Department of Psychology

Web Site: http://sci.odu.edu/psychology/

Mills Godwin Bldg
Norfolk, VA 23529

Michelle Kelley, 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 psychological sciences, human factors psychology and industrial/organizational psychology.

The department also participates in a program leading to the degree of Doctor of Philosophy in clinical psychology. This program, under the direction of the Virginia Consortium Program in Clinical Psychology, is a joint venture of the Departments of Psychology at Old Dominion University and Norfolk State University and the Department of Psychiatry and Behavioral Sciences at Eastern Virginia Medical School.

Master of Science - Psychology

Matt Henson, 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, health, developmental, human factors, organizational, personnel, and community psychology. Currently, faculty and students are engaged in research projects on various topics including: personal relationships, coping with discrimination and bias, parenting, work-family conflict, driving behaviors, predictors and interventions for substance abuse and health risk behaviors, hindsight bias, response to alarms, medical modeling and simulation, telework, training of women and minorities in STEM fields, and internet-based training and education.

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 research methods 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 requested. 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 713</td>
<td>Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 727</td>
<td>Analysis of Variance and Experimental Design</td>
<td>8</td>
</tr>
<tr>
<td>&amp; PSYC 728</td>
<td>and Regressional and Correllational Design</td>
<td></td>
</tr>
<tr>
<td>PSYC 731</td>
<td>Human Cognition</td>
<td>3</td>
</tr>
<tr>
<td>or PSYC 741</td>
<td>Sensation and Perception</td>
<td></td>
</tr>
<tr>
<td>PSYC 651</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYC 749</td>
<td>Advanced Social Psychology</td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

Completion of the core is a prerequisite for beginning work on the thesis (including registration for PSYC 698 and PSYC 699). Full-time students must complete the core courses in the first year, and part-time students must do so in the first two years.

In addition to completing the core requirements, students must complete a total of 30 hours of course work plus 6 hours of research and thesis. Prior to beginning the thesis research, the student will submit a request to the graduate program director to form a thesis committee. The student will identify two members of the committee and the GPD will appoint the third member. When the student has completed the research, a written thesis must be submitted to the thesis committee. Completion of the thesis depends on acceptance of the thesis by the thesis committee and the graduate program director, as well as passing an oral exam in a public defense of the thesis.

To maintain their standing in the program students must demonstrate progress toward completing degree requirements, i.e., enrollment and satisfactory performance in courses during the FA and SP semesters. Students who have completed all course work and are working on their thesis must register for PSYC 998 (one credit) in FA and SP semesters continuously until graduation. The graduate catalog requires students who are utilizing university resources or consulting with faculty to be registered for a minimum of one credit. Students who fail to register for one credit may be terminated from the program in at the end of the semester in which they failed to register.

If students have not completed their thesis by the end of their third year, they must submit a plan to their advisor and the GPD outlining target dates for completing the various elements of the thesis. Students may be terminated from the program if they fail to meet their target dates.

Students will not be allowed to validate courses that are older than six years. They must retake the course(s), or an alternative course that meets the current requirements, that have exceeded the six year limit.

Areas of Concentration

Students receiving a master’s degree in psychology may choose to concentrate their studies in one of four possible areas. The student must complete 12 credit hours in courses relevant to the area and maintain a minimum GPA of 3.00 in those courses. Course credit hours to fulfill the core requirements may not be used toward an area of concentration. The following is a list of the four areas and relevant courses for each area.

Applied Cognitive Psychology Concentration

<table>
<thead>
<tr>
<th>Required</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only 3 credit hours count toward area of concentration</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 731 Human Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 741 Sensation and Perception</td>
<td>3</td>
</tr>
</tbody>
</table>

Other relevant courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 651</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 663</td>
<td>Intellectual Assessment</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 749</td>
<td>Advanced Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 770</td>
<td>Human Factors Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

1. Department of Psychology
PSYC 792  Advanced Seminar in Physiological Psychology  3

Clinical Psychology Concentration

Required
Select one of the following:  3
PSYC 661  Psychopathology
PSYC 663  Intellectual Assessment
PSYC 664  Personality Assessment

Total Hours  3

Other relevant courses
PSYC 651  Developmental Psychology  3
PSYC 653  Personality Psychology: Theory and Research  3
PSYC 745  Psychometric Theory  3
PSYC 792  Advanced Seminar in Physiological Psychology  3

Industrial/Organizational Psychology Concentration

Required
Select two of the following:  6
PSYC 745  Psychometric Theory
PSYC 750  Organizational Psychology
PSYC 763  Personnel Psychology

Total Hours  6

Other relevant courses
PSYC 749  Advanced Social Psychology  3
PSYC 836  Multilevel Models: HLM  3
PSYC 846  Structural Equation Modeling  3
PSYC 851  Leadership and Motivation  3
PSYC 853  Macro Organizational Psychology  3
PSYC 864  Human Resource Development  3
PSYC 865  Psychology of Personnel Selection  3
PSYC 867  Human Performance Assessment  3

Quantitative and Assessment Concentration

Required
PSYC 745  Psychometric Theory  3

Total Hours  3

Other relevant courses
PSYC 663  Intellectual Assessment  3
PSYC 664  Personality Assessment  3
PSYC 763  Personnel Psychology  3
PSYC 836  Multilevel Models: HLM  3
PSYC 846  Structural Equation Modeling  3

Courses not listed, but relevant to an area of concentration, may be used to fulfill the requirements for the area as approved by the student’s advisor.

