

Psychology

Graduate Program

The Department of Psychology offers graduate programs leading to the Ph.D. in Behavioral Neuroscience, Applied Developmental Psychology, and Medical/Clinical Psychology. The Behavioral Neuroscience program also offers a terminal master's degree.

Behavioral Neuroscience

Training in Behavioral Neuroscience is designed to prepare students for independent research and teaching in the neurobiology of behavior. Research training is provided by faculty in the Department of Psychology and in the UAB Schools of Medicine and Optometry, who share an interest in the biological basis of behavior. The course of study includes a core curriculum in neuroscience and recognizes the interdisciplinary nature of this field. Students obtain strong backgrounds in behavioral science and in neuroscience and gain expertise in the content and techniques of selected areas of neuroscience as they apply to the study of behavior.

Faculty laboratories are equipped for research in behavior, neuroanatomy, neurochemistry, neuroimaging, neuropharmacology, neurophysiology, and molecular biology. The research interests of the faculty include neuroanatomy and neurophysiology of the visual system; interactions between the central nervous system and the periphery in the control of feeding and energy balance; neural underpinnings of obesity and plasticity in participants in a weight loss program; autism; emotional substrates of conditioned fear; neurophysiology and neuropharmacology of pain.

Applied Developmental Psychology

Training in Applied Developmental Psychology prepares students to discover and apply basic principles of development across the lifespan in an interdisciplinary research context. Our premise is that the application of psychological principles of development can contribute in important ways to solving problems encountered throughout the lifespan. Graduates are capable of taking positions in institutions of higher learning, medical schools, research institutions, government agencies, nonprofit organizations, and other research and teaching positions.

Research training is provided by the faculty of the Department of Psychology and may occur in collaboration with faculty across campus including the Civitan International Research Center, the Center for Aging, the Center for Applied Gerontology, the Department of Pediatrics, The School of Public Health, and other centers and departments.

The research programs of faculty with interests in lifespan Applied Developmental Psychology include a wide variety of topics from infancy to the elderly. Much of this research is funded by federal research grants. Research subareas include: injury prevention, developmental disabilities (with special interests in Autism Spectrum Disorders, prenatal development and exposure to toxic substances, early intervention, adolescent psychosocial development and mental health); adolescence (with special interest in longitudinal studies, interactions between health and development, alcohol and drug use, predictors of depression and suicide, family and peer relations, those with special health care or education needs); and aging (with special interest in visual-perceptual problems of older adults with low vision, memory skills training with elderly populations, the psychological aspects of chronic illness in

the elderly, chronically ill individuals, care giving in families of elderly persons, human factor issues in vision and aging).

Applied Developmental Psychology students must complete a master's thesis. Admission to candidacy for the doctoral degree is based on satisfactory completion of coursework and completion of an area review in the form of a *Psychological Bulletin* or *Psychological Review* article. The doctoral degree is awarded upon successful defense of the dissertation.

Medical/Clinical Psychology

Training in Medical/Clinical Psychology prepares students to become leaders in health promotion, disease prevention, risk reduction, and symptom assessment and amelioration in interdisciplinary and medical settings. Research, course work and clinical training emphasize behavioral and psychological factors associated with medical illness and injury as well as neurobehavioral and psychological disorders across the lifespan. The Medical/Clinical Psychology program is accredited by the American Psychological Association (<https://www.apa.org/ed/accreditation/programs/index.aspx>).

The Medical/Clinical Psychology Ph.D. program is administratively housed in the Department of Psychology within the College of Arts and Sciences. Faculty are distributed across multiple academic departments and divisions, including but not limited to Psychology, Psychiatry, Pediatrics, Neurology, Preventive Medicine, Clinical Immunology and Rheumatology, and Physical Medicine and Rehabilitation. Clinical psychologists and researchers in UAB-affiliated clinics and research centers, the Children's of Alabama Hospital, the Birmingham VA Medical Center and throughout the community also play active roles in teaching as well as research mentoring and clinical supervision.

Research programs in which faculty and students are currently involved include but are not limited to: aging and mental health, autism spectrum and other neurodevelopmental disorders, child and adolescent development and psychopathology, chronic pain, eating disorders, functional symptom disorders, gender identity, minority stress, neuroimaging, obesity, outcomes of novel psychotherapeutic and pharmacological treatments, racial identity and discrimination, rehabilitation following brain injury and disease, schizophrenia and other severe mental illnesses, sleep, stress, substance use and abuse, and trauma and violence exposure.

Additional Information

For further information please visit the websites listed below. Questions may be directed to the appropriate Director or to the Psychology Graduate Program Manager, Ms. Terri Roberson, at 205-934-8723 or trobe@uab.edu.

