in Computer Science. 1-3 credits. Prerequisite: permission of the instructor. Departmental permission required.

698. Master’s Project. 3 credits. Departmental permission required.

699. Thesis Research. 3 credits. Departmental permission required.

710/810. Applied Algorithms. Lecture 3 hours; 3 credits. Laboratory work required. The course will involve solving two or three comprehensive projects anchored in computer science and engineering. Possible topics for projects include: computational issues in network design and analysis; scheduling problems and applications; digital geometry and pattern recognition; image processing and computer vision applications; robotics. The basic thrust is to demonstrate the usefulness and power of algorithm design and analysis in solving real-life problems.

711/811. Software Validation. Lecture 3 hours; 3 credits. Prerequisite: CS 551. Laboratory work required. The most common path to improved confidence in a program is via testing. This course explores divergent and sometimes conflicting approaches to conducting testing and to measuring the resulting confidence. Topics include the theoretical basis for testing, common testing methods, statistical measures of program reliability, and the relationship between correctness and reliability.

720/830. Complexity Theory and Applications. Lecture 3 hours; 3 credits. Prerequisite: CS 600. Tools to establish that a problem is NP-complete and techniques to cope with NP-completeness. Approximate solutions to NP-complete problems: randomization, local search, along with greedy strategies. Topics
include: the classes P and NP, polynomial-time reduction, Cook's theorem and Karp's list of classic problems, proving NP-completeness results, NP-hardness, and coping with NP-completeness.

742/842. Optimization. Lecture 3 hours; 3 credits. Prerequisites: MATH 316 and CS 600. Optimization techniques for discrete and continuous functions are studied. Topics to be covered include simplex method, dual simplex method, cutting plane, branch-and-bound, dynamic programming, genetic algorithms, simulated annealing, penalty function methods and neural nets.

744/844. Performance Evaluation of Computer Systems and Networks. Lecture 3 hours; 3 credits. Prerequisites: CS 450/550 and 471. The course will introduce some of the commonly used techniques in the performance evaluation of computing systems. Students will be exposed to several problems and tools used in this field. The applicability of the techniques will be illustrated through case studies.

751/851. Introduction to Digital Libraries. Lecture 3 hours; 3 credits. Digital Libraries (DLs) are an increasingly popular research area that encompasses more than traditional information retrieval or database methods and techniques. The course will cover a brief history of DL development, with emphasis on World Wide Web implementations. Case studies will be performed on various DLs. The class will focus heavily on project work. At the end of the course, students will be prepared to develop, evaluate, or apply digital library techniques in their work environment. Topics include: Repositories; Distributed Searching; Metadata Harvesting; Preservation, Reference Linking and Citation Analysis.

752/852. Wireless Communications and Mobile Computing. Lecture 3 hours; 3 credits. Prerequisite: CS 415/515. This course looks at fundamental issues in the area of wireless networks and mobile computing. The course material is organized around the following broad themes: Basics of mobile and wireless communications; Cellular communications: Bandwidth allocation and reservation, Location management, Call admission control, and QoS issues; Mobile IP and Mobile TCP; Mobile Ad-Hoc NETworks (MANET); Routing, Multimedia and QoS support; Sensor networks.

762/862. Real-time Systems. Lecture 3 hours; 3 credits. Prerequisites: CS 471, 450/550 and 455/555. Laboratory work required. Scheduling and resource management to ensure that timing requirements are met. Operating systems for predictable operations in a complex and unpredictable environment with distributed and multiprocessor systems, real-time communication to support real-time traffic in satisfying timing constraints of individual messages, fault tolerance to ensure adequate reliability and timeliness in spite of failures, and real-time databases to support time-constrained access to data that has temporal validity.

771/871. Advanced Operating Systems. Lecture 3 hours; 3 credits. Prerequisite: CS 471. This course covers principles, design decisions, design techniques, policies, and mechanisms in the design and implementation of general-purpose multiprogramming and distributed operating systems. Topics to be covered include: concurrency, interprocess communication, threads, access control, protection and authentication, multiprocessor operating systems.

772/872. Network Security. Concepts, Protocols and Programming. Lecture 3 hours; 3 credits. Prerequisite: CS 455/555. This course deals with the basic protocols, techniques and programming issues to secure internet applications and traffic. Topics include: Cryptographic algorithms, tools for security, Secure Socket Layer (SSL), Transport Layer Security (TLS) and IPSec protocols; Secure Internet Applications: HTTP, SMTP, UDP and multicast; Hands on socket programming using C and Java.

775/875. Distributed Systems. Lecture 3 hours; 3 credits. Prerequisites: CS 471, 550 and 555. The course deals with the design issues in distributed computing systems and will discuss the motivation for building distributed systems, various algorithms and protocols proposed in literature for system operability, and some of the experimental distributed systems that have been built in the last few years. Special attention will be paid to the fault-tolerant and performance aspects of these systems. The project component of this course will enable students to get hands-on experience of implementing some of the distributed algorithms.

778/878. Networked Multimedia Systems. Lecture 3 hours; 3 credits. Prerequisites: CS 555 and 576. This course some of the technical foundations for capturing, transmitting, presentation and storage of continuous multimedia. Students will explore the applications of multimedia and techniques in some areas such as group collaboration and network based education. Topics covered include: Architectures and issues for distributed Multimedia Systems Support for real-time multimedia applications, quality-of-service, synchronization, and presentation of multiple multimedia streams.

779/879. Design of Network Protocols. Lecture 3 hours; 3 credits. Prerequisites: CS 555 and 576. Understanding the design, implementation and performance of network protocols using TCP/IP protocol suite as a case study. The students will have hands-on experience on low-level tools and will access and study the source code of these protocols and writing networking software applications. Topics include: socket interface, IPv4 and IPv6, routing, UDP, multiplexing, TCP, implementation and performance of network protocols.

786/886. Expert Systems. Lecture 3 hours; 3 credits. Prerequisite: CS 480/580. Expert system approach, knowledge acquisition techniques and representation schemes, inference strategies and explanations, reasoning under uncertainty, inexact reasoning and fuzzy logic, expert system life cycle, design methodology and design examples, expert system implementation tools, managerial and organizational considerations, applications of expert systems.

791/891. Graduate Seminar. 1-3 credits. Prerequisite: permission of the instructor.

801. Software Engineering. 3 credits. Prerequisite: CS 591. This course is an introduction to the theory of intractability; the classes P, NP are reviewed, then the classes NP-complete, co-NP, NP-hard are studied in detail using the Turing machine model as a basic example. Examples are chosen from all fields of computer science.

809. Doctoral Dissertation. 1-9 credits. Departmental permission required.

999. Computer Science 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Decision Sciences — See Information Systems and Technology/Decision Sciences

Mathematics and Statistics

Mathematics — MATH

400/500. History of Mathematics. Lecture 3 hours; 3 credits. Prerequisite: MATH 311W or 316 or 317. 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.

404/504. Fundamental Concepts 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. 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 theoretical 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.

417/517, 418/518. Intermediate Real Analysis I and II. Lecture 3 hours; 3 credits each semester. Prerequisite: MATH 316 and 317. 417/517 is prerequisite to 418/518. A rigorous course in classical, nonmeasure theoretic, real analysis. Topics include the topology of Euclidean n-space, properties of real-valued functions of several variables such as limits, continuity, differentiability and integrability, pointwise and uniform convergence 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. Mathematical Modeling I: 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 mechanisms, wave propagation or other fields of applied 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 description of linear and non-linear elastic continua. Topics include tensors, vectors, deformation, stress, nonlinear constitutive theory, exact solutions, infinitesimal theory, antiplane strain, plane strain, plane stress, extension, torsion, bending and elastic wave propagation.

428/528. Applied Mathematics IV: Fluid Mechanics. Lecture 3 hours; 3 credits. Corequisite: MATH 401/501. 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 Marketing and Management. Lecture 4 hours; 4 credits. Prerequisite: prior coursework in mathematics and statistics beyond algebra and trigonometry. A refresher 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; cyper 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.

498/598. Tutorial Work in 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.

605. Complex Variables. Lecture 3 hours; 3 credits. Prerequisites: MATH 501, 518 and 522. An advanced course in complex analysis.

615. Advanced Calculus for Teachers. Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: MATH 212. Not available to students with credit in MATH 317. An introduction to real analysis. Topics include the field and order axioms, completeness of the real line, theory of sequences, limits of functions, continuity, differentiability, sequences and series of functions, uniform convergence.

618. Applied Functional Analysis. Lecture 3 hours; 3 credits. Prerequisite: MATH 517. Topics include orthogonal projections to subspaces, duality, the Hahn-Banach theorem and the Banach-Steinhaus theorem, L-2 spaces and convolutions, operators, fixed point theory, construction of Hilbert spaces, approximation procedures in Hilbert spaces, and spectral theory.

