

PY-Psychology Courses

Courses

PY 101. Introduction to Psychology. 3 Hours.

Application of scientific method to behavior. Areas of psychology including learning, motivation, perception, physiological, comparative, personality, abnormal, social, clinical, child development, and individual differences. This course meets Blazer Core Humans and their Societies with a Flag in Global Multicultural Perspectives.

PY 107. Psychology of Adjustment. 3 Hours.

Adaptive behavior; theories, research, and personal applications relevant to desirable behavior patterns; interpersonal skills and self-control techniques. This course meets Blazer Core Local Beginnings with flags in Wellness/Well-Being and First Year Experience.

PY 108. Human Sexuality. 3 Hours.

Biological and psychological bases of human sexual behavior. Genetic, hormonal, and learning foundations for development of sexual and sex-related structures and of psychosexual identity and behavior. Adult sexual structures and behavior, conception control, pregnancy, lactation and parentalism, drugs and reproduction, and sexual pathology and variances.

PY 109. Drugs and Human Behavior. 3 Hours.

Historical and cultural perspectives on drug use by humans. Major classes of drugs; effects, side effects, and toxicity. Mechanisms of drug action, drug abuse, government regulations, and use of psychoactive drugs in treatment of mental disorders.

PY 110. Neuroscience of Creativity. 3 Hours.

The Neuroscience of Creativity will explore the intersection between the arts and sciences, teaching students to think critically about the evidence that supports the roles of the brain and nervous system underlying creativity in the arts and sciences as well as the applications to problem solving and original thinking. This course will systematically integrate research and theory with discussions and engagement in active learning opportunities.

PY 116. Statistics for the Behavioral Sciences. 3 Hours.

This course provides an overview of the use of descriptive and inferential statistics in solving research problems within the behavioral sciences. It emphasizes conceptual understanding of statistics such as correlation, z-scores, t-tests, chi-square, analysis of variance, and regression. This course meets Blazer Core Curriculum Quantitative Literacy.

Prerequisites: MPL 30 or EMA E or MATH 098 [Min Grade: C]

PY 125. Introduction to Forensic Psychology. 3 Hours.

Overview of issues involving the intersection of law and psychology. Focus on role of clinical assessment of competency, scientific jury selection, expert witnesses in court, punishment and sentencing, and related issues.

PY 197. Community Service Practicum. 3 Hours.

The purpose of the course is to allow students to participate in meaningful service activities to meet community needs including health, human services, LGBT issues, forensic, clinical, or animal behavior. Students will engage in team-based organized community service activities in local agencies, private organizations, local government, hospitals, businesses, or industries. The service activities will address local needs, while also allowing students to develop their academic skills, sense of civic responsibility and commitment to the community. This course meets Blazer Core City as a Classroom with flags in Civic Engagement and Service Learning, Community-Based Learning.

PY 199. Irrational Thinking. 3 Hours.

Survey of cognitive biases and factors that contribute to the formation of weird beliefs, belief in conspiracy theories, vulnerabilities to logical errors and fallacies, biases in our decision-making in behavioral economics, and irrational thinking about natural and supernatural phenomena, other people, as well as ourselves.

PY 201. Honors Introduction to Psychology. 3 Hours.

Advanced seminar in scientific study of behavior and cognitive processes. Permission of Director of Undergraduate Studies required. This course meets Blazer Core Curriculum Humans and their Societies.

PY 212. Developmental Psychology. 3 Hours.

Human development from prenatal period to old age. Genetic and environmental determinants of behavior. Language, cognition, personality, social and emotional behavior, intelligence, and physical and sexual development. Applied areas include child rearing, childhood psychoses, and child abuse. This course meets Blazer Core Humans and their Societies with a Flag in Global Multicultural Perspectives.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 213. Cross-Cultural Perspective on Child Development. 3 Hours.