Behavioral Neuroscience

Website: <http://www.uab.edu/cas/psychology/graduate/behavioral-neuroscience>

Dr. David C. Knight, Director

Email knightdc@uab.edu (amthorfr@uab.edu)

Applied Developmental Psychology

Website: <http://www.uab.edu/cas/psychology/graduate/developmental>

Dr. Olivia J. Clay, Director

Email oclay@uab.edu (fbiasini@uab.edu)

Medical/Clinical Psychology

Website: <https://www.uab.edu/cas/psychology/graduate/medical-clinical>

Dr. Edwin W. Cook III, Director

Email: ecook@uab.edu

Graduate Certificate in Social & Behavioral Statistics

The Graduate Certificate in Social & Behavioral Statistics is available to students currently enrolled in a Graduate Program who have a 3.0 GPA or higher.

Requirements	Hours
SOC 707 Statistical Programming for Social Sciences	3
Advanced Statistics Courses ¹	12
PY 719 Multivariate Statistical Methods	
or PY 719Lab for Multivariate Statistical Methods	
PY 727 Longitudinal Data Analysis Laboratory	
or SOC 7(Advanced Longitudinal Data Analysis	
PY 746 Structural Equation Modeling	
SOC 704 Categorical Data Analysis	
Total Hours	15

¹ Other advanced statistics electives may be approved by the Program Director

Contact

Program Director	Sylvie Mrug, Ph.D.
E-mail	smrug@uab.edu

Courses

PY 520. Special Topics in Psychology. 1-3 Hour.

This course will provide introductory, graduate level training in topics within the fields of behavioral neuroscience, developmental psychology, medical/clinical psychology, and research methods.

PY 619. Diversity, Equity and Inclusion in Research and the Workplace. 1 Hour.

Definitions of the terms diversity, equity, and inclusion continue to evolve in our society and it is essential that individuals have clear understandings of these terms that are shaped by interactions with individuals from a variety of cultures and differing levels of social status. Additionally, research studies can contain selection bias as the individuals who agree to participate may not be representative of the larger populations the studies are targeted to assess. This course will enable students to: (1) receive perspectives on diversity, equity and inclusion from the instructor, experts in the areas, and members of subgroups who have experienced a lack of resources and/or discrimination, (2) learn strategies that can be utilized to provide outreach efforts to the communities they are interested in studying, (3) recruit more representative samples, and (4) foster work environments that are inclusive and not offensive to any team members.

PY 620. Special Topics in Psychology. 1-3 Hour.

This course will provide training in advanced topics in the fields of behavioral neuroscience, developmental psychology, medical/clinical psychology, and research methods.

PY 635. Motivation and Emotion. 3 Hours.

Human emotion and motivated behavior with a focus on the underlying neuroanatomy, neurophysiology, endocrinology, and genetics and their relationship to abnormal conditions.

PY 652. Biofeedback, Meditation and Self-Regulation. 3 Hours.

History and current applications of biofeedback, meditation, and relaxation techniques.

PY 653. Foundations of Behavioral Neuroscience. 4 Hours.

Neural systems which control behavior will be studied, incorporating knowledge gained from neurobiological and psychological research. Topics will include synaptic communication, sensation and perception, movement, genetic influences on behavior, motivation, emotions, psychopathology, brain plasticity, and an extended module on learning.

PY 683. Developmental Disabilities. 3 Hours.

History, causes, treatment/education, interventions, and family issues related to developmental disabilities and other neuro-differences. Psychologist as member of interdisciplinary treatment team. There will be a focus on identifying patterns of strengths and weaknesses in various disorders.

PY 687. The Dynamics of Pain. 3 Hours.

This course provides a comprehensive study of pain, from basic anatomy through clinical treatment and measurement.

PY 693. Cognitive Neuroscience. 3 Hours.

How cognitive processing originates from brains. Focus on synthetic approaches to sensory-input guided behavior implemented in a biologically realistic manner; neurobiological wetware underlying cognition; study and construction of synthetic approaches that emulate biological behavior and psychological processes.

PY 698. Premaster's Degree Graduate Research. 1-12 Hour.

Premaster's Degree Graduate Research.

PY 699. Master's Level Thesis Research. 1-12 Hour.

Master's Level Thesis Research.

Prerequisites: GAC M

PY 701. Professional Issues and Ethics in Psychology. 1 Hour.

Ethics, professionalism, diversity, licensure, and legal issues in health service and academic psychology. Human research ethics in biobehavioral and clinical science.

PY 704. Social Psychology. 3 Hours.

Interpersonal relationships and effects of social environment on social perception and human behavior.

PY 707. Brain and Cognition. 3 Hours.

Integration of cognitive, behavioral, biological, and computational perspectives on perception, attention, learning and memory, language, problem-solving and creativity, and judgment and decision-making.

