Department of Psychology

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

Mills Godwin Bldg
Norfolk, VA 23529

George Noell, Chair

Graduate Study

The Department of Psychology offers a program of study leading to the degree of Master of Science in psychology and programs leading to the Doctor of Philosophy with concentrations in health psychology, 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, the Virginia Consortium Program in Clinical Psychology, is a joint venture of the Departments of Psychology at Old Dominion University and Norfolk State University.

Master of Science - Psychology

James Paulson, Graduate Program Director

The master’s program in psychology offers a course of study leading to the Master of Science in general psychology. The master’s degree program is appropriate for individuals wishing to gain additional research experience prior to enrolling in a psychology doctoral program at Old Dominion University or another university or for those individuals who are seeking the master’s as a terminal degree. The curriculum is designed to provide a strong background in statistics, research methods, and general psychology so that the student will have a wide range of choices for future professional education and development. The master’s degree is not a licensing or practicing degree.

The master’s program uses a mentor-model, such that an applicant is admitted based on the recommendation of a faculty member who is interested in mentoring that applicant. In addition to reasonable GRE scores and GPAs, successful applicants have research interests and/or experiences that coincide with their mentor. Therefore, it is recommended that applicants explicitly identify the desired mentor(s) whose research program best fits with their career goals in their application. Applicants are also encouraged to contact potential mentors prior to applying.

Once admitted, graduate students are expected 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, health, developmental, human factors, organizational, personnel, and community psychology. Individual faculty research interests can be found on the ODU Psychology Department website.

Admission

To qualify for admission, a candidate must meet the general university admission requirements. In addition, applicants are highly encouraged to meet the following preferred minimum qualifications:

1. The applicant should have taken at least five undergraduate psychology courses, including undergraduate courses in psychological statistics and psychological research methods.
2. The applicant should submit official scores for the Graduate Record Examination (GRE) (applicants who do not have a bachelor’s degree in psychology should also take the advanced psychology GRE test).
3. The applicant should submit transcripts of all undergraduate and graduate work.
4. The applicant should submit a copy of their curriculum vitae or academic resume.
5. The applicant should submit a brief statement outlining their personal goals, academic objectives, and research interests, with attention to how these interests are compatible with identified faculty research.
6. The applicant should request that three letters of reference be submitted on their behalf, at least two of which are from former college or university faculty.

All credentials in support of applications should be sent to the Office of Admissions or uploaded into the Office of Admissions website.

Degree 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. Core courses consist of a sequence of 11 hours in research tools coursework (PSYC 713, PSYC 727, and PSYC 728) and a 6 hours of supervised research (PSYC 698 and PSYC 699) that culminates in the Thesis.

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC/CPSY 713</td>
<td>Research Methods in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC/CPSY 727</td>
<td>Analysis of Variance and Experimental Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC/CPSY 728</td>
<td>Regressional and Correlational Design</td>
<td>4</td>
</tr>
<tr>
<td>PSYC/CPSY 698</td>
<td>Research in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC/CPSY 699</td>
<td>Thesis</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Research Coursework

Select Two of the Following: 6

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC/CPSY 651</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>PSYC/CPSY 661</td>
<td>Psychopathology</td>
</tr>
<tr>
<td>PSYC 731</td>
<td>Human Cognition</td>
</tr>
<tr>
<td>PSYC/CPSY 741</td>
<td>Sensation and Perception</td>
</tr>
<tr>
<td>PSYC 749</td>
<td>Advanced Social Psychology</td>
</tr>
<tr>
<td>PSYC 750</td>
<td>Organizational Psychology</td>
</tr>
<tr>
<td>PSYC 763</td>
<td>Personnel Psychology</td>
</tr>
</tbody>
</table>

Electives 13

Selected in Consultation with Academic Advisor

Total Hours 34-36

3. In addition to core courses, students are required to complete an additional 13 hours of coursework (electives); therefore, students are required to complete a minimum of 36 credit hours for the degree. Elective courses should be selected after consultation with the student’s academic advisor in order to support that student’s learning and research objectives. Students enrolled in the Master’s program may not enroll in 800-level courses without instructor permission.