620. Optimization Techniques. Lecture 3 hours; 3 credits. Prerequisites: MATH 312 and 316. Theory and computational algorithms for the optimization of constrained linear and nonlinear systems or for locating the maximum of a constrained nonlinear function. Applications to problems in economics, operations research and systems theory.

622. Numerical Solutions to Differential Equations. Lecture 3 hours; 3 credits. Prerequisite: MATH 436 or 536. An in-depth study of the numerical solution to ordinary and partial differential equations. Topics include linear multistep methods, Runge-Kutta methods, stiff differential equations, collocation methods, and strong and weak stability analysis for ODEs. For PDEs, finite difference methods are examined. Prerequisite: permission of graduate program director. Under the guidance of a faculty member in the Department of Mathematics and Statistics, the student will undertake a significant data analysis problem in a scientific setting outside the department. A written report and/or public presentation of results will be required.

637. Tensor Calculus and Differential Geometry. Lecture 3 hours; 3 credits. Prerequisites: MATH 316 and 517. Topics include Riemannian metric spaces, bilinear and quadratic forms, tensors, point manifolds, theory of curves, geodesic differentiation, theory of surfaces, curvature of general manifolds, integrability.

638. Mathematical Theories of Continua. Lecture 3 hours; 3 credits. Prerequisites: MATH 501 and 637. Topics include deformation, motion, stress, conservation laws, and constitutive theories.

670. Engineering Software for Computer-Aided Analysis and Design. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Introduction to CAE software for finite element modeling and analysis. The software includes MSC/NASTRAN, PATRAN, PRO/E, GENESIS and other commercially available software will be introduced.

691. Engineering Analysis I. Lecture 3 hours; 3 credits. Not available to students with credit in MATH 401 or 501. Prerequisites: MATH 307 and 312. Solution of partial differential equations, 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.

692. Engineering Analysis II. Lecture 3 hours; 3 credits. Not available to students with credit in MATH 422 or 522. Prerequisite: MATH 312. 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.

693. Methods of Applied Mathematics. Lecture 3 hours; 3 credits. Prerequisite: MATH 501 or 691. Advanced topics in the theory and application of ordinary differential equations, distributions, Green's functions, classification of partial differential equations, initial-value problems, eigenfunction expansions for boundary-value problems, selected special functions, singular perturbation theory for differential equations.

695. Seminar in Mathematics. 1-3 credits. Prerequisite: permission of the instructor.

696. Topics in Mathematics. 1-3 credits. Prerequisite: permission of the instructor.

698. Research. 3 credits.

699. Thesis. 3 credits.

701/801. Asymptotic and Perturbation Methods. Lecture 3 hours; 3 credits. Prerequisite: MATH 693. Asymptotic and perturbation methods are developed and used to solve linear and nonlinear differential equations. Included are analyses of Duffing's Equation, Van der Pol's Equation, and Mathieu's Equation. Singular perturbation theory and the Method of Matched Asymptotic Expansions are used to solve equations with boundary layer type solutions. Asymptotic expansions of integrals using Laplace's Method,
Method of Steepest Descent and Method of Stationary Phase are developed. Applications from all areas of applied mathematics are given.

702/802. Integral Equations. Lecture 3 hours; 3 credits. Prerequisite: MATH 701/801. Advanced techniques of solving integral equations, including iterative methods and approximation techniques. Formulation of the integral equation problems and their solution using methods such as Fredholm or Volterra theory. Introduction to orthogonal functions, theory of Hilbert-Schmidt singular integral equations, and the method of Wiener-Hopf, monotone operator theory, and direct methods.

703/803-704/804. Advanced Applied Mathematics I & II. Lecture 3 hours; 3 credits each semester. Prerequisite: MATH 702. Advanced mathematical techniques applied to specific topics of physical interest. Examples could include temperature transport, combustion, nuclear reactor, and frustrated systems in materials applications. Development of the mathematical techniques is accompanied by consideration of practical applications.

705/805. Numerical Linear Algebra. Lecture 3 hours; 3 credits. Prerequisite: MATH 409/509. Topics include orthogonal vectors and matrices, norms, singular value decomposition, QR factorization, Gram-Schmidt orthogonalization, stability of backword substitution, least squares problem, condition numbers, reduction to Hessenberg or tridiagonal form, far-off diagonal algorithms.

717/817. Measure and Integration. Lecture 3 hours; 3 credits. Prerequisite: MATH 518. An introduction to measure theory and integration theory with special emphasis on Lebesgue measure and the Lebesgue integral including Fatou's Lemma, the Monotone Convergence Theorem and the Dominated Convergence Theorem.

721/821-722/822. Advanced Applied Numerical Methods I & II. Lecture 3 hours; 3 credits each semester. Prerequisite: MATH 622. Numerical solutions of partial differential equations and integral equations. For PDEs, the finite difference method, the finite element method and the boundary element method are studied. A priori and a posteriori error estimations are examined. For integral equations, topics include Galerkin methods, collocation methods, and the Petrov-Galerkin method.

723-724/823-824. Approximation and Optimization I & II. Lecture 3 hours; 3 credits each semester. Prerequisite: permission of the graduate program director. Introduction to and advanced topics representing current research in approximation and optimization techniques for various application problems. Topics include recent developments in algorithms, their analysis, and applications such as data fitting and pattern separation.

745/845. Tensor Analysis. Lecture 3 hours; 3 credits. Prerequisite: MATH 691 and 692. Use of integral transforms for students of applied mathematics, physics and engineering. Integral transforms studied are Laplace, Fourier, Hankel, finite Z-transforms and other special transforms.

748/848. Tensor Analysis. Lecture 3 hours; 3 credits. Prerequisite: MATH 691. Algebra and calculus of tensor quantities, including invariance under coordinate transformations, contravariant and covariant mixed tensors, Christoffel symbols, covariant and intrinsic differentiation, generalized products and operations of vector analysis. Basic equations of differential geometry, dynamics, electromagnetic field theory, elasticity and fluids in generalized coordinates.

750/850. Calculus of Variations. Lecture 3 hours; 3 credits. Prerequisites: MATH 691 and 692. Maximum and minimum techniques in calculus; the Euler-Lagrange equation; the variational problem of a string. Other topics such as the Lagrange equations for a variety of conditions, formulation of extremum problems with side conditions for ordinary and partial differential equations. Application to dynamics, elasticity, heat and mass transfer, energy principles and finite element techniques. 505/805. Advanced Mathematics. 1-3 credits. Prerequisite: permission of the instructor.

796/896. Topics in Mathematics. 1-3 credits. Prerequisite: permission of the instructor.

898. Research. 1-9 credits.

899. Dissertation. 1-9 credits.

999. Mathematics 999. 1 credit. An one-hour pass/fail registration required of all graduate students to maintain status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Statistics - STAT

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 331 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 from finite populations is discussed. Topics such as 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 environmental monitoring, 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 specific applications of clinical trials.

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 statistical methods, monitoring, 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.

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 310W-331 or departmental permission. An introduction to nonparametric statistical methods including the theory and applications of binomial tests, rank tests, 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 1 X J and sets of I X J tables for both nominal and ordinal data, logistic regression including the probit and logit models, and building and applying logistic regression 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 nonparametrics, simulation, and bootstrapping. SAS will be used extensively, with some S-plus and possibly other specialized products. For writing actual (not packaged) code, PROC IML and S-plus. SAS Macro facility will be explored as well as SQL, array processing, and PROC CAPABILITY. This is a finishing course for applied statisticians, highly recommended for students planning a career in statistical programming.

497/597. Topics in Statistics. 1-3 credits. Prerequisite: permission of the instructor.

613. Applied Statistical Methods I. Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or 330 or MATH 211 or 226 or permission of instructor. Intended for graduate students in all academic disciplines; not available for credit to graduate students in the Department of Mathematics and Statistics. Topics include descriptive statistics, probability computations, estimation, hypothesis testing, linear regression, analysis of variance and categorical data analysis. Emphasis will be on statistical analysis of data arising in a research setting. The rationale for selecting statistical methods to address research questions will be emphasized. Examples will be given from health sciences, social science, engineering, education and other application areas.

614. Applied Statistical Methods II. Lecture 3 hours; 3 credits. Prerequisite: STAT 613 or equivalent. Intended for graduate students in the health, physical, biological, and social sciences; not available for credit to graduate students in the Department of Mathematics and Statistics. Topics include an in-depth study of regression methods including logistic regression; selected multivariate techniques including MANOVA, principal components analysis, factor analysis and discriminant analysis; and methods of analysis for repeated measurements designs. Emphasis is on statistical computing for solving practical data analysis problems.