Doctor of Philosophy - Psychology, Applied Psychological Sciences
Debra Major, Graduate Program Director

Admission
The graduate program in applied psychological (AP) sciences 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 General Test of the Graduate Record Examination (GRE); Applicants with degrees from fields outside psychology must also submit GRE scores for the Subject Test in psychology.
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.
3. Transcripts of all prior academic work.
4. Applicants are encouraged to submit a writing sample.

Overview of Topical Areas
The AP sciences program is designed to provide:

1. Broad doctoral training firmly based on psychological theory and basic behavioral science;
2. Great depth of knowledge broadly spread over the fundamental areas of experimental psychology; and
3. Concentration in an area of experimental psychology for applied settings.

The general philosophy and plan of the AP 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 AP sciences; and
4. Completion of a dissertation representing a significant contribution to AP sciences. For example, two research fields with which numerous faculty members are involved are health psychology and developmental psychology.

Requirements
The Ph.D. degree in AP sciences requires at least 84 semester hours of credit beyond the bachelor’s degree or at least 48 semester hours of post-master’s training. Students 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). 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 three years. The student is required to complete a core of master’s-level courses with at least a B average. If the GPA falls below 3.0 the student may be placed on probation or suspended from graduate study as specified in the University Catalog. Further, if the student receives a C grade or less he or she will also be placed on probation; a second C or worse may result in dismissal from the program.

The core courses consist of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 813</td>
<td>Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 827</td>
<td>Analysis of Variance and Experimental Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 828</td>
<td>Regressional and Correlational Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 845</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 651</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 849</td>
<td>Advanced Social Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 831</td>
<td>Human Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 841</td>
<td>Sensation and Perception</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours  20

Attaining the master’s degree requires two years of study.

Following the master’s degree requirements, 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 minimum of 48 hours of post-master’s training, including:

1. Completion of the remaining required course (PSYC 833, Grant and Manuscript Writing);
2. Completion of one additional quantitative course (3 credits);
3. Maintenance of a strong focus in research methods and statistics;
4. Completion of supplementary courses to support the chosen specialty (e.g., health-related courses to be taken by health specialists); and
5. Development of a viable research program.

Candidacy Examination

Prior to admission to candidacy (i.e., the beginning of formal work on the dissertation), each student is required to pass a written and oral candidacy examination. A student must pass both the written and oral parts to pass the candidacy examination. The examination may not be reported as passed if there is more than one dissenting vote. A candidacy examination cannot be passed conditionally. A pass on the examination cannot be made contingent upon other factors such as the completion of additional course work, the preparation of extra research projects, and so on. If either part (written or oral) of the candidacy examination is failed, the faculty may permit the student to take it once more at a time mutually satisfactory but within 12 months from the date of the first examination. If either part of the examination is failed, the student may be required by the faculty to retake only that part. The student is allowed two attempts on the candidacy exam. If the student fails the exam twice, he or she may be asked to leave the program. When determining failure, the faculty considers a complete scheduled exam as one attempt. Failure of one part of the exam on the first attempt (such as the written part), but then failure of a different part of the exam (even the oral part) at the attempt is considered two failures. There are two options for AP sciences candidacy examination depending on the student's specialty and faculty approval:

1. Qualifying Exam: questions assess
   a. Core experimental psychology topics and those related to the student's specialty (e.g., statistics, methodology, experimental principles, ethics, health, developmental, cognitive, etc.).
   b. An oral examination follows the written, during which the student defends answers to the written components (two hours).

2. Major Area Paper
   a. A review paper (quantitative or qualitative) or theoretical analysis of a research area designated by the student as an important area for contemporary applied psychological sciences.
   b. The resulting paper should define the student as an expert in that area, and be of publishable quality.
   c. The student must defend the work to the guidance committee, and submit the work for publication in a journal relevant to the student’s research specialty, as a book chapter, or as an approved grant proposal before this option is passed.

Research Emphasis

A major objective of the AP sciences program is to provide the student with substantial experience in planning, designing, conducting, and reporting results of independent research. Toward this end, a student is expected to engage in a variety of research activities. This expectation is reflected in the program’s few traditional classroom course requirements beyond the master’s degree. The time should be spent on mostly research-related activities (e.g., reading, individual study [research], and dissertation). The student is expected to acquire research experiences that go well beyond formal course requirements. These research experiences may take a variety of forms and occur in a variety of settings. For example, the student is encouraged to engage in both laboratory and field research related to the AP sciences specialty, to serve as a member of a larger research team when appropriate or available (perhaps serving as a graduate research assistant on an externally sponsored grant), and to engage in independent non-sponsored research. The student is also encouraged to seek out opportunities to conduct research projects (including grants and contracts funded through the Old Dominion University Research Foundation) on his or her own and in collaboration with faculty members. The accumulation of these research experiences should result in presentation of papers at professional meetings, the publication of manuscripts in refereed journals, the publication of technical reports, and the submission of grant/contract proposals.

Graduate Student Teaching

Teaching a course is an experience that is worthwhile regardless of the eventual career role(s) that 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 AP sciences, 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. Department policy now requires students to enroll in and complete Teaching of Psychology (PSYC 815) before being allowed to teach a course as the sole, responsible instructor.

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

AP sciences faculty conduct numerous research projects on health and public health, quantitative, cognitive, developmental, social, and ethics topics. Students have access to laboratory facilities as well as field settings in which faculty work. Research is supported by a variety of funding agencies from federal (including the National Institutes of Health) to state agencies. Students are encouraged to become engaged in one of these research programs early in the process of their education.