4. Prior to beginning 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 graduate program director 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 fall and spring semesters. Students who have completed all course work and are working on their thesis must register for PSYC 998 (http://catalog.odu.edu/search/?P=PSYC%209998) (one credit) in fall and spring semesters continuously until graduation. The graduate catalog requires students who are using university resources or consulting with faculty to be registered for a minimum of one
Students entering the program with a bachelor’s degree must complete the bachelor’s degree or at least 48 semester hours of post-master’s training. The Ph.D. in Psychology requires at least 84 semester hours of credit beyond the bachelor’s degree in psychology or a related field. Each applicant must submit:

Admission
The Doctor of Philosophy in Psychology program is comprised of three doctoral concentrations: Health Psychology, Human Factors Psychology, and Industrial/Organizational Psychology. The program involves a blend of core training and requirements and concentration-specific training and requirements.

Overview
The Doctor of Philosophy in Psychology program consists of four doctoral concentrations: Health Psychology, Human Factors Psychology, and Industrial/Organizational Psychology. The program involves a blend of core training and requirements and concentration-specific training and requirements.

Admission
The graduate program in health psychology (HP) 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:

Electives
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 662</td>
<td>Human-Computer Interface Design</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 731</td>
<td>Human Cognition</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 741</td>
<td>Sensation and Perception</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 745</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 750</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 770</td>
<td>Human Factors Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 771</td>
<td>Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 763</td>
<td>Personnel Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 836</td>
<td>Multilevel Models: HLM</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 846</td>
<td>Structural Equation Modeling</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 851</td>
<td>Organizational Leadership</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 853</td>
<td>Job Attitudes and Motivation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 864</td>
<td>Human Resource Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 865</td>
<td>Psychology of Personnel Selection</td>
<td>3</td>
</tr>
<tr>
<td>MSIM 601</td>
<td>Introduction to Modeling and Simulation</td>
<td>3</td>
</tr>
</tbody>
</table>

Other relevant courses
Courses that are not listed but are relevant to the student’s goals may be used to fulfill the requirements for the degree as approved by the student’s advisor. Courses that are taken outside the Psychology Department to be used to fulfill degree requirements need to be approved by the master’s graduate program director.

Doctor of Philosophy - Psychology
James F. Paulson, Graduate Program Director

Overview
The Doctor of Philosophy in Psychology program comprises of three doctoral concentrations: Health Psychology, Human Factors Psychology, and Industrial/Organizational Psychology. The program involves in-depth training in statistics, methodology, and grant and manuscript writing.

Admission
The graduate program in health psychology (HP) 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);
2. A brief statement outlining personal goals and academic objectives;
3. Three letters of reference, at least two of which are from former college/university teachers or research supervisors;
4. Transcripts of all prior academic work;
5. A sample of recent academic writing (e.g., a paper required in an undergraduate course). Applicants are encouraged to submit a writing sample.

Requirements
The Ph.D. in Psychology 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 Psychology (i.e., 36 semester hours with appropriate course work). For the student with a bachelor’s degree, completion of the program requires approximately four 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 grade of C or lower, they 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 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>4</td>
</tr>
<tr>
<td>PSYC 728</td>
<td>Regressional and Correlational Design</td>
<td>4</td>
</tr>
<tr>
<td>Dissertation</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>PSYC 899</td>
<td>Dissertation</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 23

Candidacy Examination
Prior to admission to candidacy (i.e., the beginning of formal work on the dissertation), each student is required to pass a candidacy examination according to the guidelines established within their concentration. A student must pass all parts of the candidacy examination, with a “pass” result being determined by a majority of voting examination committee members. If 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. The student is allowed no more than two attempts on the candidacy exam. If the student fails the exam on the second attempt, they may be asked to leave the program.

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.