PY 708. Developmental Psychology. 3 Hours.

Human development from prenatal period to old age. Genetic and environmental determinants of behavior; linguistic, cognitive, intellectual, personality, social, and emotional development.

PY 710. Seminar in Lifespan Developmental Psychology. 1 Hour.

Discussion of scientific and professional development issues related to developmental psychology.

PY 711. Seminar in Cognitive Development. 3 Hours.

Seminar in the development of and changes in memory, perception, learning, and thinking throughout the lifespan.

PY 712. Seminar in Social Development. 3 Hours.

Theory and research related to attachment, origins of the self and self-esteem, family relationships, peer relationships, morality, and aggression.

PY 713. Seminar in Language Development. 3 Hours.

Research and theory related to normal and deviant language development.

PY 716. Introduction to Statistics and Measurement. 3 Hours.

Probability, measurement, descriptive statistics, sampling distributions, null hypothesis significance testing, means comparisons, correlation, regression, reliability, validity, categorical data analysis, and nonparametric methods.

PY 716L. Lab for Introduction to Statistics and Measurement. 1 Hour.

Computer laboratory for PY 716 Introduction to Statistics and Measurement.

PY 717. Applied Statistical Methods. 3 Hours.

Statistical hypothesis testing in the context of the univariate general linear model: 1-way and factorial analysis of variance, multiple comparison procedures, multiple regression and repeated measures.

Prerequisites: PY 716 [Min Grade: C]

PY 717L. Lab for Applied Statistical Methods. 1 Hour.

Computer laboratory for PY 717 Applied Statistical Methods.

Prerequisites: PY 716L [Min Grade: C]

PY 718. Advanced Research Design. 3 Hours.

Presentation and discussion of advanced topics in research design, such as statistical and experimental control, adaptive and other between-groups experimental designs, and program evaluation. The class culminates in preparation of a research grant application.

PY 719. Multivariate Statistical Methods. 3 Hours.

Multiple regression, mediation and moderation, multivariate analysis of variance, logistic regression, principal components and factor analysis, and introduction to structural equation modeling.

Prerequisites: PY 717 [Min Grade: C]

PY 719L. Lab for Multivariate Statistical Methods. 1 Hour.

Laboratory for PY 719 Multivariate Statistical Methods.

Prerequisites: PY 717L [Min Grade: C]

PY 720. Human Neuropsychology. 3 Hours.

Structure and function of human brain; effects of neurological impairment on cognitive, affective, and personality functions.

Prerequisites: PY 707 [Min Grade: C](Can be taken Concurrently) or PY 653 [Min Grade: C](Can be taken Concurrently) or PY 693 [Min Grade: C](Can be taken Concurrently)

PY 721. Neuropsychological Assessment. 3 Hours.

Assessment of various types of neuropsychological disorders, including interpretation of test results and communication of findings via oral presentations and written reports. Emphasis is on analytical thinking, ethical considerations, practical applications of neuroscientific research and incorporating knowledge of ethnic and cultural factors.

Prerequisites: PY 720 [Min Grade: C]

PY 727. Longitudinal Data Analysis Laboratory. 3 Hours.

Hands-on advanced statistics class focusing on analyses of longitudinal data. Topics include multilevel (hierarchical) models, latent growth curve models, Generalized Estimating Equations, and group-based longitudinal models.

Prerequisites: PY 719 [Min Grade: C]

PY 729. Seminar in Adolescent Development. 3 Hours.

Seminar in Adolescent Development. Theoretical models and empirical findings related to biological, psychological, and socio-historical changes in adolescent development.

Prerequisites: PY 719 [Min Grade: C]

PY 731. Health Psychology. 3 Hours.

Prevention, health enhancement and intervention. Environmental, interpersonal and marketplace factors in health and disease. Basic concepts, methods and instruments in health psychology assessment.

PY 734. Applied Developmental Psychology. 3 Hours.

Creating programs and policies to apply developmental science in order to improve human development. Establishing partnerships for developing and sustaining the applied scientific research on which such programs and policies are based.

PY 737. Psychology of Eating Disorders & Obesity. 3 Hours.

History, epidemiology, genetic, environmental, and behavioral correlates and prevention and treatment strategies of eating disorders and obesity; mechanisms of normal feeding and weight control and research methods used to understand other psychiatric disorders.

PY 740. Adult Personality and Psychopathology. 3 Hours.

Fundamental theories, concepts, issues, and methodologies of adult psychopathology and its relationship to normal personality and personality disorders. Focuses on the major syndromes of mental disorder from both biological and psychosocial perspectives.

PY 741. Child and Adolescent Psychopathology and Treatment. 3 Hours.