Doctor of Philosophy - Psychology, Human Factors Psychology

Debra Major, Graduate Program Director

Admission

The graduate program in human factors (HF) psychology, accredited by the Human Factors and Ergonomics Society, admits students with bachelor’s or master’s degrees from psychology or related fields. Each applicant must submit:

1. Official scores from General Test of the Graduate Record Examination (GRE). Applicants with degrees from fields outside psychology must also submit GRE scores for the Subject Test in psychology.
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.
4. Transcripts of all prior academic work including grades for experimental methods and statistics courses or equivalent.
5. 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, 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
- ergonomics
- human-computer interaction
- perception and performance
- medical systems
- neuroergonomics
- simulation
- team performance
- training
- usability testing
- warnings and alarms
- virtual environments
- information processing and workload
- human-robot interaction

Requirements
The program requires at least 84 semester hours of credit beyond the bachelor’s degree with at least 48 hours being post-master’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. Broad education 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. program 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). The student will form a guidance committee within the first year of entry. These are graduate faculty members who assist in developing the plan of study tailored to the student’s needs and interests. This plan of study outlines the minimum 48 hours of post-master’s education. For the student who holds the master’s degree upon entering the Ph.D. program, completion will require approximately three years.

For the student with a bachelor’s degree, completion of the program requires approximately five years of study. 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 in these courses. If the GPA falls below 3.0 the student may be placed on probation or suspended from graduate study as specified in the University Catalog. Further, if the student receives a C grade or less he or she will also be placed on probation; a second C or worse may result in dismissal from the program.

The core courses consist of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 813</td>
<td>Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 827</td>
<td>Analysis of Variance and Experimental Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 828</td>
<td>Regressional and Correlational Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 831</td>
<td>Human Cognition</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 651</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 849</td>
<td>Advanced Social Psychology</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 20

Completion of the first phase requires two years of study. Following 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 48 hours of post-master’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). A student must pass both the written and oral parts to pass the candidacy examination. The examination may not be reported as passed if there is more than one dissenting vote. A candidacy examination cannot be passed conditionally. A pass on the examination cannot be made contingent upon other factors such as the completion of additional course work, the preparation of extra research projects, and so on. If either part (written or oral) of the candidacy examination is failed, the faculty may permit the student to take it once more at a time mutually satisfactory but within 6 to 12 months from the date of the first examination. If either part of the examination is failed, the student may be required by the faculty to retake only that part. The student is allowed two attempts on the candidacy exam. If the student fails the exam twice, he or she may be asked to leave the program. When determining failure, the faculty considers a complete scheduled exam as one attempt. Failure of one part of the exam on the first attempt (such as the written part), but then failure of a different part of the exam (even the oral part) at the attempt is considered two failures.

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 a Ph.D. psychologist (or psychologists). The student’s guidance committee establishes the criteria for meeting the professional-practice experience requirement and judges the adequacy of the experiences.

Graduate Student Teaching
Teaching a course is an experience that is worthwhile regardless of the eventual career role(s) that 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 HF 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. Department policy now requires...
students to enroll in and complete Teaching of Psychology (PSYC 815 [http://catalog.odu.edu/previous/2017-2018/graduate/collegeofsciences/psychology]) before being allowed to teach a course as the sole, responsible instructor.

**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 computers, local area networked testing stations, sound-attenuated testing chambers, driving simulators, flight simulators, and a human-computer interaction laboratory. 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.

**Graduate Certificate in Modeling and Simulation for Human Factors Psychology**
Mark Scerbo, Program Coordinator

**Description of Certificate**
Human factors is a discipline in which principles of cognition, information processing, learning, and perception are applied to the design of technology. Knowledge of human factors helps create a better match between user capabilities and system demand. Further, an understanding of human capabilities helps designers generate more veridical models of human behavior. Applying principles of human factors can create more effective simulator training systems. This modeling and simulation certificate provides students with a focus on psychological principles that address end-user capabilities with models of human behavior and with knowledge/skill acquisition.

This certificate is designed for graduate students in psychology who are interested in pursuing a career in modeling and simulation or for doctoral students who wish to focus on human factors issues in modeling and simulation. It is anticipated that students will complete the program in 2 semesters (full time enrollment) or 2 years (part-time enrollment or working to complement a graduate degree).

**Admissions**
Requirements for this program include a strong background in basic and applied areas of psychology as well as quantitative research methods. All applicants admitted to the certificate program must meet ODU requirements for admission to a graduate program in psychology—holding a baccalaureate or master’s degree from a regionally-accredited institution or an equivalent degree from a foreign institution.

**Curriculum Requirements**
A 3.00 GPA for the four-course sequence is required for successful completion. Total amount of credit: 12.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSIM 601</td>
<td>Introduction to Modeling and Simulation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 731/831</td>
<td>Human Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 741/841</td>
<td>Sensation and Perception</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 770/870</td>
<td>Human Factors Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 12

**Doctor of Philosophy**
- Psychology, Industrial/Organizational Psychology

**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, and analytical writing scores. Applicants with degrees from fields outside psychology must also submit GRE scores for the Subject Test in psychology;
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
- Personnel Training
- E-Training
- Human Resource Development
- Human Resource Management
- Occupational Safety and Health
- 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
- International Aspects of I-O Psychology

**Requirements**
The program requires at least 84 semester hours of credit beyond the bachelor’s degree with at least 48 hours being post-master’s education. Post-master’s credits include 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 three 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. If the GPA falls below 3.0 the student may be placed on probation or suspended from graduate study as specified in the University Catalog. Further, if the student receives a C grade or less he or she will also be placed on probation; a second C or worse may result in dismissal from the program.

The core courses consist of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 813</td>
<td>Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 827</td>
<td>Analysis of Variance and Experimental</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Design</td>
<td></td>
</tr>
<tr>
<td>PSYC 828</td>
<td>Regressional and Correlational Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 845</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 850</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 863</td>
<td>Personnel Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Total Hours</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

Attaining the master’s degree requires two years of study.