Doctor of Philosophy - Psychology, Health Psychology Concentration
James F. Paulson, Graduate Program Director

Overview of Topical Areas
The health psychology doctoral program emphasizes psychological theory and research as they apply to understanding how psychological, behavioral, and cultural factors contribute to physical and emotional health and illness and how these can be used to create prevention and intervention programs that improve well-being.

The general philosophy and plan of the HP psychology program at Old Dominion University is to provide graduate training consisting of four phases:

1. A core of basic courses in health psychology and related areas, 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 health psychology;
4. Completion of a dissertation representing a significant contribution to health psychology.
**Requirements**

In addition to the core requirements for the PhD in Psychology, the PhD concentration in Health Psychology requires the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 745/845</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 735</td>
<td>Health Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 844</td>
<td>Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 833</td>
<td>Grant and Manuscript Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two of the following: 6

1. PSYC 651 Developmental Psychology
2. PSYC 661 Psychopathology
3. PSYC 731/831 Human Cognition
4. PSYC 749/849 Advanced Social Psychology

**Total Hours** 18

In addition to these requirements, students must complete the following requirements:

After completing the master’s degree and/or before taking the candidacy examination, students are expected to form a committee of three graduate faculty members who will serve as a guidance committee. This committee assists the student 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 one additional quantitative course (3 credits);
2. Maintenance of a strong focus in research methods and statistics; and
3. 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. The faculty considers a complete scheduled exam (written and oral combination) as one attempt. If the student fails the exam on two attempts, they may be asked to leave the program. There are two options for HP candidacy examination depending on the student’s specialty and faculty approval:

1. Qualifying Exam:
   a. Written questions that assess core Health Psychology topics and those relevant to research in Health Psychology, and the student’s specific area of specialization (e.g., statistics, methodology, ethics, health, mental health, public health, health discrepancies).
   b. An oral examination during which the student defends responses to the written questions.

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 or as a book chapter. The major area paper may be submitted as a grant proposal instead of as a journal publication or book chapter with prior approval from the guidance committee.

**Research Emphasis**

A major objective of the HP 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 HP 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 Health 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.

**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**

HP faculty conduct research on a wide variety of health-related 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 Concentration**

James F. Paulson, Graduate Program Director

**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-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.

In addition to the core requirements for the PhD in Psychology, the PhD concentration in Human Factors Psychology requires the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<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><strong>Total Hours</strong></td>
<td></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

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 doctoral candidacy (i.e., the beginning of formal work on the dissertation), each student is required to pass a qualifying examination to evaluate a student’s achievement and understanding of concepts, theories, practices, and empirical facts about fundamental HF information, as well as information relevant to the student’s major area of concentration within HF. The examination consists of a six-hour essay exam covering general HF knowledge (a reading list is provided) and a 10-page literature review covering knowledge in the student’s area of concentration (the literature review may be incorporated into the student’s dissertation proposal). The literature review can be turned in any time during the semester, but MUST be submitted within a week of completion of the general knowledge essay exam. If the both written components are passed, the oral part of the examination must be completed within one month of notification. The oral exam covers the material contained on the candidate’s reading list, answers on the written exam, and the literature review. 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 by exam committee members. 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 or the preparation of extra research projects. 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, they 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 second attempt is considered two failures.

Publication and Application

Prior to graduation, students are required to submit a research article as first author for publication 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 an academic 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. 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.

**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>Core Course</th>
<th>Foundation Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSIM 601 Introduction to Modeling and Simulation</td>
<td>PSYC 731/831 Human Cognition</td>
</tr>
<tr>
<td></td>
<td>PSYC 741/841 Sensation and Perception</td>
</tr>
<tr>
<td></td>
<td>PSYC 770/870 Human Factors Psychology</td>
</tr>
<tr>
<td></td>
<td>Total Hours 12</td>
</tr>
</tbody>
</table>

**Doctor of Philosophy - Psychology, Industrial/Organizational Psychology Concentration**
James F. Paulson, Graduate Program Director

**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
- Career Development
- Job Satisfaction
- Organizational Commitment
- Leadership
- Group and Team Processes
- Organization Development and Change
- Organizational Justice
- 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 they will also be placed on probation; a second C or worse may result in dismissal from the program.