619. Engineering Statistics. Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Elements of probability, probability distributions, sampling, estimation, hypothesis testing, control charts, regression analysis, and analysis of various problems. Limit theorems and convergence concepts, point and interval estimation, hypothesis testing, correlation and regression analyses, nonparametric statistics, sufficiency, Neyman-Pearson Lemma, and the Cramer-Rao inequality.

625-626. Mathematical Statistics I & II. 625 is prerequisite to 626. Lecture 3 hours; 3 credits each semester. Prerequisite: STAT 310W-331 or 531. An introduction to probability and statistical inference. Topics include probability, conditional probability, Bayes formula, random variables, stochastic independence, expectation, moment generating functions and transformations. Limit theorems and convergence concepts, point and interval estimation, hypothesis testing, correlation and regression analyses, nonparametric statistics, sufficiency, Neyman-Pearson Lemma, and the Cramer-Rao inequality.

627. Linear Statistical Models. Lecture 3 hours; 3 credits. Prerequisite: STAT 626. Topics include the multivariate normal distribution, distributions of quadratic forms, the general linear model, estimability, the Gauss-Markov theorem and general linear hypotheses, analysis of variance (ANOVA) and covariance (ANCOVA) with special attention to unbalanced data, and analysis of mixed effects and variance components models including repeated measures and split-plot designs.

628. Applied Multivariate Analysis. Lecture 3 hours; 3 credits. Prerequisite: STAT 537 or 627 or permission of the instructor. Topics include the multivariate normal distribution, graphical display of multivariate data and tests for normality, Hotelling's $T^2$, multivariate analysis of variance (MANOVA) and regression, profile analysis, growth curve models, canonical correlation analysis, principal components, factor models, clustering, and discriminant analysis. All methods and models will be illustrated with real data. Laboratory work will be as important as lecture and discussion.

630. Time Series (Box-Jenkins) Models. Lecture 3 hours; 3 credits. Prerequisite: STAT 626. Topics include autocorrelation function, autoregressive and moving average models, nonstationary ARIMA models, forecasting, model identification and estimation, diagnostic checks, and seasonal models. Applications involving real data from air pollution, water pollution, economic indicators and the stock market are also discussed.

632. Master's Project. 3 credits. Prerequisite: permission of graduate program director. Under the guidance of a faculty member in the Department of Mathematics and Statistics, the student will work in a significant data analysis problem in a scientific setting outside the department. A written report and/or public presentation of results will be required.

635. Statistical Consulting. Lecture 1 hour; seminar 2 hours; 3 credits. Prerequisite: STAT 626. This course is intended to teach statistical consulting techniques to graduate students in statistics. Students taking the course are to work on statistical consulting problems brought by faculty and graduate students in various fields.

640. Survival Analysis. Lecture 3 hours; 3 credits. Prerequisite: STAT 626. Survival time models, clinical life tables, nonparametric methods for estimating the survival function, life table methods and Cox's proportional hazards model, survival distributions, mathematical and graphical methods for goodness of fit, proportional hazards models, comparison of treatment groups, regression models.

667. Cooperative Education. 1-3 credits. Student participation for credit based on academic relevance of the work experience, criteria, and evaluation 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.

697. Topics in Statistics. 1-3 credits. Prerequisite: permission of the instructor.

725/825. Analysis of Variance. Lecture 3 hours; 3 credits. Prerequisites: MATH 517 and STAT 625. Topics include random variables, independence, modes of convergence, martingales, probability inequalities, law of large numbers, central limit theorems, projections, empirical distributions, extreme order statistics, weak convergence of processes.

727/827-728/828. Statistical Inference I & II. Lecture 3 hours; 3 credits each semester. Prerequisite: STAT 626. Topics include group and exponential families, sufficiency, unbiasedness, equivariance, properties of estimators, large sample theory, maximum likelihood estimation, EM algorithm, asymptotic optimality, information inequality, decision theory, minimax, admissibility, Bayes estimates, generalized Neyman-Pearson Lemma, uniformly most powerful tests, unbiased tests, invariant tests, and Bayesian tests.

795/895. Seminar in Statistics. 1-3 credits. Prerequisite: permission of the instructor.

797/897. Topics in Statistics. 1-3 credits. Prerequisite: permission of the instructor.

801. Seminar in Statistics I. Lecture 1 hour; 1 credit. Prerequisite: STAT 626 and permission of instructor. Students will read, present, and lead discussion on papers from the current statistical literature. Focus topics will vary by semester.

802. Seminar in Statistics II. Lecture 1 hour; 1 credit. Prerequisite: STAT 801. Students will read, present, and lead discussion on papers from the current statistical literature. Focus topics will vary by semester.

898. Research. 1-9 credits.

899. Dissertation. 1-9 credits.

999. Statistics 999. 1 credit. A one-hour partial registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Ocean, Earth and Atmospheric Sciences — OEAS

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 oceanography including 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 111N-112N, PHYS 111N-112N, OEAS 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. Prerequisite: junior standing; upper level 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 3 hours; 4 credits. Prerequisites: 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.

411/511. Structural Geology. Lecture 3
443/534. Introduction to Geophysical Methods in Geology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: OES 320 or permission of instructor. Recognition, habitat, and origin of deformed geologic structures. Relationships between structural patterns and tectonic settings. Laboratory sessions emphasizing map fortune, computer graphic and stereographic projections, map interpretation, and hand sample evaluation. Weekend field trip required.

412/512. Global Environmental Change. Lecture 3 hours; 3 credits. Prerequisites: OES 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 oceans and atmosphere.

413/513. Geochemistry. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: CHEM 115N-116N and OES 313. Low temperature geochemistry of surface and near-surface materials and processes. Weathering and the geochemical cycle as an environmental problem.

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, with an emphasis on stratigraphy and modern stability of beach dunes and barrier islands. Field trips to be made by each student.

418/518. Chemical Limnology. Lecture 3 hours; 3 credits. Prerequisite: OES 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: OES 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 processes and management tools using geographic information systems (GIS).

420/520. Hydrogeology. Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: OES 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 OES majors.

431/531. Sedimentary Petrology. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: OES 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: OES 110N 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 probe assignments and a field experiment 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: OES 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 Science Field Studies. Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: MATH 205-206 and PHYS 111N-112N or 231N-232N or permission of the instructor. Causes, nature, measurement and analysis of water waves and tides. Mathematical and graphical application to wave and tide problems.

446/546. Quaternary Geology. Lecture 3 hours; 3 credits. Prerequisite: OES 344W. Geologic effects of Cenozoic climate changes 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 computer graphic and technical models to understand how populations grow and persist in space and time. Both plants and animals are discussed.

455/555. Introduction to 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 admission to the Academic Honors Program; and AS 455 or permission 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, geological, chemical, or biological oceanography.

603. Geobiology and Biosedimentology. Lecture 3 hours; 3 credits. Prerequisites: OES 303 and 320. Geobiology and biosedimentology reflect the interdisciplinary approach to environmental problems, questions related to Earth history, and the exploration of extraterrestrial worlds. The course elaborates our understanding of geobiology and biosedimentology by conducting a study on benthic cyanobacteria and their influences on sedimentary processes in marine ecosystems. Study area is Fisherman’s Island, located close to Norfolk, VA. The course includes aspects of astrophysics (the “sister of geobiology”), and discusses the evolution of life on Earth.

604. Introduction to Physical Oceanography. Lecture 3 hours; 3 credits. Introduction to descriptive and dynamical physical oceanography. Properties of sea water; distribution of temperature, salinity and density; water, salt, and heat budgets; techniques for describing the ocean; circulation and water masses of the world’s oceans and coastal waters.

606. Experimental Procedures in Physical Oceanography. Lecture 3 hours; 3 credits. Provides basic knowledge for conducting field experiments in physical oceanography. Fundamentals of experimental design and sampling theory. Standard methods of data reduction, analysis, and reporting.

610. Advanced Chemical Oceanography. Lecture 3 hours; 3 credits. Prerequisites: OES 115N-116N or equivalent. Chemical properties of seawater; chemical composition of the ocean including major and trace elements, dissolved gases, micronutrient elements, and organic compounds; processes controlling this composition.

611. Chemical Oceanography Laboratory. Laboratory 6 hours; 3 credits. Prerequisites: CHEM 115N-116N, 321, and 322, or equivalent, or consent of instructor. Basic analytical chemistry of seawater; field work in chemical oceanography.

612. Marine Geochemistry. Lecture 3 hours; 3 credits. Prerequisite: OES 610 or permission of the instructor. Processes governing the chemical composition of the ocean. Riverine input; air-sea exchange; sediment-bottom water exchange; hydrothermal input; internal cycling by physical processes; numerical modeling in chemical oceanography.

613. Geochemistry of Marine Sediments. Lecture 3 hours; laboratory 6 hours; 3 credits. Prerequisites: OES 610, 612, MATH 205-206. An introduction to the geochemistry of marine sediments, with an emphasis on nutrient (C,N,P,S) and trace element cycling in marine sediments.