By November 1 of the third fall of study for a student entering with a bachelor’s degree, or the first fall of study for a student entering with a master’s degree, a plan of study must be prepared with the aid and approval of the academic mentor. The plan of study is then given to the Ph.D. programs director for approval. The plan of study outlines the student’s minimum 48 hours of post-master’s education. The student must include a plan to complete three of the following four courses: Micro-Organizational Psychology (PSYC 851); Macro-Organizational Psychology (PSYC 853); Human Resource Development (PSYC 864); and Psychology of Personnel Selection (PSYC 865). The student must also complete three other elective courses, one of which can be the fourth course taken from the previous list if the student chooses to complete all four.

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 candidacy exam. A student must pass both the written and oral parts to pass the candidacy examination. The examination may not be reported as passed if there is more than one dissenting vote. A candidacy examination cannot be passed conditionally. A pass on the examination cannot be made contingent upon other factors such as the completion of additional course work, the preparation of extra research projects, and so on. If either part (written or oral) of the candidacy examination is failed, the faculty may permit the student to take it once more at a time mutually satisfactory but within 12 months from the date of the first examination. If either part of the examination is failed, the student may be required by the faculty to retake only that part. The student is allowed two attempts on the candidacy exam. If the student fails the exam twice, he or she may be asked to leave the program. When determining failure, the faculty considers a complete scheduled exam as one attempt. Failure of one part of the exam (even the oral part) at the attempt is considered two failures. There are two methods a IO student might use to pass the candidacy exam:

1. The student publishes a series of manuscripts (see the IO Guide for details), at least one as first author, in peer-reviewed journals and completes an oral defense based on those manuscripts; or
2. The student completes 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 pass 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 academic mentor establishes the criteria for meeting the professional-practice experience requirement and judges the adequacy of the experiences.

Graduate Student Teaching

Teaching a course is an experience that is worthwhile regardless of the eventual career role(s) that 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 I-O 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. Department policy now requires students to enroll in and complete Teaching of Psychology (PSYC 815) before being allowed to teach a course as the sole, responsible instructor.

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, workplace diversity and inclusion, organizational change, occupational safety and health, innovation management, teamwork, 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; National Institute for Occupational Safety and 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 Philosophy - Clinical Psychology

Robin Lewis, Graduate Program Director

The Department of Psychology participates in the Virginia Consortium Program in Clinical Psychology. This unified program is offered jointly by Old Dominion University, Eastern Virginia Medical School, and Norfolk State University and is accredited by the American Psychological Association. The combined efforts of these institutions give considerable
The course provides a conceptual basis for the study of abnormal behavior.

**Admission**

Admission information is available at the program's website: http://www.odu.edu/vcpcp. To be considered for admission to the Clinical Ph.D. program, an applicant must have a baccalaureate degree, an acceptable background in psychology, and clinical and research experience. A personal interview is also required.

The applicant must also submit:

1. Official scores on the Graduate Record Examination and transcripts of academic coursework.
2. The Consortium's supplemental application that includes:
   a. A personal statement outlining academic objectives and career goals and how the Virginia Consortium will assist in achieving these goals.
   b. A summary of clinical, research and teaching interests and experience.
   c. A resume or curriculum vitae.

**Degree Requirements**

The Clinical Ph.D. program provides students with a high level of professional training. The program consists of a minimum of five years of post-baccalaureate training. Degree requirements include 123 credit hours (at least 72 credit hours in residence), a foundational research project or master's thesis, oral and written comprehensive examination, empirical dissertation, practicum training, and full-time year-long APA or APPIC approved internship. The internship is not provided by the Virginia Consortium.

**Student Evaluation**

Students are regularly evaluated in academic course work, research activities, clinical work, and professional behavior. A formal evaluation of student's progress is conducted annually. Each student is also evaluated through a written and oral comprehensive examination that covers coursework and research and clinical competence.

**Dissertation Award**

The David Leigh Pancost Award is given to the student in the Virginia Consortium Program in Clinical Psychology with the outstanding doctoral dissertation.

**PSYCHOLOGY Courses**

**PSYC 651. Developmental Psychology, 3 Credits.**
Lecture and discussion 3 hours; 3 credits. 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.

**PSYC 653. Personality Psychology: Theory and Research, 3 Credits.**
Lecture and discussion 3 hours; 3 credits. 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.

**PSYC 661. Psychopathology, 3 Credits.**
The course provides a conceptual basis for the study of abnormal behavior. Students conduct an in-depth review of the literature related to the classification, etiology, and treatment of mental disorders.

**PSYC 662. Human-Computer Interface Design, 3 Credits.**
Lecture 3 hours; 3 credits. Prerequisite: graduate standing and permission of the instructor. This 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.

**PSYC 663. Intellectual Assessment, 3 Credits.**
Lecture and discussion 3 hours; 3 credits. 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.

**PSYC 664. Personality Assessment, 3 Credits.**
Lecture and discussion 3 hours; 3 credits. Course covers major methods of personality assessment including objective and projective instruments. Emphasis is on current theory and applications of personality assessment.

**PSYC 667. Practicum in Psychology, 2-5 Credits.**
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.

**PSYC 696. Topics in Psychology, 3 Credits.**

**PSYC 697. Selected Topics in Psychology, 1-4 Credits.**
1-3 credits. Prerequisites: permission of the instructor and graduate program director. This course provides opportunities for advanced investigations of selected topics in psychology. May be taken by students beyond the first year of graduate study who wish to pursue topics not covered by regularly scheduled courses.