Cultural differences in determinants of child development. Effects of culturally distinct approaches to child rearing and education on infant attachment, temperament, aggression, cognitive development, peer interaction, sex-role socialization, and moral reasoning. This course meets Blazer Core Curriculum Reasoning with a flag in Global Multicultural Perspectives.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 215. Research Literacy in Psychology. 3 Hours.

This course provides an overview of the scientific process and teaches students to read and evaluate scientific reports: popular media to primary literature; emphasizing the importance of being a good consumer of information. The course also teaches students to write scientifically, following accepted formats such as APA.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 216. Elementary Statistical Methods. 4 Hours.

Descriptive and inferential statistics with emphasis on behavioral science applications. Measures of central tendency and variability, frequency distributions, probability, t-test, correlation, analysis of variance, and regression. Use of computers in statistical analysis of psychological research data. Quantitative Literacy is a significant component of this course. Concurrent enrollment in PY216L required.

Prerequisites: MA 105 [Min Grade: C] or MA 108 [Min Grade: C] or MA 110 [Min Grade: C] or MA 102 [Min Grade: C] or MA 125 [Min Grade: C] or MA 106 [Min Grade: C] or MA 107 [Min Grade: C] or MA 109 [Min Grade: C] or MA 225 [Min Grade: C]

PY 216L. Elementary Statistical Methods Laboratory. 0 Hours.

Statistical Methods Laboratory required with PY 216 lecture. Concurrent enrollment in PY 216 required.

Prerequisites: MA 105 [Min Grade: C] or MA 102 [Min Grade: C] or MA 110 [Min Grade: C] or MA 125 [Min Grade: C] or MA 106 [Min Grade: C] or MA 107 [Min Grade: C] or MA 109 [Min Grade: C] or MA 225 [Min Grade: C]

PY 218. Psychopathology. 3 Hours.

Research-oriented study of different types of maladaptive behavior, including symptoms, development, classification, and treatment. Ethics and Civic Responsibility are significant components of this course.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 220. Contemporary Issues in Psychology. 3 Hours.

Issues of current interest in psychology.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 222. Honors Developmental Psychology. 3 Hours.

Advanced seminar in human development from prenatal period to old age. Genetic and environmental determinants of behavior. Language, cognition, personality, social and emotional behavior, intelligence, and physical and sexual development. This course meets Blazer Core Curriculum Humans and their Societies requirement.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 226. Honors Elementary Statistical Methods. 4 Hours.

Advanced seminar in descriptive and inferential statistics with emphasis on behavioral science applications. Measures of central tendency and variability, frequency distributions, probability, t-test, correlation, analysis of variance, and regression. Use of computers in statistical analysis of psychological research data. Quantitative Literacy is a significant component of this course. Concurrent enrollment in PY216L required.

PY 228. Honors Psychopathology. 3 Hours.

Advanced seminar in research-oriented study of different types of maladaptive behavior, including symptoms, development, classification, and treatment.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 236. Introduction to Research with Animal Models. 3 Hours.

This hands-on three-credit lab course is designed to instruct students on basic research methodology, animal handling techniques and compound administration. This course will allow students to gain firsthand experience with rodents (rats, mice) while learning the basics of injection, blood collection, breeding and animal care requirements. Each student will complete online animal care and use training as set forth by the UAB Institutional Animal Care and Use Committee (IACUC). Upon completion of this course students will have completed all online and Occupational health and Safety (OH&S) requirements in order to enter research labs utilizing animals and be placed onto a research protocol. This course is designed to prepare students to start in a research lab with the knowledge and training to make them successful animal researchers.

PY 240. Psychology of Social Inequality. 3 Hours.

The gap in income between the rich and the poor has been growing steadily larger in the United States for over 30 years. Psychological science has produced some surprising insights about the causes and effects of this contentious trend. Among topics that will be tackled are how poverty affects decision making, wealth changes how people treat others, and racial discrimination affects responses to stress.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 253. Brain, Mind and Behavior. 3 Hours.