614. Chemical Oceanography in the Coastal Environment. Lecture 3 hours; 3 credits. Prerequisites: OES 610 or permission of the instructor. Chemical dynamics within water and sediments of estuaries, salt marshes, and the continental shelf; river-mouth, air-sea, and sediment-water interactions; modeling techniques.

616. Advanced Chemical Oceanography Laboratory. Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisite: CHEM 115N-116N. Analysis of trace components in marine waters, sediments, and sediment porewaters; sampling techniques; field experience.

617. Applied Geochemistry. Lecture 3 hours; 3 credits. Soil and contaminant properties, soil-water interaction, soil permeability, contaminant-soil interactions, water and contaminant attenuation, and contaminant movement in natural and aquatic environments. Zone of inorganic and organic contaminants are discussed.

619. Biological Oceanography Laboratory. Laboratory 2 hours; 1 credit. Prerequisite: permission of the instructor. The course includes exercises in the field (salt marsh; onboard the department’s research vessel), in the laboratory
(microbiology; photosynthesis; zooplankton physiology), and on the computer (modeling manipulation of CD-Rom data sets). Each student conceives, executes, and presents a small-scale, independent research project.

620. Selected Topics in Environmental Sciences. Lecture 2.5 hours; laboratory 1 hour; 3 credits. Survey of marine and terrestrial geology and geophysics; plate tectonics and basin formation; marine sediments and sediment dynamics; marine depositional environments and depositional systems; marine stratigraphy and dynamics and the formation of marine basins.

622. Wetland Hydrology. Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: OEAS 111N and MATH 163 or permission of the instructor. Hydrologic criteria used to delineate wetlands. Techniques used to calculate components of water budgets for non-tidal wetlands. Many lab exercises will require extensive field work in wetlands.

625. Sediments and Sediment Dynamics. Lecture 3 hours; 3 credits. Prerequisite: OEAS 620 or permission of instructor. Attributes of marine sediments; boundary layer fluid dynamics and sediment transport; characteristics of cohesive and none cohesive deposits; gravity transport; grain size frequency distributions; strata formation and biotic reworking of sediments.

628. Depositional Systems. Lecture 3 hours; 3 credits. Prerequisite: OEAS 620 or permission of the instructor. Marine depositional environments, facies assemblages and the morphodynamics of their formation; numerical models of sediment accumulation.

630. Dynamical Oceanography I. Lecture 3 hours; 3 credits. Prerequisites: OEAS 604 and MATH 691. Dynamics of rotating, stratified fluids, geostrophic adjustment, potential vorticity, Ekman layers, gravity waves, and large scale ocean circulation.

632. Stratigraphy and Basin Analysis. Lecture 3 hours; 3 credits. Prerequisite: OEAS 620 or permission of instructor. Lithospheric dynamics and basin formation; sediment dating and marine biostratigraphy; sedimentation in marine and terrestrial basins and the resulting sequence (stratigraphy).

633. Petrology of Sandstones. Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: OEAS 431/531 or permission of the instructor. Petrology of sandstones; applications of sediment mineralogy and texture to the analysis of provenance, deposition, and diagenesis with emphasis on the interrelationship between tectonics and sedimentation.

634. Applied Clay Mineralogy. Lecture 3 hours; 3 credits. Prerequisite: OEAS 431/531. The study of clay minerals and colloids and the application of their physical and chemical properties to various geologic, agricultural, and environmental problems. Special emphasis is given to ion exchange and sorption problems involving clays under various conditions. Techniques of semiquantitative analysis of clay minerals and the alteration of their chemical physical properties are emphasized.

638. Carbonate Petrology. Lecture 3 hours; 3 credits. Prerequisite: OEAS 431/531. The origin and diagenesis of carbonate rocks with emphasis on the changes that carbonate sediments undergo during deposition, burial, and uplift. Laboratory work on carbonate peels and thin sections.

640. Advanced Biological Oceanography. Lecture 3 hours; 3 credits. Marine organisms and their interactions with the physical and chemical environments of the sea; primary production, population ecology, nutrition, reproduction, and marine biogeography.

643. Primary Production in Marine Environments. Lecture 3 hours; 3 credits. Prerequisite: OEAS 640 or equivalent. Studies of microalgae, macroalgae and higher plants focused on the factors which control primary production and the fate of carbon in estuarine and oceanic environments.

644. Environmental Physiology of Marine Animals. Lecture 3 hours; 3 credits. Prerequisite: OEAS 640 or equivalent. Physiological and biochemical adaptations of marine animals in stable and changing environments. Topics include foraging, respiration growth and reproductive strategies in diverse marine habitats.

645. Surficial Processes. Lecture 3 hours; 3 credits. Prerequisites: OEAS 320, 344W or permission of instructor. Geomorphic processes that form and resharpen surficial deposits and soils. Field trips required.

651. Introduction to Physics of Estuaries. Lecture 3 hours; 3 credits. Prerequisite: OEAS 604 or 605. This course considers the physical oceanography of estuaries. In particular, it explores the dynamics of mixing in estuaries. Processes are influenced by atmospheric forcing, tidal forcing, coastal influences and bathymetric variability. Topics to be treated include classification of estuaries, typical steady dynamical balances, transport of salt and other quantities, mixing, and time-space scales of variability.

655. Chemical Aspects of Hazardous Waste Management. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Waste characterization including classification, source and types of wastes and waste management. Major disposal methods (landfills, land disposal, underground injection and geologic repositories) that affect geologic materials and ground water are discussed.

667. 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. 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.

669. Internship in Oceanography. 1-3 credits. Prerequisite: permission of the department.

690. Topics in Marine Environmental Policy. Lecture 3 hours; 3 credits. Prerequisites: should have a strong science background and the ability to access website for course materials. This course will give students a working understanding of how science policy decisions are made by governments and how science and technology impact public policy. This course seeks to integrate current policy/legislative initiatives with the underlying scientific issues in order to raise the student's appreciation for and understanding of the various influences that affect the decision-making process. In particular, the course will look at how science influences policy and assess the "state of the science" relative to the issues at stake.

691. Seminar. One semester required; 1 credit. Techniques for presenting scientific data at professional meetings and seminars. Practical experience and feedback.

695. Special Topics in Oceanography. 1-3 credits each semester. An advanced investigation in a selected problem in physical, geological, chemical, or biological oceanography under the direction of the faculty of the Department of Ocean, Earth and Atmospheric Sciences.

698. Research. Any semester; hours to be arranged; variable credit. 1-9 credits per semester. M.S.-level research.

699. Thesis. Any semester; hours to be arranged; variable credit. 1-9 credits per semester. M.S.-level work primarily devoted to the writing of the thesis.

703/803. Stability of Ocean Flow. Lecture 3 hours; 3 credits. Prerequisites: calculus, differential equations, geo-physical fluid dynamics. A study of the basic ideas and methods used to examine the stability of ocean currents. Topics include fundamentals, barotropic and baroclinic instability, wave packets and energy balance.

704/804. Time Series in Oceanography. Lecture 3 hours; 3 credits. Prerequisite: calculus. A study of the basic techniques used to model and analyze time series of oceanographic data. These include temporal spatial and frequency/wave number models and techniques.

708/808. Simulation Techniques for Ocean Circulation. Lecture 3 hours; 3 credits. Prerequisites: OEAS 604, 630 and 730, and knowledge of a computer program language (FORTRAN preferred). Emphasis is on the construction of working ocean models, both primitive equations and partial differential equation models analyzed, mostly finite difference techniques, implicit and explicit schemes, staggered grids, discussion of ocean general circulation models.

711/811. Regional Oceanography. Lecture 3 hours; 3 credits. Prerequisite: OEAS 604. The regional oceanography of the major ocean basins, marginal seas, and coastal oceans. Seasonal and interannual variability. Heat and salt cycles.

712/812. Radiogeochemistry of the Ocean. Lecture 3 hours; 3 credits. Prerequisites: OEAS 610 and 612, MATH 307, or permission of the instructor. Sources of radioactivity in the oceans; marine geochemistry of radioactive nuclides; tracking marine processes with radioactive nuclides. 723/823. Ocean Turbulence and Mixing Processes. Lecture 3 hours; 3 credits. Prerequisites: OEAS 630 and 730/830. This course will first provide a broad background in the concepts, theories and semi-analytical techniques used to describe turbulent motions and their effects in fluids. The various observational techniques that are presently used to measure turbulence in the ocean will be explored.

730/830. Dynamical Oceanography II. Lecture 3 hours; 3 credits. Prerequisite: OEAS 630. Dynamics of rotating stratified fluids. Inertial waves, equatorial dynamics, coastal dynamics, dynamic instability.