**PSYC 698. Research in Psychology, 3 Credits.**
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.

**PSYC 699. Thesis, 1-3 Credits.**
1-3 credits. Prerequisite: PSYC 698. Individual project under guidance of a research advisor. Required for students choosing thesis option.

**PSYC 712. History and Systems of Psychology, 3 Credits.**
Lecture and discussion 3 hours; 3 credits. A survey of the historical roots of modern psychology.

**PSYC 713. Research Methods in Psychology, 3 Credits.**
This course will cover research design and methodology. Topics may include experimental, quasi-experimental, single subject and survey research; validity; reliability; confounds; measurement; sampling; inductive inference. Additionally, this course will cover Responsible Conduct of Research, including completion of CITI course, protection of human subjects, University Human Subjects Committee and IRB, APA Style, paper structure, references, tables, figures, etc., research proposal writing, including searching for sources, writing, oral presentation, data collection and management issues (e.g., Qualtrics, SONA, data cleaning). Students are required to complete a Research Proposal with Introduction and Methods and Data Analysis Plan and give an oral presentation of research proposal.

**PSYC 722. Occupational Health Psychology, 3 Credits.**
Lecture, 3 hours; 3 credits. Prerequisites: PSYC 763/863 and PSYC 850. This course examines multidisciplinary research and theories on issues related to individual and organizational well-being and health. Occupational health psychology (OHP) emphasizes the promotion of wellness and the prevention of injuries and illnesses in the workplace. Through lectures/presentations, discussions, and research activities, students will learn about OHP theory and practice.

**PSYC 727. Analysis of Variance and Experimental Design, 4 Credits.**
4 credits; 3 Lecture hours; 2 Lab hours. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor. Review of the basic descriptive and inferential statistical procedures with a heavy emphasis on fundamental and advanced analysis of variance techniques. Topics include contrasts, factorial designs, within-subject and mixed designs, and analysis of covariance. Course materials are covered in the context of classical experimental and quasi-experimental design.
PSYC 728. Regressional and Correlational Design. 4 Credits.
Course covers correlation with heavy emphasis on regression analysis in the context of the general linear model. Topics include partial correlations, categorical and continuous interactions, non-linear regression, and multivariate statistics. Course materials are covered in the context of correlational designs and survey research. Prerequisites: Admission into the psychology M.S. or Ph.D. program or permission of the instructor and PSYC 727/PSYC 827 or equivalent.

PSYC 730. Teaching Statistics and Research Practicum. 1.3 Credit.
Advanced 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. Prerequisites: PSYC 727/PSYC 827 or PSYC 824 and PSYC 728/PSYC 828 or PSYC 825.

PSYC 731. Human Cognition. 3 Credits.
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 information, 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.

PSYC 735. Health Psychology. 3 Credits.
Lecture 3 hours; 3 credits. 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 influencing people’s health. The course is conducted as a seminar.

PSYC 736. Multilevel Models: HLM. 3 Credits.
Social science data frequently have a hierarchical or multilevel structure as a consequence of sampling designs or repeated measures. The purpose of the course is to introduce students to the basic principles and applications of hierarchical linear modeling in social science research. Topics covered include an introduction to multilevel analyses, random intercept models, random slope models, hypotheses testing, hierarchical models for limited dependent variables, model fitting, three-level models, and repeated-measures applications. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 740. Quasi-Experimental Methods. 3 Credits.
Lecture, 3 hours. 3 credits. Quasi-experimental methods is a course to teach techniques for research designs not conducive to randomized-control trials. The philosophy of these techniques, issues of validity, and analyses are discussed. Comparisons with randomized-control trials as well as means to strengthen quasi-methodologies for better general causal inferences are presented.

PSYC 741. Sensation and Perception. 3 Credits.
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.

PSYC 744. Program Evaluation. 3 Credits.
This course is designed to introduce students to the field 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. Prerequisites: PSYC 727/PSYC 827 and PSYC 728/PSYC 828 (or current enrollment).

PSYC 745. Psychometric Theory. 3 Credits.
This course introduces classical test theory, including definitions and formulas for test reliability, standard error of measurement, and related statistics. Additional topics include scaling, test validity, item statistics useful in test constructions, and norms commonly used in educational and psychological testing. Generalizability Theory, factor analysis, and Item Response Theory (IRT) are introduced. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 746. Structural Equation Modeling. 3 Credits.
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, multivariate analyses, and mean structures. Prerequisites: PSYC 745 or PSYC 845 or equivalent.

PSYC 747. Multivariate Methods for the Social/Behavioral Sciences. 3 Credits.
The course is focused on methods and techniques for analyzing multivariate data. Emphasis includes both conceptual and computational aspects of the most commonly used analytical tools when experimental units have multiple measures. A goal of the course is to avoid the extremes of “plug and chug” analyses on the one hand and theorems and proofs on the other to provide generalizable working knowledge of multivariate statistics. Featured techniques are MANOVA, MANCOVA, profile analysis, discriminant analysis, canonical correlation, principal components analysis, and exploratory factor analysis. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 748. Categorical Methods for the Social/Behavioral Sciences. 3 Credits.
The purpose of this course is to review the linear regression model and move into categorical methods. Featured methods are inference using proportions and odds ratios, multi-way contingency tables, logistic regression, and loglinear models. The generalized linear model is also introduced. Prerequisites: PSYC 727/PSYC 827 or PSYC 728/PSYC 828.

PSYC 749. Advanced Social Psychology. 3 Credits.
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.

PSYC 750. Organizational Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. This course provides an overview of organizational behavior and theory. Topics include leadership, motivation, teams, social processes at work, workplace relationships, organization structure and environments, and organizational development and change.