Development, etiology, diagnosis and treatment of emotional and behavioral disorders affecting children and adolescents. Incorporates historical and contemporary issues pertaining to their phenomenology, comorbidity, and epidemiology along with cultural, ethical and professional issues germane to clinical care.

Prerequisites: PY 708 [Min Grade: C]

PY 742. Sport Psychology. 3 Hours.

Psychological factors in athletic performance. Psychological characteristics of successful athletes; anxiety arousal, motivation, attention, concentration, attribution, cognition, and imagery.

PY 746. Structural Equation Modeling. 3 Hours.

Basic steps in structural equation modeling - model identification, estimation, evaluation and modification - as well as advanced topics such as confirmatory factor analysis, latent variables, multi-group modeling, analysis of non-normally-distributed and categorical data, missing data, and sample size estimation.

Prerequisites: PY 719 [Min Grade: C]

PY 749. Social Psychophysiology. 3 Hours.

Current research on the effects of the social world on hormonal responses (cortisol, testosterone etc.). Several research articles will be discussed every week in a seminar format.

PY 751. Human Psychopharmacology. 2 Hours.

Neurophysiological underpinnings and clinical use of drugs for the treatment of mental disorders and pain.

PY 754. Advanced Topics in Behavioral Neuroscience. 3 Hours.

Methods and discoveries in the neuroscience of behavior, such as brain imaging, human and animal learning, perception, neurophysiology, neuropharmacology and psychiatric disorders. Most students will have taken 753/453 as a prerequisite, but other high level neuroscience courses may also suffice with permission of the instructor.

Prerequisites: PY 753 [Min Grade: C]

PY 756. Research Seminar in Behavioral Neuroscience. 1 Hour.

Scientific and professional development including scientific writing and communication skills, discussion of current literature, and presentation of ongoing research from students in the Behavioral Neuroscience doctoral program.

PY 760. Interviewing and Behavioral Observation. 2 Hours.

Theory and practice of interviewing and behavioral assessment with adult and child populations.

PY 764. Cognitive Assessment: Child and Adult. 3 Hours.

Cognitive assessment of children and adults focusing on issues related to assessment, Bayley Scales of Infant/Toddler Assessment, Differential Ability Scales, Wechsler scales and additional cognitive, academic, memory, and learning tests.

PY 765. Personality Assessment. 2 Hours.

Objective personality assessment, primarily focusing on Minnesota Multiphasic Personality Inventory.

PY 769. Cognitive Behavior Therapy. 3 Hours.

Review of cognitive behavioral theory and methods with emphasis on empirically validated individual and group, including brief, interventions.

PY 770. Survey of Psychotherapeutic Methods. 3 Hours.

Procedures for changing maladaptive behavior. Research and methodological issues, factors common to most therapy, and major therapeutic techniques.

PY 777. Psychotherapy Practice Shadowing. 1 Hour.

Introduction to psychotherapy practice by sitting in on therapy (consented) with a practicing psychologist.

PY 779. Foundations of Clinical Supervision and Consultation. 1 Hour.

Methods, models, and ethical considerations related to clinical supervision and interprofessional consultation in diverse cultural and professional contexts.

PY 785. Psychology of Aging. 3 Hours.

The relationship between aging and health, cognitive function, intelligence, personality, relationships, and psychopathology. Other topics covered in this course include assessment and treatment of psychological disorders in older adults, end-of-life issues, caregiving and dementia.

PY 788. Pediatric Psychology. 2 Hours.

Behavioral influences on health and illness; impact of health problems and illness on behavior and development of children and adolescents; family issues related to these interactions.

PY 790. Internship in Clinical Psychology. 9 Hours.

Completion of an APA-accredited internship in clinical psychology.

PY 791. Special Topics in Psychology. 1-3 Hour.

Topics and prerequisites vary.

PY 792. Introduction to Neurobiology. 6 Hours.

Introduction to the neurobiological bases of neuronal communication and behavior. Topics include invertebrate and vertebrate neuroanatomy, neurons and glia, resting potentials, action potentials, synaptic transmission, neurotransmitters and receptors, sensory transduction, and sensorimotor integration.

PY 795. Community Practicum in Psychology. 1-3 Hour.

This course will provide academic credit for training and supervised experiences in selected community service agencies. Service learning is a significant component of this course.

PY 796. Practicum in the Teaching of Psychology. 1-9 Hour.

Practicum in the teaching of psychology.

PY 797. Clinical Practicum in Medical Psychology. 1-4 Hour.

Practicum training in clinical and medical psychology, supervised by a licensed mental health professional.

PY 798. Predoctoral Degree Graduate Research. 1-12 Hour.

Predoctoral degree graduate research.

PY 799. Doctoral Dissertation Research. 1-12 Hour.

Doctoral dissertation research.

Prerequisites: GAC Z