732/832. Advanced Geochemistry of Marine Sediments. Lecture 3 hours; 3 credits. Prerequisites: OEAS 610, 612, 613, MATH 307. Advanced topics in the geochemistry of marine sediments, with an emphasis on mathematical modeling of sedimentary geochemical processes.

741/841. Fisheries Science. Lecture 4 hours; 4 credits. Prerequisite: permission of the instructor. An introduction to the major questions in the management of marine fisheries: abundance, estimation, distribution, recruitment and optimum yield. Topics are presented within the context of
fisheries management, marine productivity and population ecology, all of which shape the direction of the primary literature.


44/844. Fisheries Management. Lecture 3 hours; 3 credits. Prerequisite: OEAS 640. Topics include the evolution of reproductive strategies, maturation, behavior, larval ecology, and recruitment.

749/849. Plankton Population Dynamics II (Zooplankton). Lecture 4 hours; laboratory 4 hours; 4 credits each semester. Prerequisites: OEAS 540 and 640 or equivalent. Environmental control of functional processes in marine and estuarine zooplankton at the level of the organism and the community. Ingestion, excretion, respiration, rhythms, locomotion, reproduction.


755/855. Mathematical Modeling of Marine Ecosystems. Lecture 3 hours; 3 credits. Prerequisites: calculus, differential equations, OEAS 604 and 640. This course is focused on the theory and techniques of mathematical model development for marine ecosystems. The course is designed to provide an understanding of how to parameterize interaction among components of marine food webs and interaction of food web components with physical environments.

760/860. Microbial Ecology of Marine Benthic Environments. Lecture 3 hours; 3 credits. Prerequisite: OEAS 640 or permission of instructor. The course emphasizes the role of microorganisms in the transfer and cycling of energy and matter on centimeter to global scales. Lectures cover microbiological organisms, processes, and methods in benthic regimes ranging from the intertidal to the deep sea, in hydrothermal and coldwater vents, and in hydrocarbon seeps.

762/862. Geobiology. Lecture 3 hours; 3 credits. Prerequisites: OEAS 303, 320. Hot topics in the field of geobiology are discussed. A small research project will be conducted which includes field work and lab analysis. Topics of research project according to student’s interest. Field trip required.

764/864. Coastal Sedimentology. Lecture 2 hours; laboratory 2 hours; 3 credits. Sedimentary processes in different coastal zones will be described: carbonate, evaporitic, and clastic depositional systems. We will conduct a small research project along the coast of Virginia. Field trip required.

765/865. Marine Biogeochemistry. Lecture 3 hours; 3 credits. Prerequisites: OEAS 610, 640 or permission of instructor. This class will focus on biologically mediated elemental cycling in aquatic systems. Assimilatory and dissipatory biological processes involving auto- and heterotrophic organisms frequently mediate elemental cycling of these elements. Inorganic compounds and dissolved and particulate organic material will be discussed in terms of their biological reactivity and turnover times in aquatic systems and their contribution to elemental cycling on a variety of temporal and spatial scales. Also included is the issue of how community structure and function alter biogeochemical cycles.

770/870. Aquatic Photosynthesis. Lecture 3 hours; laboratory 3 hours; 4 credits. This course examines the physics, chemistry, biology and ecology of photosynthesis by aquatic organisms. Topics include light harvesting, energy transfer, carbon metabolism and biosynthesis and their ecological consequences.

772/872. Aquatic Optics. Lecture 3 hours; laboratory 3 hours; 4 credits. The course covers the physics of light transmission through the aquatic medium as affected by scattering and absorption, the optical properties of seawater, suspended particles of living cells, underwater video and ocean color.

795/895. Advanced Topics in Oceanography. 1-3 credits each semester. An advanced investigation of a selected problem in physical, geological, chemical, or biological oceanography under the direction of the faculty of the Department of Ocean, Earth and Atmospheric Sciences.

800. Survival Skills for Scientists. Seminar 1 credit, P/F. Seminar class each fall and spring that will address a series of topics to improve student success as scientists.

840. Plankton Dynamics. Lecture 3 hours; 3 credits. Prerequisite: OEAS 440/540 or 640. This course emphasizes the ecology of heterotrophic plankton from bacteria to protists, from metazoan invertebrate plankton to fish larvae. Students will explore the role of plankton groups and species in the context of pelagic ecosystems. Planktonic processes are not only relevant for the ocean ecosystem but also for fisheries, aquaculture, environmental and human health, and global climate. The course consists of lectures, discussion groups on selected reading material, and laboratory demonstrations.

869. Internship in Oceanography. 1-3 credits. Prerequisite: permission of the department.

898. Doctoral Research. Any semester; hours to be arranged; variable credit, 1-9 credits per semester. Ph.D.-level research.

899. Dissertation. Any semester; hours to be arranged; variable credit, 1-9 credits per semester. Ph.D.-level work primarily devoted to the writing of the dissertation.

995. Geosciences, Earth and Atmospheric Sciences. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

Physics — PHYS

Those courses with a + after the number cannot be counted toward the M.S. (Physics) or Ph.D. in Physics degrees.

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 and digital 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 Planetary. 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. Prerequisite: 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 directed toward future teachers 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. Corequisite: 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 phenomena, 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 the band theory of solids, superconductivity 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. An introduction to 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)

487, 488. 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 calculational type. 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)

601. Mathematical Methods of Physics I. Lecture 3 hours; 3 credits. Mathematical methods and applications necessary for work in theoretical physics.

603. Classical Mechanics. Lecture 3 hours; 3 credits. Particle and rigid body mechanics. Lagrangian and Hamiltonian formulation, Canonical transformation, Hamiltonian-Jacobi theory.


621. Quantum Mechanics I. Lecture 3 hours; 3 credits. Prerequisite: PHYS 556. Rigorous development of the quantum theory, perturbation problems and scattering theory.

636. Astrophysics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 556. Theory of radiative equilibrium of stars, formation of stellar spectra, the physics of stellar atmosphere, the internal structure of stars and stellar evolution.

655. Selected Topics in Pure and Applied Physics. 1-3 credits. Prerequisite: permission of the instructor.

696. Individual Study and Methods of Research. 3 credits. Prerequisite: permission of the instructor. Introduction to methods of research through guided individual study of one or more advanced problems.

697. Seminar. 1 credit.


701/801. Mathematical Methods of Physics II. Lecture 3 hours; 3 credits. Prerequisite: PHYS 601. Further mathematical methods and applications used in theoretical physics.

704/804. Electromagnetic Theory II. Lecture 3 hours; 3 credits. Prerequisite: PHYS 604. Further development of the classical theory of electromagnetism.

707/807. Statistical Mechanics. Lecture 3 hours; 3 hours; 3 credits. Prerequisites: PHYS 555 and 704/804. Topics in classical and quantum statistical mechanics.

709/809. Applied Physics Laboratory. Laboratory 6 hours; 3 credits. Experimental techniques encountered in research activities such as a study of various transducers used in laser, optical, plasma and nuclear physics.


721/821. Quantum Mechanics II. Lecture 3 hours; 3 credits. Prerequisite: PHYS 621. Hilbert space formulation of quantum mechanics; stationary and time dependent perturbation theory; variational methods; spin; many-particle systems. Boson and Fermi particles.


723/823. Introduction to Particle Physics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 722/822. Introduction to hadron spectroscopy and the parton model. Discrete and continuous symmetries and application to particle physics. Introduction to the quark model and application to static properties. Klein-Gordon and Dirac equations, quantum electrodynamics and Feynman rules applied to weak interactions, the parton model and deep inelastic scattering.

724/824. Solid State Physics I. Lecture 3 hours; 3 credits. Prerequisite: PHYS 621. Theoretical study of atomic and nuclear spectroscopy with emphasis on hyperfine interactions in solids. Superconductivity, magnetism and the magnetic properties of materials. Introduction to x-ray, electron and neutron diffraction techniques.

726/826. Group Theory and Quantum Mechanics. Lecture 3 hours; 3 credits. Prerequisite: PHYS 621. Theoretical description of the physical properties of solids, with emphasis on mechanical, thermal, electrical and magnetic properties.


731/831. Advanced Seminar I. Lecture 1 hour; 1 credit. Written and oral communication skills as applied to physics. Data display techniques for scientific reports.

732/832. Advanced Seminar II. Lecture 1 hour; 1 credit. Methodology of scientific information retrieval. Organization of information in selected research areas.

733/833. Seminar in Applied Physics. Lecture 1 hour; 1 credit. Report and proposal writing including the submission by the student of a proposal for the Physics Research Internship.

737/837. Surface Physics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Introduction to the nature and properties of solid surfaces, liquid and gas interactions with surfaces, physical absorption and chemical absorption.