PSYC 763. Personnel Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. This course provides an overview of personnel psychology. Topics include reliability and validity, job analysis, performance criteria, performance appraisal, employee recruitment, employee selection, and training and development.

PSYC 770. Human Factors Psychology. 3 Credits.
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. Prerequisites: PSYC 731/PSYC 831 and PSYC 741/PSYC 841 or equivalents or permission of the instructor.

PSYC 771. Ergonomics. 3 Credits.
Lecture 3 hours; 3 credits. Basic overview and application of anthropometry, biomechanics, functional anatomy, mechanics, and human physiology for the design of industrial tools, equipment, and workstations.

PSYC 780. Ethics, Professional Standards, and Responsible Conduct. 3 Credits.
Lecture, 3 hours; 3 credits. Ethical principles, APA codes, laws, policies and approaches to ethical decision making will be applied to case studies involving dilemmas and issues in several areas of the professional activities of psychologists. Students will prepare an ethical and/or professional issue paper and a self-reflection on acculturation into professional ethics and standards.
PSYC 781. Advanced Ergonomics. 3 Credits.
Lecture, 3 hours; 3 credits. Basic overview of the application of anthropometry, biomechanics, ergonomics, cognition and perception within workplace environments. Particular focus on the analysis and prevention of accidents at work. Course requires considerable practice in technical writing.

PSYC 792. Advanced Seminar in Physiological Psychology. 3 Credits.
Lecture 3 hours; 3 credits. Students will investigate the biological underpinnings of behavior and explore what is currently known about their role in movement, emotions, mental illness, sexual behavior, memory, states of consciousness, sensory perception, thought and language, and several neuro-psychiatric disorders. Through active learning exercises, i.e., class discussion, reports, critiques, oral presentations, and a final research paper or proposal, students will apply and demonstrate their acquired knowledge and critical thinking skills to the biological basis of human behavior.

PSYC 795. Topics in Psychology I. 1-4 Credits.

PSYC 796. Topics in Psychology II. 1-4 Credits.

PSYC 801. Empirically-Supported Therapies. 3 Credits.
Lecture, 3 hours; 3 credits. Empirically-Supported Therapies is designed to foster the integration of clinical science and the practice of psychotherapy. Course objectives include learning how to identify, evaluate, and implement empirically supported interventions for various psychological disorders.

PSYC 810. Seminar in Professional Aspects of Industrial/Organizational Psychology. 3 Credits.
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.

PSYC 812. History and Systems of Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. A survey of the historical roots of modern psychology.

PSYC 813. Research Methods in Psychology. 3 Credits.
This course will cover research design and methodology. Topics may include experimental, quasi-experimental, single subject and survey research; validity; reliability; confounds; measurement; sampling; inductive inference. Additionally, this course will cover Responsible Conduct of Research, including completion of CITI course, protection of human subjects, University Human Subjects Committee and IRB, APA Style, paper structure, references, tables, figures, etc., research proposal writing, including searching for sources, writing, oral presentation, data collection and management issues (e.g., Qualtrics, SONA, data cleaning). Students are required to complete a Research Proposal with Introduction and Methods and Data Analysis Plan and give an oral presentation of research proposal.

PSYC 815. Teaching Psychology. 1 Credit.
Lecture and discussion 1 hour; 1 credit. Seminar on the pedagogy of teaching as applied to the discipline of psychology. Topics include syllabus preparation, lecture and discussion methods, assessment and grading, and teaching portfolio development.

PSYC 822. Occupational Health Psychology. 3 Credits.
This course examines multidisciplinary research and theories on issues related to individual and organizational well-being and health. Occupational health psychology (OHP) emphasizes the promotion of wellness and the prevention of injuries and illnesses in the workplace. Through lectures/ presentations, discussions, and research activities, students will learn about OHP theory and practice. Prerequisites: PSYC 763/PSYC 863 and PSYC 850.

PSYC 824. ODU Research Methods I-Analysis of Variance and Experimental Design. 4 Credits.
Review of basic descriptive and inferential statistical procedures with a heavy emphasis on fundamental and advanced analysis of variance techniques. Topics include contrasts, factorial designs, within-subject and mixed designs, and analysis of covariance. Course materials are covered in the context of classical experimental and quasi-experimental design. Prerequisites: admission into Virginia Consortium PhD in Clinical Psychology program or permission of the instructor.

PSYC 825. ODU Research Methods II: Regression and Correlational Design. 4 Credits.
Course covers correlation with heavy emphasis on regression analysis in the context of the general linear model. Topics include partial correlations, categorical and continuous interactions, non-linear regression, and multivariate statistics. Course materials are covered in the context of correlational designs and survey research. Prerequisites: admission into Virginia Consortium PhD in Clinical Psychology or permission of the instructor.

PSYC 827. Analysis of Variance and Experimental Design. 4 Credits.
4 credits; 3 Lecture hours; 2 Lab hours. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor. Review of the basic descriptive and inferential statistical procedures with a heavy emphasis on fundamental and advanced analysis of variance techniques. Topics include contrasts, factorial designs, within-subject and mixed designs, and analysis of covariance. Course materials are covered in the context of classical experimental and quasi-experimental design.

PSYC 828. Regressional and Correlational Design. 4 Credits.
Course covers correlation with heavy emphasis on regression analysis in the context of the general linear model. Topics include partial correlations, categorical and continuous interactions, non-linear regression, and multivariate statistics. Course materials are covered in the context of correlational designs and survey research. Prerequisites: Admission into the psychology M.S. or Ph.D. program or permission of the instructor and PSYC 727/PSYC 827 or equivalent.

PSYC 830. Teaching Statistics and Research Practicum. 1,3 Credit.
Advanced 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. Prerequisites: PSYC 727/PSYC 827 or PSYC 824 and PSYC 728/PSYC 828 or PSYC 825.

