Doctoral Study in Applied Biopsychology

Department of Psychology
University of New Orleans
College of Sciences
New Orleans, LA

One of two major areas within the department of psychology at the University of New Orleans, Applied Biopsychology uses biopsychology applications to problems of human behavior. This focus is reflected in the primary objective at the National Institute of Mental Health, “to promote discovery in the brain and behavioral sciences to fuel research on the causes of mental disorders... to gain a more complete understanding of the genetic, neurobiological, behavioral, environmental, and experiential factors that contribute to mental disorders”¹. Applied Biopsychology as a discipline has grown out of recognition that behavior is instantiated in biological processes and understanding the functioning of the brain and body will enhance our ability to understand behavior. Applied Biopsychology can be translational, but is not reductionistic or deterministic; a behavioral neuroscientist recognizes the power of context for influencing behavior and biology even when examining trans-genic mice or donning a white lab coat.

The scientific orientation of our graduates is a function of the emphasis placed on cutting-edge innovative research in the UNO Applied Biopsychology Program, http://www.pyc.uno.edu/Labs.html. Each semester students are involved in research under the guidance of a faculty mentor, working diligently to become an expert in the biopsychology tools of their mentor. A student-selected committee ensures this specialization has broader applications and provides opportunities for collaboration with other laboratories, even those outside the UNO setting.

The scientific philosophy of this program prepares students to critically examine the practice of psychology by themselves and by other psychologists, as well as advocate for improvements in the application of psychology based on scientific principles. The Applied Biopsychology program shares with the Department as a whole the commitment to training applied scientists who can contribute to the science of psychology by conducting innovative programmatic research and who can develop and implement practical applications based on this research. We encourage students to gain applied training to enable them to translate basic knowledge into practical technologies and solutions. Training scholars with these types of applied skills requires course work and research, but also practical experience in a variety of applied settings. UNO’s urban location maximizes the opportunity for links with the medical and human services community that provide this practical experience through practica and internships.

¹ http://www.nimh.nih.gov/about/strategic-planning-reports/index.shtml
Funding

The department typically funds students through a variety of assistantships (including tuition), most commonly (1) teaching assistantships, (2) research assistantships, or (3) scholarships. The teaching assistantship requires student work twenty hours per week. Research assistantships are financed by faculty grants and awards from the state or the university. The amount of these stipends varies depending upon the funding source.

Admission

The Applied Biopsychology program plans to admit 3 to 6 new students each year. Adequate preparation in psychology is required, which usually includes introductory psychology, statistics, experimental design, and additional psychology courses for a total of 21 hours, but each case will be examined individually, and strong preparation in a closely related area such as neuroscience or biology will also be considered where appropriate.

The UNO Graduate School requires for admission a) a minimum 2.5 GPA for all undergraduate work and a 3.0 GPA for all graduate and post-bachelor work, b) satisfactory academic standing at the last university or college attended, and c) satisfactory test scores on the GRE. Students who meet these UNO minimum requirements must still meet the admission requirements of the Department of Psychology and the Applied Doctoral Program. Up-to-date information on admission is available, http://www.psyc.uno.edu/ApplicationInfo.html. Applicants should contact the graduate coordinator with questions.

Specifically for the Applied Biopsychology area, the quality of the applicant’s undergraduate curriculum, letter of intent, and letters of recommendation are strongly considered in admission decisions. The applicant’s research aptitude and the match of the applicant’s career goals with the faculty mentor and the training mission of the program are critical considerations. A biopsychology faculty member must be willing to serve as the major professor upon admission.

Curriculum

Much of the course work is designed to provide students with the educational background to conduct research independently upon successful completion of the program. This research emphasis is explicitly designed to enhance the applied biopsychology aspects of the program.

General Core Curriculum. The training philosophy endorsed by the Applied Biopsychology Program emphasizes a scientific approach to understanding both normal and disordered behavior. The edification required by the Biopsychology Program reinforces this orientation by training students in basic psychological methods through a general fundamental curriculum shared by students in the Developmental program. These include a two course sequence in Advanced Statistics, (Psych 6311 & Psych 6312), Advanced Learning (Psych 6350), a seminar on Professional Problems and Ethics (Psych 6050), Applied Biopsychology (Psych 6801), Psychopathology (Psych 6550), and four one-hour seminars
on Professional Issues (Psych 6091). Many biopsychology students also take the teaching of psychology (psych 7050) elective to gain hands-on experience teaching a psychology course.

**Applied Biopsychology Core Curriculum.** The general psychological foundation is complemented by the biopsychology core, which focuses on neurobiological underpinnings of behavior. Within this core, students take classes that focus on the functioning of the nervous system at various levels of observation, from the molecular to that of the behaving organism. These include a two semester sequence in the Fundamentals of Applied Biopsychology, Psychopharmacology, and Advanced Learning. The Seminar on Professional Problems and Ethics include talks given by internationally renowned speakers and semester-long themes in biological psychology.

**Advanced Electives.** Through the general and applied biopsychology core all students are provided with a well-rounded background in Applied Biopsychology. However, the curriculum also allows for considerable flexibility by the student to tailor the coursework to a particular career choice. Biopsychology electives allow students to choose classes that enhance their knowledge of biological psychology. Planned electives within the next three years include topics such as Psychophysiology; Affective Neuroscience; Neuroendocrinology; Molecular and Behavioral Genetics; Theories of Biological Psychology; Special Populations; Developmental Psychobiology; and Behavioral Medicine. There are additional course offerings in areas such as advanced seminars in statistics, psychological assessment, and current topics in biopsychology. Students are encouraged to propose special topics courses as well.

**Minor Area of Study.** Students also design a minor course of study to add breadth to their expertise. The minor requires at least 9 semester hours of coursework within a clearly defined content area (e.g. developmental psychology, program evaluation, advanced assessment, advanced methodology, statistics) and may include courses offered outside the department. The minor is approved by the student’s doctoral committee which includes at least one faculty member from the minor area.
Research Requirements. All students are involved in research throughout their time in the program and nearly every student publishes in peer-reviewed journals during graduate training. Each semester that students are not taking either Thesis or Dissertation hours, students must be enrolled in an Independent Research course (Psych 6090). Also, as part of the requirements for the Masters of Science degree, all students must complete a thesis that is based on their own original research. Students work closely with their major professor on their thesis and many of these original projects go on to get published in peer-reviewed journals.

An integral part of the requirements for the Ph.D. degree is the successful completion of the dissertation, another original research project. Students function more independently on their dissertation to demonstrate mastery of research techniques, ability to conduct original research, and skill in formulating conclusions that in some way enlarge upon or modify existing psychological theory. The dissertation is expected to make a substantial contribution to the scientific literature.

Practicum Experiences. To augment their practical skills, students take four semesters of supervised practicum at an approved site supervised by a biopsychologist. These placements are selected to provide the students with diverse experiences in the practice of biopsychology.

Qualifying Exam. One of the requirements for assessing competency is the qualifying exam, in which students must demonstrate competency in at least four content areas: 1) biological basis of behavior, 2) cognitive-affective basis of behavior, 3) social basis of behavior, and 4) individual differences. Documentation of competency within these four areas is required as part of most states’ psychology licensure guidelines. While the semester-long qualifying exam may appear daunting, students completing the exam often mention that this was the first time that they felt they were an “expert” and independent of their faculty mentor.

More information on the Applied Biopsychology Program can be obtained on the department’s web site, www.psyc.uno.edu, or by contacting the biopsychology program director.

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