750/850. Quantum Electronics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 604 and 704/804. Theoretical development of the electromagnetic field and the interaction of fields with matter. Photon coherence, general theory of the laser and topics in nonlinear optics are developed. Applications are selected from topics of current research interest.

767/867. Plasma Physics. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Development of plasma theory, including collision processes, orbit theory, hydrodynamic theory and solar relationships.

770/870. General Relativity and Cosmology. Lecture 3 hours; 3 credits. Prerequisite: PHYS 704/804. Review of special relativity and certain applications. Elements of tensor analysis; the gravitational field equations. The Schwarzschild and Kerr blackhole solutions the linearized field equations and gravitational waves. Descriptive cosmology and models; recent topics.

797. Research. 1-6 credits each semester.

825. Solid State Physics II. Lecture 3 hours; 3 credits. Prerequisite: PHYS 724/824. Phonons, plasmons, magnons, and polarons; introduction to many body techniques; superconductivity; Bloch functions, Brillouin zones, electron dynamics; energy bands and Fermi surfaces; correlation functions and neutron diffraction.


842. Advanced Quantum Mechanics. Lecture 3 hours; 3 credits. Prerequisites: PHYS 603, 704, 721. Introduction to relativistic quantum mechanics; symmetries in relativistic wave equations; solutions to relativistic wave equations for bound states and scattering processes; classical field theory and role of symmetries in construction of conserved currents; introduction to second quantization of fields.

Advanced Topics Courses. Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. These courses provide students with knowledge of methods and background necessary for pursuit of research. Subject matter is variable.
group behavior change, and cultural design, are each considered when targeting problems.

460/560. Psychology of African Americans. Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. This course examines the cultural and sociopolitical factors 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 abuse and dependency.

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; 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 develops a thesis and/or poster and permission for approval by the Psychology Honors Program committee. Student also participates in a required seminar to discuss and present the research. See section on Honors Program in Psychology in this Catalog.

489, 490. Readings in Psychology. 3 hours; 3 credits. Open to psychology majors. Course may be taken only once. An individualized course in which the student does library research and writes a paper.

495/595. Topics in Psychology. 1-3 credits each semester. Prerequisite: PSYC 201S or permission of the 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 from a faculty advisor, and permission of the seminar instructor. Students should have an overall GPA of 2.5. Students work with a 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.

Admission to graduate courses in psychology requires permission of the instructor or appropriate prerequisite requirements.

651. Developmental Psychology. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 203S. This course covers topics related to the physical, cognitive, social and emotional aspects of growth; from conception to death. It focuses on human growth and development, but other organisms are also considered.

653. Personality Psychology: Theory and Research. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 408. The course deals with basic issues and contemporary topics in personality research. The basic issues covered include personality measurement, heredity, biological approaches, personality development, and motives. Current topics in personality research that are covered include the unconscious, personal efficacy, sex and gender, control, self-concept, stress and illness, sexuality, and disorders of personality.

661. Psychopathology. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 405. The course provides a conceptual basis for the study of abnormal behavior. Students conduct an in-depth review of the literature related to neuroses, personality disorders, and psychophysiological disorders.

662. Human-Computer Interface Design. Lecture 3 hours; 3 credits. Prerequisite: graduate standing and permission of the instructor. Course introduces students to the fundamental principles of human-computer interaction. Exposes students to basic psychological concepts and shows how they are used to create effective interface designs. Covers both theoretical and practical aspects of interface design.

663. Intellectual Assessment. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 412 or equivalent or permission of the instructor. Primary focus is on intellectual assessment for children and adults. Basic instruction in administration and interpretation of standard tests of intelligence will be provided. Additional topics include tests of achievement and memory function. Course meets on Tuesdays and Thursdays for discussion 3 hours; 3 credits. Prerequisite: PSYC 412 or equivalent or permission of the instructor. Course covers major methods of personality assessment including objective and projective instruments. Emphasis is on current theory and applications of personality assessment.

667. Practicum in Psychology. 2-5 credits. Prerequisites: 15 graduate course hours (including PSYC 663) and permission of the instructor. Students will receive supervised training in an applied setting in the area of clinical or industrial psychology.

672. Advanced Physiological Psychology. Lecture and discussion 3 hours; 3 credits. This course examines the complex physiological structures and processes related to the organism’s interaction with its environment; neuronal physiology, sensory and motor systems, as well as motivational, emotional, and learning mechanisms.

696. Topics in Psychology. 3 credits. Prerequisite: PSYC 201S, 317, 318W, and permission of the instructor. Course covers major methods of personality assessment including objective and projective instruments. Emphasis is on current theory and applications of personality assessment.

698. Research in Psychology. 3 credits. Individual project under guidance of a research advisor. Required for students choosing thesis option. Limited to a total of 3 hours of credit.


712/812. History and Systems of Psychology. Lecture and discussion 3 hours; 3 credits. A survey of the historical roots of modern psychology.

713/813. Research Project I. Lecture 1 hour; 1 credit. Students design a research project, completing the background literature review and methods sections for the project. A formal oral presentation of the research project is required.

714/814. Research Project II. Lecture 2 hours; 2 credits. Students collect data, conduct data analyses and complete the results and discussion sections of a research report. A formal, oral
presentation of the research project and its results is required.

723/823. Quantitative III. Lecture and discussion 3 hours; 3 credits. Prerequisite: graduate standing and PSYC 728/828 or equivalent. This advanced course on univariate analyses (ANOVA, regression) and their extensions with an emphasis on the formulation of issues related to the general linear model.

726/826. Quantitative IV. Lecture 3 hours; 3 credits. Prerequisite: PSYC 745/845 or equivalent. This course covers the topics of linear structural equation modeling and focuses on estimation, measurement models, confirmatory and hierarchical factor analysis, structural equations, longitudinal models, multisample analyses, and mean structures.

727/827. Statistics and Research Methods I. Lecture 3 hours; 3 credits. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor. Reviews quantitative aspects of experimental design, with a review of basic descriptive statistical procedures and an advanced examination of probability and inferential statistics. Explores univariate statistical approaches, emphasizing analysis of variance, to highlight statistical methodology and applications of the general linear model to behavioral science data. Materials are covered in the context of classical experimental and quasi-experimental design.

728/828. Statistics and Research Methods II. Lecture 3 hours; 3 credits. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor. This course covers the topics of behavioral science data analysis in the framework of the general linear model, emphasizing applied multivariate analysis techniques (e.g., multiple regression, multivariate analysis of variance, logistic regression and their assumptions). Provides a brief overview of advanced analytic methods, including multivariate regression, structural equation modeling, and psychometrics. Advanced issues in research methods are discussed.

730/830. Teaching Statistics and Research Practicum. 1 or 3 credits. Prerequisites: PSYC 727 or 824 or 827 and PSYC 728 or 825 or 828. Graduate students in Psychology will have the opportunity to direct statistics and research methods labs for graduate statistics courses. Students’ main role will be acting as peer mentors for the new graduate students. Other possible responsibilities may include grading, creating lab activities and assignments, and supervising students’ research projects. Students will be evaluated on their teaching effectiveness and performance.

731/831. Human Cognition. Lecture and discussion 3 hours; 3 credits. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor. An investigation of the ways in which people process and retain informaation, make decisions, and solve problems. Current models of structures and processes of human memory and cognition are discussed with particular emphasis on neurocognitive evidence of the brain mechanisms involved in cognition.

734/834. Proseminar in Applied Experimental Psychology. Lecture and discussion 3 hours; 3 credits. Prerequisite: admission into the graduate program in psychology or permission of the instructor. This course introduces students to the breadth of problem areas to which applied experimental (AE) psychology is applicable. Research methods and ethics employed by AE psychologists are discussed. Examples of AE research are reviewed, and students have opportunities to apply techniques to actual or simulated problems.

735/835. Health Psychology. Lecture 3 hours; 3 credits. Prerequisite: PSYC 728/828 or equivalent. This course focuses on contemporary theory and research topics in health psychology. The course examines psychological and behavioral issues affecting health maintenance, coping with life-threatening illnesses and chronic diseases, and health promotion. The course uses the biopsychosocial (mind-body) model as an organizing framework, emphasizing the dynamic interactions among biological, social, personality, and behavioral factors jointly in influencing people’s health. The course is conducted as a seminar.

741/841. Sensation and Perception. Lecture and discussion 3 hours; 3 credits. A survey of human sensation and perception emphasizing historical contributions, recent theoretical and methodological developments, and empirical findings.

744/844. Program Evaluation. Lecture 3 hours; 3 credits. Prerequisites: 727/827 and 728/828 (or current enrollment). This course is designed to introduce students to the fundamental ideas of program evaluation as well as to give students practical experience conducting a program evaluation. Students will get experience creating and conducting qualitative and quantitative assessments. A course goal is to work in small groups to conduct a program evaluation.