In addition to the core requirements for the PhD in Psychology, the PhD concentration in Industrial/Organizational Psychology requires the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 745/845</td>
<td>Psychometric Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 750/850</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 763/863</td>
<td>Personnel Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Select six of the following: 18

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 810</td>
<td>Seminar in Professional Aspects of Industrial/Organizational Psychology</td>
</tr>
<tr>
<td>PSYC 822</td>
<td>Occupational Health Psychology</td>
</tr>
<tr>
<td>PSYC 851</td>
<td>Organizational Leadership</td>
</tr>
<tr>
<td>PSYC 855</td>
<td>Field Research Methods in Organizational Psychology</td>
</tr>
<tr>
<td>PSYC 864</td>
<td>Human Resource Development</td>
</tr>
<tr>
<td>PSYC 865</td>
<td>Psychology of Personnel Selection</td>
</tr>
<tr>
<td>PSYC 866</td>
<td>Advanced Personnel Psychology II</td>
</tr>
<tr>
<td>PSYC 879</td>
<td>Careers</td>
</tr>
<tr>
<td>PSYC 895</td>
<td>Topics in Psychology I</td>
</tr>
<tr>
<td>PSYC 896</td>
<td>Topics in Psychology II</td>
</tr>
</tbody>
</table>

Total Hours 27

Students may be permitted to substitute another course within the Psychology department or from another university department for one or more of the six doctoral-level courses with permission of their guidance committee.

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 at least six of the doctoral-level content courses listed above.

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, they 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 methods an 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 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 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.

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, occupational safety and health, 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; 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

TBD, 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 breadth and depth to this unique program. Students take classes at all three institutions and are engaged in research activities and clinical work throughout their training. The Program follows a scientist-practitioner training model. Detailed information about the program is available at the program’s website: http://www.odu.edu/vcpcp/ (http://www.odu.edu/vcpcp/). (http://www.odu.edu/vcpcp/)

Admission

Admission information is available at the program’s website: http://www.odu.edu/vcpcp (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. Students will be admitted into the program with a specific research mentor. Applicants are encouraged to contact potential research mentors for additional information and to express interest. The Virginia Consortium Program is committed to recruiting a diverse student body.

The applicant must also submit:
1. Official scores on the Graduate Record Examination and transcripts of academic coursework. (currently optional)
2. The Consortium's supplemental application that includes:
   a. A personal statement outlining (a) career goals, (b) how career goals fit with the training program, and (c) research interests, experiences, and goals (d) clinical interests, experiences, and goals.
   b. Diversity statement that describes one’s commitment to diversity and inclusion.
   c. A curriculum vitae.
   d. Optional: writing samples (e.g., honors thesis, preprints, etc.)

Degree Requirements
The Clinical Ph.D. program provides students with a high level of professional training. Students entering the program with a bachelor’s degree, or with a master’s degree from a non-consortial institution, are typically required to complete a minimum of 123 credit hours. The number of credit hours is reduced for students who come into the Program with a master’s degree or previous coursework at one of the consortial institutions. A minimum of 12 semesters and 78 credit hours (or 48 credit hours post master’s) in full-time residence (excluding internship and dissertation) are required for the degree. Degree requirements include a minimum of five years of post-baccalaureate training. A foundational research project or master's thesis, oral and written comprehensive examination, empirical dissertation, practicum training, and full-time year-long APA approved internship are also required for the degree. The internship is not provided by the Virginia Consortium.

Student Evaluation
Students are regularly evaluated in academic coursework, 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 Pancoast 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.
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.
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.
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. Prerequisites: graduate standing and permission of the instructor.

PSYC 663. Intellectual Assessment. 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.
This course covers history of personality theory and assessment and psychometrics, and introduces tools and techniques aimed at understanding individual differences in personality and assessment of major psychopathology. Prerequisites: Student must be a clinical Ph.D. degree student or receive permission of the instructor.