How brain functions during dreaming, visual perception, aggression, learning and memory, sex, and language. Left versus right hemisphere specializations, recovery after brain damage, and neurological basis of illnesses such as schizophrenia, autism, and Parkinson's disease. Includes five hours of videos. Quantitative Literacy is a significant component of this course.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 301. Psychology of Trap Music. 3 Hours.

This course provides an extensive study into the Deep South origins of Trap Music and its evolution over time. We will explore how aspects of the built environment and other social determinants of health such as poverty, living conditions, and access to resources influence the music and the culture. As Trap Music grew in popularity, its influence on music in other parts of the country and worldwide were evident. Therefore, the course will also discuss the psychosocial and economic impact of the genre.

PY 302. History and Systems of Psychology. 3 Hours.

Historical origins and development of major approaches to psychology.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 303. Introduction to Cognitive Science. 3 Hours.

Introduction to the exciting new discipline of cognitive science, the interdisciplinary study of mind and intelligence. This course draws on a number of disciplines involved in unraveling the mysteries of the mind and intelligent life.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 305. Medical Psychology. 3 Hours.

Psychological methods applied to health problems. Development of medical problems, psychological/behavioral treatment of medical disorders, prevention of disease, and promotion of health.

Prerequisites: PY 101 [Min Grade: D] or PY 201 [Min Grade: D]

PY 312. Advanced Developmental Psychology. 3 Hours.

Current research and theory in childhood and adolescence with focus on perceptual/cognitive and social/emotional issues. Relationship between spoken language development and learning to read, linguistic development in special populations (e.g., hearing-impaired children), applications of memory research to children's courtroom testimony, impact of preschool experience (e.g., Head Start) on academic achievement, and family and peer influence on cognitive and social development.

Prerequisites: PY 212 [Min Grade: C] or PY 222 [Min Grade: C]

PY 313. Language: Mind, Brain, and Society. 3 Hours.

Language is the greatest achievement of the human mind and brain. This course will provide an introductory survey of this amazing ability. Topics will include: speech perception, word comprehension, semantics, bilingualism, speech production, sentence processing, reading, and the social aspects of language. Throughout, the course will combine cognitive and behavioral perspectives with what is known about the brain systems that support language, and how those systems are impaired in developmental and neurological disorders. The course material will be conveyed through lectures, assigned readings, discussion of current debates, and hands-on "labs" in which students will collect data and write lab reports describing their results.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 315. Methods in Psychological Research. 4 Hours.

This course provides an overview of scientific methods used to investigate psychological phenomena, including correlational methods, quasi-experimental methods, and experimental methods. It considers issues related to problem definition, hypothesis formation, measurement, causal inference, validity, and reliability and includes a strong emphasis on writing, quantitative analysis and questions of ethics and civic responsibility. Writing, Quantitative Literacy and Ethics and Civic Responsibility are significant components of this course.

Prerequisites: PY 215 [Min Grade: C] and PY 216 [Min Grade: C] or (PY 214 [Min Grade: C] and PY 217 [Min Grade: C] and PY 215 [Min Grade: C])

PY 316. Research Methods in Psychology. 3 Hours.

Overview of specific research methods such as correlational, quasi-experimental, and experimental methods. Students will design and conduct research. As such it includes a strong emphasis on quantitative analysis and questions of ethics and civic responsibility. This course also provides practical knowledge of the scientific methodology such as problem definition, hypothesis formation, measurement, causal inference, validity, and reliability. Writing, Quantitative Literacy and Ethics and Civic Responsibility are significant components of this course.

Prerequisites: PY 215 [Min Grade: C] and PY 216 [Min Grade: C] or (PY 214 [Min Grade: C] and PY 215 [Min Grade: C] and PY 217 [Min Grade: C])

PY 319. Psychopathology and Culture. 3 Hours.

Cultural differences with respect to types of behavior viewed as abnormal and how such behaviors are classified and treated.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 320. Contemporary Issues in Psychology. 3 Hours.

Issues of current interest in psychology.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 322. Applied Behavior Analysis. 3 Hours.