PSYC 831. Human Cognition. 3 Credits.
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 information, 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.

PSYC 833. Grant and Manuscript Writing. 3 Credits.
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.

PSYC 835. Health Psychology. 3 Credits.
Lecture 3 hours; 3 credits. 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.
PSYC 836. Multilevel Models: IILM. 3 Credits.
Social science data frequently have a hierarchical or multilevel structure as a consequence of sampling designs or repeated measures. The purpose of the course is to introduce students to the basic principles and applications of hierarchical linear modeling in social science research. Topics covered include an introduction to multilevel analyses, random intercept models, random slope models, hypotheses testing, hierarchical models for limited dependent variables, model fitting, three-level models, and repeated-measures applications. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 840. Quasi-Experimental Methods. 3 Credits.
Lecture, 3 hours. 3 credits. Quasi-experimental methods is a course to teach techniques for research designs not conducive to randomized-control trials. The philosophy of these techniques, issues of validity, and analyses are discussed. Comparisons with randomized-control trials as well as means to strengthen quasi-methodologies for better general causal inferences are presented.

PSYC 841. Sensation and Perception. 3 Credits.
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.

PSYC 844. Program Evaluation. 3 Credits.
This course is designed to introduce students to the field 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. Prerequisites: PSYC 727/PSYC 827 and PSYC 728/PSYC 828 (or current enrollment).

PSYC 845. Psychometric Theory. 3 Credits.
This course introduces classical test theory, including definitions and formulas for test reliability, standard error of measurement, and related statistics. Additional topics include scaling, test validity, item statistics useful in test constructions, and norms commonly used in educational and psychological testing. Generalizability Theory, factor analysis, and Item Response Theory (IRT) are introduced. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 846. Structural Equation Modeling. 3 Credits.
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. Prerequisites: PSYC 745 or PSYC 845 or equivalent.

PSYC 847. Multivariate Methods for the Social/Behavioral Sciences. 3 Credits.
The course is focused on methods and techniques for analyzing multivariate data. Emphasis includes both conceptual and computational aspects of the most commonly used analytical tools when experimental units have multiple measures. A goal of the course is to avoid the extremes of “plug and chug” analyses on the one hand and theorems and proofs on the other to provide generalizable working knowledge of multivariate statistics. Featured techniques are MANOVA, MANCOVA, profile analysis, discriminant analysis, canonical correlation, principal components analysis, and exploratory factor analysis. Prerequisites: PSYC 728 or PSYC 828 or equivalent.

PSYC 848. Categorical Methods for the Social/Behavioral Sciences. 3 Credits.
The purpose of this course is to review the linear regression model and move into categorical methods. Featured methods are inference using proportions and odds ratios, multi-way contingency tables, logistic regression, and loglinear models. The generalized linear model is also introduced. Prerequisites: PSYC 727/PSYC 827 or PSYC 728/PSYC 828.

PSYC 849. Advanced Social Psychology. 3 Credits.
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.

PSYC 850. Organizational Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. This course provides an overview of organizational behavior and theory. Topics include leadership, motivation, teams, social processes at work, workplace relationships, organization structure and environments, and organizational development and change.

PSYC 851. Leadership and Motivation. 3 Credits.
The study of individual and group behavior in organizations. Emphasis will be placed on classic and contemporary leadership and motivation theory and research. Prerequisites: PSYC 750/PSYC 850 or permission of the instructor.

PSYC 853. Macro Organizational Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. This class uses a multilevel perspective to provide a foundation in organization theory. Students develop a theory of organizing that incorporates variables at the individual, dyad group, unit organization, and organization network levels of analysis.

PSYC 854. Organizational Development and Change. 3 Credits.
This seminar discusses models and theories of organizational change and interventions that are commonly used to foster organizational development and effectiveness. Students participate in an organizational consulting project to apply lessons learned in the classroom. Prerequisites: PSYC 851 and PSYC 853 or permission of the instructor.

PSYC 855. Field Research Methods in Organizational Psychology. 3 Credits.
Lecture, discussion, and field research project; 3 credits. Prerequisite: admission into the I/O Ph.D. program or permission of the instructor. This seminar discusses the design and analysis of surveys, quasi-experiments, questionnaires, interviews and other methods for studying organizational processes. Both quantitative and qualitative research methods are discussed.

PSYC 858. ODU Clinical and Ethical Issues. 1 Credit.
Lecture 1 hour; 1 credit. Weekly seminars address professional and ethical issues in the practice of clinical psychology.

PSYC 859. ODU-Cognitive and Behavioral Therapies. 3 Credits.
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 conceptualization skills.

PSYC 860. ODU Practicum in Clinical Psychology. 3 Credits.
PSYC 861. ODU Advanced Practicum in Clinical Psychology. 3-6 Credits.
PSYC 862. ODU Psychodynamic Therapy. 3 Credits.
PSYC 863. Personnel Psychology. 3 Credits.
Lecture and discussion 3 hours; 3 credits. This course provides an overview of personnel psychology. Topics include reliability and validity, job analysis, performance criteria, performance appraisal, employee recruitment, employee selection, and training and development.

PSYC 864. Human Resource Development. 3 Credits.
This course covers research findings, methodologies, and evaluation designs for the training and development of personnel in organizations. Specific topics include needs assessment, learning principles and system design. Prerequisites: PSYC 763/PSYC 863 or permission of the instructor.

PSYC 865. Psychology of Personnel Selection. 3 Credits.
This course covers the topics of recruitment, job performance, interviews, internet-based testing, and psychological constructs for use in employee selection (e.g., intelligence, personality). Prerequisite: PSYC 763/PSYC 863 or permission of the instructor.