745/845. Psychometric Theory. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 728/828 or equivalent. This course surveys classical and modern test theory, correlational methods, meta-analysis, reliability and validity theory, test development, and change measurement.

749/849. Advanced Social Psychology. Lecture and discussion 3 hours; 3 credits. This course discusses the behavior of the human as a member of a group. Topics include attitude theory and change, interpersonal attraction, group dynamics, and related theory and applied research techniques.

750/850. Organizational Psychology. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 317 or equivalent. This course provides an introduction to organization behavior and theory. Topics include leadership, motivation, small groups, organization structure and environments, organization change and processes such as communication and control.

763/863. Personnel Psychology. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 727/827 or equivalent. This course provides an introduction to personnel psychology. Topics include job analysis, performance appraisal, testing and assessment, employee selection, equal employment opportunity guidelines, development and evaluation of training programs.

770/870. Human Factors Psychology. Lecture 3 hours; 3 credits. Prerequisites: PSYC 731/831 and 741/841 or equivalents or permission of the instructor. The application and evaluation of psychological principles and research relating human behavior to the design of tools, technology, and the work environment. Theory, methods, and application are emphasized.

771/871. Ergonomics. Lecture 3 hours; 3 credits. Basic overview and application of anthrometry, biomechanics, functional anatomy, mechanics, and human physiology for the design of industrial tools, equipment, and workstations.

795/895. Topics in Psychology I. 1-4 credits.

796/896. Topics in Psychology II. 1-4 credits.

810. Seminar in Professional Aspects of Industrial/Organizational Psychology. Lecture 3 hours; 3 credits. Prerequisite: admission into the I/O Ph.D. program. Topics covered include standards of professional behavior of I/O psychologists, the governance of psychology, I/O psychology professional associations, and professional opportunities for I/O psychologists.

815. Teaching Psychology. Lecture and discussion 1 hour; 1 credit. The teaching of psychology.

824. ODU Research Methods I: Statistics and Research Design. Lecture 3 hours; 3 credits. Prerequisite: admission into Virginia Consortium PSYD program or permission of the instructor. Reviews quantitative aspects of experimental design, with a review of basic descriptive statistical procedures and an advanced examination of probability and inferential statistics. Explores univariate statistical approaches, emphasizing analysis of variance, to highlight statistical methodology and applications of the general linear model to behavioral science data. Materials are covered in the context of classical experimental and quasi-experimental design.

825. ODU Research Methods II: Statistics and Research Design. Lecture 3 hours; 3 credits. Prerequisite: admission into Virginia Consortium PSYD program or permission of the instructor. Provides advanced coverage of behavioral science data analysis in the framework of the general linear model, emphasizing analysis of variance, logistic regression and their assumptions. Provides a brief overview of advanced analytic methods, including multilevel regression, structural equations modeling, and psychometrics. Advanced issues in research methods are discussed.

833. Grant and Manuscript Writing. Lecture 3 hours; 3 credits. Prerequisite: admission to the doctoral program in psychology and completion of master’s thesis, or permission of instructor. The course is designed: (1) to teach students to write article-length scholarly manuscripts in APA format of publishable quality and (2) to teach students the critical components of grant applications. By the end of this course, each student will have prepared a manuscript that is ready for submission to a peer-reviewed journal and have completed sections of a federal grant application.

851. Micro Organizational Psychology. Lecture and discussion 3 hours; 3 credits. Study of classical and modern organizational models and theories.

854. Organizational Development and Change. Lecture and discussion 3 hours; 3 credits. Prerequisites: PSYC 851 and 853 or permission of the instructor. Study of model and theories of organizational change and methods used to foster organizational development and effectiveness.

885. Field Research Methods in Organizational Psychology. Lecture, discussion, and field research project; 3 credits. Prerequisite: admission into the I/O Ph.D. program or permission of the instructor. Study of the design and analysis of surveys, quasi-experiments,
questionnaires, interviews and other methods for studying organizational processes.

858. ODU Clinical and Ethical Issues. Lecture 1 hour; 1 credit. Weekly seminars address professional and ethical issues in the practice of clinical psychology.

859. ODU-Cognitive and Behavioral Therapies. Lecture 3 hours; 3 credits. Covers theory and techniques of cognitive and behavioral approaches. Applications for the assessment and treatment of adults, children, couples, and families are discussed. Students gain practical experience in these techniques as well as case conceptualizational skills.

864. Human Resource Development. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 763/863 or permission of the instructor. An examination of research findings, methodologies, and evaluation designs for the development of human resources in organizations. Specific topics include needs assessment, learning principles and systems design.

865. Advanced Personnel Psychology I. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 763/863 or permission of the instructor. This course covers the topics of job analysis, psychological assessment, career development, selection interviewing, performance appraisal, validation, legal issues, and human resource planning.

866. Advanced Personnel Psychology II. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 763/863 or permission of the instructor. This advanced personnel psychology covers the topics of recruitment, classification, utility analysis, training, compensation, organization, assessment and development, career development and consulting strategies.

867. Human Performance Assessment. Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 770/870 or permission of the instructor. This course covers the broad topics of human performance measurement and focuses on issues, techniques, and theories. Specific topics include environmental and individual factors affecting performance, performance measurement methods, development and use of expertise, human error, and performance appraisal systems.

872. Methods, Measures, Techniques, and Tools in Human Factors. Lecture 3 hours; 3 credits. Experiential survey of methods, measures, techniques, and prototyping tools available for human factors investigations in laboratory and field settings. The design and execution of experimental investigations utilizing the measures and tools are emphasized.

873. ODU Biological Bases I: Physiological Psychology. Lecture 3 hours; 3 credits. Examines the physiological mechanisms for motivation, learning, memory and behavior disorders. Also included are such topics as the neurophysiological bases of sleep, emotions, language disorders, developmental neurobiology.

874. ODU Biological Bases III: Drugs and Behavior. Lecture 3 hours; 3 credits. This course deals with substance abuse disorders, identification/diagnosis, etiology, treatment and recovery. It also covers the proper use of and desired effects and side effects of medications used in the treatment of psychiatric disorders.

875. Advanced Visual Perception and Visual Displays. Lecture 3 hours; 3 credits. Detailed review of the physiological bases of visual perception, the capabilities and limitations of the visual systems, and the metrics involved in vision research. A survey of current visual displays is presented, stressing the interaction of the characteristics of these displays with the capabilities and limitations of the human visual system.

876. Human-Computer Interaction. Lecture 3 hours; 3 credits. Review of the physical, cognitive, and performance capabilities and limitations of humans as they interact with modern computer systems. Emphasis is placed on the tools, techniques and procedures for the assessment and effective design of computer hardware, software and displays of information.

877. Theories, Models and Simulations in Human Factors. Lecture 3 hours; 3 credits. Survey of the historical and philosophical bases for the use of theories, models, and simulations in human factors applications with a critical evaluation of existing theories, mathematical and cognitive models, and simulations in terms of actual and potential contributions to the field.

878. Advanced Cognition and Information Processing. Lecture 3 hours; 3 credits. Historical survey of human information processing literature, detailed review of recent developments in cognitive psychology, and examination of the purposes, role and scope of cognitive engineering.

891. Industrial/Organizational Internship. 1 credit.

897. Individual Study (Readings). 1-4 credits.

898. Research. 3 credits.

899. Dissertation. 1-9 credits per semester with limitation of a total of 24 credits.

The following courses are Clinical Psychology Doctorate courses and require enrollment in that program or permission of the clinical director.

824. ODU Advanced Statistics. 3 credits.
825. ODU Research Design. 3 credits.
832. ODU-Learning. 3 credits.
856. ODU Consultation/Supervision. 3 credits.

857. ODU Assessment: Projective Testing. 3 credits.

859. ODU Psychotherapy: Behavior Therapy and Assessment. Lecture 3 hours; 3 credits. Covers theory and techniques of cognitive and behavioral approaches. Applications for the assessment and treatment of adults, children, couples, and families are discussed. Students gain practical experience in these techniques as well as case conceptualizational skills.

860. ODU Practicum in Clinical Psychology. 3 credits.

861. ODU Advanced Practicum in Clinical Psychology. 3-6 credits.

862. ODU Psychodynamic Therapy. 3 credits.

873. ODU Biological Bases of Behavior. 3 credits.

890. ODU Internship in Clinical/Community Psychology. 4 credits each semester for 3 semesters. Prerequisite: Permission of the clinical director. Must be enrolled in psychology doctorate program.

894. ODU Clinical Dissertation. 1-6 credits each semester for variable credit.

999. Psychology 999. 1 credit. A one-hour pass/fail registration required of all graduate students to maintain active status during the final semester prior to graduation. After successfully passing the candidacy examination, all doctoral students are required to be registered for at least one graduate credit each term until the degree is complete.