This course introduces students to the science and principles of applied behavior analysis (ABA) by providing students with an overview of behavioral principles and the behavior change procedures derived from these principles.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 325. Clinical Child Psychology. 3 Hours.

Diagnosis, prevention and treatment of psychological problems in children and adolescents. Interview techniques, behavioral and cognitive interventions, and community prevention programs. Developmental considerations emphasized.

Prerequisites: PY 218 [Min Grade: C] or PY 228 [Min Grade: C]

PY 326. Industrial/Organizational Psychology. 3 Hours.

Psychological methods applied to people at work. Selection, placement, performance appraisal, training, attitude measurement, work motivation, leadership, industrial safety, and human performance.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 330. Sport Psychology. 3 Hours.

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

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 340. Behavioral MCAT Preparation. 3 Hours.

The course is directly linked to the foundational concepts in psychology, sociology, and biology covered by the MCAT. The foundational concepts will integrate with the scientific inquiry and reasoning skills necessary to critically understand the ways psychological, social, and biological factors influence perceptions and behavior; how biobehavioral elements relate to behavioral change and health; and how cultural and social differences influence well-being and health. This course will help students prepare for the Psychological, Social, and Biological Foundations of Behavior section of the Medical College Admission Test (MCAT).

Prerequisites: (PY 101 [Min Grade: C] or PY 201 [Min Grade: C])

PY 350. Personality and Intellectual Assessment. 3 Hours.

Measurement of personality and other psychological characteristics through psychological tests. Selection, administration, and interpretation of psychological tests.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 353. Behavioral Neuroscience. 3 Hours.

The focus of the course is the neurobiological basis of behavior and emotion, and will cover molecular, cellular, and systems level mechanisms that mediate processes such as learning, motivation, sensation, speech, and emotional behavior. The included lab will utilize the collection and analysis of physiological data to reinforce core course concepts.

Prerequisites: PY 253 [Min Grade: C]

PY 354. Autism: Brain and Cognition. 3 Hours.

Autism is a disorder that affects every facet of human functioning. Its multidimensional manifestation is enigmatic to researchers as well as to affected families. This course will examine the scientific research that has illuminated the nature of autism, focusing on its cognitive and biological aspects. We will examine different perspectives of thinking and various biological underpinnings of brain function, to converge on the most recent scientific consensus on the biological and psychological characterization of autism. There will be a special focus on structural and functional brain imaging studies of autism.

Prerequisites: PY 253 [Min Grade: C]

PY 355. Cellular & Molecular Neuroscience. 3 Hours.

Introduction to the cellular and molecular biology, biochemistry, biophysics, genetics and function of the mammalian nervous system. This course will emphasize the development, anatomy, cellular and molecular biology and biochemistry of neurons and glial cells, and introduce electrical, biophysical and chemical signaling within and across neurons.

Prerequisites: PY 253 [Min Grade: C] and BY 123 [Min Grade: C] and CH 115 [Min Grade: C]

PY 356. From Systems to Cognitive Neuroscience. 3 Hours.

Introduction to the cellular and molecular biology, biochemistry, biophysics, genetics and function of the mammalian nervous system. This course will emphasize mechanisms of synaptic transmission, sensory systems, neuropharmacology, and synaptic plasticity; and introduce the molecular basis of diseases and disorders of the central and peripheral nervous systems.

Prerequisites: PY 355 [Min Grade: C] or NBL 355 [Min Grade: C]

PY 361. Psychology of Learning. 3 Hours.

Issues of learning in terms of current theoretical positions. Classical conditioning, instrumental conditioning, forgetting, role of motivation, and transfer of training.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 363. Cognitive Psychology. 3 Hours.

Human cognitive functioning. Selective attention, information processing, models of learning, memory, perception, and free and structured thought processes.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 370. Personality. 3 Hours.

Comparison of major theories of personality, including philosophy of human nature; structure, dynamics, and development of personality.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 372. Social Psychology. 3 Hours.