PSYC 667. Practicum in Psychology. 2-5 Credits.
Students will receive supervised training in an applied setting in the area of clinical or industrial psychology. Prerequisites: 15 graduate course hours (including PSYC 663) and permission of the instructor.

PSYC 696. Topics in Psychology. 3 Credits.

PSYC 697. Selected Topics in Psychology. 1-4 Credits.
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. Prerequisites: permission of the instructor and graduate program director.

PSYC 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.

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

PSYC 712. History and Systems of Psychology. 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.
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 763/863 and PSYC 850.

PSYC 727. Analysis of Variance and Experimental Design. 4 Credits.
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. Prerequisites: admission into the psychology M.S. or Ph.D. program or permission of the instructor.
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.
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. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor.

PSYC 735. Health Psychology. 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 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.
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.
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 equations for test reliability, standard error of measurement, and related statistics. Additional topics include scaling, item statistics useful in test constructions, norms commonly used in educational and psychological testing, test validity and exploratory factor analysis. If time permits, Item Response (IRT) and Generalizability Theory 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.
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.
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.
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.
Basic overview and application of anthropometry, biomechanics, functional anatomy, mechanics, and human physiology for the design of industrial tools, equipment, and workstations.

PSYC 776. Human-Computer Interaction. 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 780. Ethics, Professional Standards, and Responsible Conduct. 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.
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.
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.
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.
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. Prerequisite: admission into the I/O Ph.D. program.

PSYC 812. History and Systems of Psychology. 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.
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.
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. Prerequisites: admission into the psychology M.S. or Ph.D. program or permission of the instructor.

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.
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. Prerequisite: admission into the psychology M.S. or Ph.D. program or permission of the instructor.

PSYC 833. Grant and Manuscript Writing. 3 Credits.
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. Prerequisites: admission to the doctoral program in psychology and completion of master's thesis, or permission of instructor.

PSYC 835. Health Psychology. 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: 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 837. Longitudinal Data Analysis. 3 Credits.
This course will introduce students to the theory and practice of longitudinal data analysis. It will examine a number of approaches for modeling change (in continuous outcomes) and event occurrence (broadly defined, in categorical or ordinal outcomes), including a careful treatment of the metric of time as well as missing data. Students will learn to develop, implement, interpret, and report research involving longitudinal data analyses. The use of statistical software is also illustrated. Prerequisites: PSYC 728 or PSYC 828 and PSYC 736 or PSYC 836.

PSYC 840. Quasi-Experimental Methods. 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.
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 equations for test reliability, standard error of measurement, and related statistics. Additional topics include scaling, item statistics useful in test construction, norms commonly used in educational and psychological testing, test validity, and exploratory factor analysis. If time permits, Item Response Theory (IRT) and Generalizability Theory 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 n 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.
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.
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. Organizational Leadership. 3 Credits.
This course concerns the study of leadership and its effects on organizational behavior and effectiveness as well as employee well-being and health. Emphasis will be placed on classic and contemporary leadership theory and research. Prerequisites: PSYC 750/PSYC 850 or permission of the instructor.

PSYC 853. Job Attitudes and Motivation. 3 Credits.
The course focuses on the major concepts, issues, principles, and findings of job attitudes and motivation at the workplace. The student who successfully completes this course should be able to apply knowledge and skills to workplace issues regarding job attitudes and motivation, as well as stimulate ideas for future research projects.

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.
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. Prerequisite: admission into the I/O Ph.D. program or permission of the instructor.

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

PSYC 859. ODU-Cognitive and Behavioral Therapies. 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.

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.
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.
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. Prerequisite: PSYC 865 or permission of the instructor.
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.
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.
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.
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.
Detailed review of the physiological bases of visual perception, the capabilities and limitations of the visual system, 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.
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.
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.
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.
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.
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.

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.
Must be enrolled in psychology doctorate program. Prerequisite: Permission of the clinical director.

PSYC 891. Industrial/Organizational Internship. 1 Credit.

PSYC 892. Advanced Seminar in Physiological Psychology. 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 893. 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 for 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.