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Sciences - SCI

693. Writing for the Sciences. Lecture 1 hour; 1 credit. Issues specific to writing in science disciplines. Topics include: English usage, writing a paper, revising a draft, the publication process, preparing a talk, writer's tools, computer aids.
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Conrad M. Hall
Katherine A. Treherne
Patricia M. Woolsey

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Harold W. Gehman, Jr.
Mark E. Strome
Pat Tsao

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Kenneth E. Ampy
Pamela C. Kirk
Robert J. O’Neill

To June 30, 2010: 
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Louis H. Henry, Ph.D. ........................................................ Deane of the Honors College

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Claire G. Ackiss, B.S. ........................................................ Executive Director, Alumni Relations
A. Osman Akan, Ph.D. ............................................................. Associate Dean, College of Engineering and Technology
To Be Named ................................................................. TeleTechNet Site Director, John Tyler, Community College
Alinea Ardalan, Ph.D. ............................................................ Associate Dean, College of Business and Public Administration
Robert L. Ash, Ph.D. ............................................................. Associate Vice President for Research and Economic Development
Edith M. Barnett, Ed.D. ...................................................... Associate Vice President, Distance Learning
Elizabeth Batu, M.S. ........................................................... Associate University Registrar
Rick Berry, M.P.A. .............................................................. Executive Director of Construction and Procurement Services
Berndt H. Bohm, Ph.D. ...................................................... Assistant Dean, College of Engineering and Technology
J. David Branch, Ph.D. ...................................................... Associate Dean for Undergraduate Education, Darden College of Education

To June 30, 2009: 
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Douglas Brown, M.S.Ed ...................................................... TeleTechNet Site Director, Wytheville Community College
Hunter Brunick, B.A. ........................................................... Director, Outreach, Alumni Relations
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Leigh L. Butler, Ph.D. ........................................................... Director, Teacher Education Services, Darden College of Education
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James A. Calliotte, Ph.D. ........................................................ Supervising Director, Counseling and Advising Services
Margaret Camarena, Ph.D. .................................................... Director, Social Science Research Center
Andrew R. Casiello, B.S. ...................................................... Assistant Vice President for Academic Technology Services
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Les E. Clark, M.Ed. ............................................................. Director, Multicultural Student Services
Jennifer M. Collins, M.P.A. .................................................... Director, Media Relations
Nancy Collins, M.A. ............................................................. TeleTechNet Site Director, Eastern Shore Community College

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Jeremiah F. Creedon, Ph.D. ..................................Director, Transportation Research
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Rodney M. Davis, B.S. .....................................CHROME Executive Director
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Lawrence G. Dotolo, Ph.D. ..............................Administrator of the Virginia Consortium for Higher Education
Robert F. Dunker, M.D. ......................................Medical Director/Physician
ReNée Dunnan, J.D. ..........................................Director of Equal Opportunity and Affirmative Action
Carolyn Eakin, M.A. .........................................Director, Technology and Data Analysis, Office of Admissions
Charles B. Edwards, III, M.B.A. ......................TELETECHNET Site Director, Rappahannock Community College
Timothy K. Ehrlich, M.S. .................................Director, Satellite Network and Technical Support
Elizabeth H. Esinhart, J.D. ...............................Acting Director of Interdisciplinary Studies
Linda Farlin, M.S. ...........................................Director, Student Judicial Affairs
Dale J. Feltes, M.B.A. ........................................Director of Design and Construction
Kaethe P. Ferguson, Ed.D. ...............................Director of Research Development
Veronica Finch, B.S. ........................................Acting Director of Financial Aid
Cynthia Fisher, M.S.Ed. .................................TELETECHNET Site Director, Danville Community College
William R. Fisher, III, B.S., CPA ....................University Controller
Jennifer Foss, M.S. ..........................................Director, Student Health Center
Edward J. Fraim, B.S. ......................................Director, Athletic Development
Morel Fry, M.A.L.S. .........................................Administrative Services Librarian
Robbin Fulmore, M.Ed. ..................................Director, International Student and Scholar Services
R. Dillard George III, M.S., PE .........................Director, Facilities Management
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Lisa A. Hall, M.S.Ed. ........................................Director, Transfer Services, Distance Learning
Mark C. Halsey, M.B.A. ................................Regional Director, Central/Southwest Virginia, Distance Learning
Deane A. Hennett, M.B.A., CPA ......................University Auditor
Mary-Ann Heubusch, M.S. ...............................Site Director, Fort Myer and the Pentagon
To Be Named ................................................Executive Director, International Programs
Regenia L. Hill, M.S. .....................................Regional Director, Northern/Eastern Virginia, Distance Learning
Marena Hill-Bartos, M.A. ..............................TELETECHNET Site Director, J. Sargeant Reynolds Community College
Jacqueline F. Hines, M.S. .................................Director, Student Support Services Program
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Heather Huling, M.A. ..................................Director, Planning and Development, Distance Learning
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James J. Jarrett, Ph.D. ..................................Director of Athletics
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Janet Katz, Ph.D. ............................................Associate Dean, College of Arts and Letters
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Norlisa Mayes, M.S.Ed. .................................Director of Continuance
Alice McAdory, Ph.D. ..................................Assistant Vice President for Institutional Advancement/Director of Admissions
William J. McMahon, Jr., M.B.A. ..................Associate Vice President for Academic Affairs

256 OLD DOMINION UNIVERSITY
Department and School Chairs

DOUGLAS ZIEGENFUSS, Ph.D. ................................................................. Accounting
COLIN P. BRITCHER, Ph.D. ................................................................. Aerospace Engineering
TO BE NAMED .................................................................................. Aerospace Engineering
LYTTON J. MUSSELMAN, Ph.D. ......................................................... Biological Sciences
MOHAMMED NAJAND, Ph.D. ............................................................. Business Administration
KENNETH G. BROWN, Ph.D. ............................................................... Chemistry and Biochemistry
GARY C. SCHAFRING, Ph.D. ................................................................. Civil and Environmental Engineering
GARY R. EDGERTON, Ph.D. ................................................................. Communication and Theatre Arts
CLARE A. HOUSEMAN, Ph.D. ............................................................. Community and Environmental Health
KURT J. MALY, Ph.D. .......................................................................... Computer Science
DEBORAH BLYTHE BAUMAN, M.D.H. ............................................. Dental Hygiene
KATHARINE C. KERSEY, Ph.D. ......................................................... Early Childhood, Speech Language Pathology and Special Education
CHRISTOPHER B. COLBURN, Ph.D. ................................................... Economics
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SHIRSHAK K. DHALLI, Ph.D. ............................................................... Electrical and Computer Engineering
RESIT UNAL, Ph.D. ........................................................................... Engineering Management and Systems Engineering
GARY CROSSMAN, M.E. .................................................................... Engineering Technology
DAVID METZGER, Ph.D. .................................................................... English
ROBERT SPINA, Ph.D. .......................................................................... Exercise Science, Sport, Physical Education and Recreation
FREDERICK A. LUBICH, Ph.D. ............................................................. Foreign Languages and Literatures
ANNETTE FINLEY-CROSWHITE, Ph.D. ............................................ History
DANA HELLER, Ph.D. .......................................................................... Humanities
G. STEVEN RHIEL, Ph.D. ................................................................. Information Technology/Decision Sciences
J. MARK DORREPAAL, Ph.D. ............................................................. Mathematics and Statistics
JEN-KUANG HUANG, Ph.D. ............................................................... Mechanical Engineering
C. THOMAS SOMMA, Ed.D. .............................................................. Medical Laboratory and Radiation Sciences
BARRY R. HENDRICKS, M.A. ............................................................. Military Science and Leadership
DENNIS J. ZEISLER, M. Mus. ............................................................... Music
KELLY BARAGAR, M.A. .................................................................... Naval Science
RICHARDEAN BENJAMIN, Ph.D. ..................................................... Nursing
JOHN M. RITZ, Ed.D. ......................................................................... Occupational and Technical Studies
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GAIL E. DODGE, Ph.D. ........................................................................ Physics
JIE CHEN, Ph.D. ................................................................................ Political Science and Geography
JANIS SANCHEZ-HUCLES, Ph.D. ..................................................... Psychology
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BERHANU MENGISTU, Ph.D. ............................................................. Urban Studies and Public Administration
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Denny T. Wolfe Jr., Professor Emeritus of Educational Curriculum and Instruction
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Robert J. Wunderlin, Associate Professor Emeritus of Psychology
Betty J.H. Yarborough, Eminent Scholar Emeritus and Constance and Colgate Darden Professor Emeritus of Education
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Allira A. Ardalan (1995; 1983). Associate Dean, College of Business and Public Administration and Professor of Information Technology/Decision Sciences. B.S., University of Shiraz (Iran); M.B.A., Ph.D., University of Arizona.


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