PSYC 866. Advanced Personnel Psychology II. 3 Credits.
Lecture and discussion 3 hours; 3 credits. Prerequisite: PSYC 865 or permission of the instructor. This course covers statistical and theoretical issues related to the research and practice of personnel psychology, including meta-analysis, significance testing, aggregation issues, scale development and validation, utility, the fairness and bias of tests, and the legal context of selection.
PSYC 867. Human Performance Assessment. 3 Credits.
This course covers the job analysis and performance appraisal/management (PA/MA). Specific topics include job analysis methods; use of job analysis results for various HR functions; performance assessment/appraisal methods; multi-source feedback; employee reactions to and use of PA/MA information; rater cognitive processes and affect; rater goals, bias, and accuracy; and organizational practical and legal issues surrounding job analysis and PA/PM. Prerequisites: PSYC 763/PSYC 863 or permission of the instructor.

PSYC 868. Internship. 1 Credit.
The course is designed to provide individual students with advanced on-the-job professional experience. Internship assignments must be approved by the student's program of study. Direct supervision is given by an experienced professional at the internship setting.

PSYC 870. Human Factors Psychology. 3 Credits.
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. Prerequisites: PSYC 731/PSYC 831 and PSYC 741/PSYC 841 or equivalents or permission of the instructor.

PSYC 871. Ergonomics. 3 Credits.
Lecture 3 hours; 3 credits. Basic overview and application of anthropometry, biomechanics, functional anatomy, mechanics, and human physiology for the design of industrial tools, equipment, and workstations.

PSYC 872. Methods, Measures, Techniques, and Tools in Human Factors. 3 Credits.
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.

PSYC 873. ODU Biological Bases of Behavior. 3 Credits.
PSYC 874. ODU Biological Bases III: Drugs and Behavior. 3 Credits.
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.

PSYC 875. Advanced Visual Perception and Visual Displays. 3 Credits.
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 advanced visual displays is presented, stressing the interaction of the characteristics of these displays with the capabilities and limitations of the human visual system.

PSYC 876. Human-Computer Interaction. 3 Credits.
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.

PSYC 877. Theories, Models and Simulations in Human Factors. 3 Credits.
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.

PSYC 878. Advanced Cognition and Information Processing. 3 Credits.
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.

PSYC 879. Careers. 3 Credits.
This course covers the developmental processes, facilitators, and barriers individuals encounter in their work lives. It provides a theoretical foundation in the careers literature and introduces contemporary research in the area. Work-family conflict, mentoring, organizational socialization, and career success are among the topics covered. Prerequisites: PSYC 750/PSYC 850 and PSYC 851 or permission of instructor.

PSYC 880. Ethics, Professional Standards, and Responsible Conduct. 3 Credits.
Lecture, 3 hours; 3 credits. Ethical principles, APA codes, laws, policies and approaches to ethical decision making will be applied to case studies involving dilemmas and issues in several areas of the professional activities of psychologists. Students will prepare an ethical and/or professional issue paper and a self-reflection on acculturation into professional ethics and standards.

PSYC 881. Advanced Ergonomics. 3 Credits.
Lecture, 3 hours; 3 credits. Basic overview of the application of anthropometry, biomechanics, ergonomics, cognition and perception within workplace environments. Particular focus on the analysis and prevention of accidents at work. Course requires considerable practice in technical writing.

PSYC 882. Attention and Human Performance. 3 Credits.
Lecture, 3 hours; 3 credits. Prerequisite: PSYC 870. Survey of theories of attention, factors that influence human performance, and human performance assessment in human-machine systems. Topics include dual-task performance, vigilance, workload, arousal, fatigue, stress, human error, psychophysiology, and neuroergonomics.

PSYC 883. Research in Clinical Psychology. 1-4 Credits.
Individual project under guidance of a research advisor.

PSYC 890. ODU Internship in Clinical/Community Psychology. 4 Credits.
4 credits each semester for 3 semesters. Prerequisite: Permission of the clinical director. Must be enrolled in psychology doctorate program.

PSYC 891. Industrial/Organizational Internship. 1 Credit.

PSYC 892. Advanced Seminar in Physiological Psychology. 3 Credits.
Lecture 3 hours; 3 credits. Students will investigate the biological underpinnings of behavior and explore what is currently known about their role in movement, emotions, mental illness, sexual behavior, memory, states of consciousness, sensory perception, thought and language, and several neuro-psychoanalytic disorders. Through active learning exercises, i.e., class discussion, reports, critiques, oral presentations, and a final research paper or proposal, students will apply and demonstrate their acquired knowledge and critical thinking skills to the biological basis of human behavior.

PSYC 894. ODU Clinical Dissertation. 1-6 Credits.
1-6 credits each semester for variable credit.

PSYC 895. Topics in Psychology I. 1-4 Credits.

PSYC 896. Topics in Psychology II. 1-4 Credits.

PSYC 897. Individual Study (Readings). 1-4 Credits.

PSYC 898. Research. 3 Credits.

PSYC 899. Dissertation. 1-9 Credits.
Directed research in preparation for the dissertation.

PSYC 998. Master's Graduate Credit. 1 Credit.
This course is a pass/fail course for master's students in their final semester. It may be taken to fulfill the registration requirement necessary for graduation. All master's students are required to be registered for at least one graduate credit hour in the semester of their graduation.

PSYC 999. Doctoral Graduate Credit. 1 Credit.
This course is a pass/fail course doctoral students may take to maintain active status after successfully passing the candidacy examination. All doctoral students are required to be registered for at least one graduate credit hour every semester until their graduation.