Major theories and research in social psychology. Social perception and attribution, behavior in interpersonal relationships, and group influences on individual behavior.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 375. Philosophy of Mind. 3 Hours.

Mind; its nature, forms, and functions. Consciousness, self-consciousness, action, belief, desire, rationality, personal identity; problems such as mind-body, psychological explanation, and freedom of will. Prerequisite: one previous PHL course or permission of instructor.

PY 376. Psychology and Law. 3 Hours.

Interaction between theories and applications of psychology and practice of civil and criminal law. Insanity, malpractice, competency, civil commitment, violence, jury selection, and expert-witness testimony.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 380. Sensation and Perception. 3 Hours.

Contemporary theory and empirical research in sensory coding of perceptual information. Sensory transduction, physiology and anatomy of sensory systems, and psychophysical measurement techniques. Visual perception, hearing and speech, smell, and taste.

Prerequisites: PY 101 [Min Grade: C] or PY 201 [Min Grade: C]

PY 390. Animal Behavior. 3 Hours.

The foundation of animal behavior as it relates to the study of psychobiology and evolutionary psychology. Reproductive and survival strategies, communication, learning, cognition, orientation navigation/homing, behavioral genetics, and evolution.

Prerequisites: PY 101 [Min Grade: C](Can be taken Concurrently) or PY 201 [Min Grade: C]

PY 396. Teaching Practicum in Psychology. 0-6 Hours.

Teaching experience in psychology courses, supervised by a faculty member. Student must have previously taken the course for which the student will work within. Permission of Director of Undergraduate Studies required. Pass/Fail.

PY 397. Community-Based Practicum in Psychology. 1-6 Hour.

Community work in various supervised settings such as Crisis Center, Department of Human Resources, etc. Permission of Director of Undergraduate Studies required. (Pass/Fail) Ethics and Civic Responsibility are significant components of this course.

PY 398. Research Practicum in Psychology. 0-7 Hours.

Project or research activity supervised by faculty. Cannot be taken Pass/Fail. Permission of Director of Undergraduate Studies required.

PY 399. Psychology Honors Seminar. 1 Hour.

Focus on preparation for graduate/professional school and conducting psychological research, including presentation of research and discussion of relevant issues in statistical analysis, research methods, and ethics. Prerequisites: Admission into the Psychology Honors Program and Elementary Statistical Methods (may be concurrent enrollment).

Prerequisites: PY 216 [Min Grade: C](Can be taken Concurrently)

PY 405. Biofeedback, Meditation, and Self-Regulation. 3 Hours.

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

Prerequisites: PY 215 [Min Grade: C]

PY 410. Psychology of Relationships. 3 Hours.

The goal of this course is for students to gain an understanding of multiple principles related to relationships and families. Students will gain an understanding of theoretical paradigms and major principles related to close human relationships. Students will analyze psychological theories and research related to intimate relationships, including romantic relations and those among family members and friends in diverse cultural and relationship contexts. Topics will include attraction and love, relationship formation and dissolution, relational interaction patterns, relationship satisfaction, and the social context of relationships.

Prerequisites: PY 215 [Min Grade: C]

PY 411. Cognitive Development. 3 Hours.

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

Prerequisites: (PY 212 [Min Grade: C] or PY 222 [Min Grade: C]) and (PY 316 [Min Grade: C] or PY 315 [Min Grade: C])

PY 412. Social Development. 3 Hours.

Contemporary theoretical models and empirical research in social development. Attachment formation in infancy, parent-child and family interactions, peer relationships, moral and pro-social development, aggression, and sex role development.

Prerequisites: PY 212 [Min Grade: C] or PY 222 [Min Grade: C]

PY 415. 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.

Prerequisites: (PY 212 [Min Grade: C] or PY 222 [Min Grade: C])

PY 417. Psychology of Gender and Sexuality. 3 Hours.

The purpose of this course is to provide an overview of research and theory on gender and LGBTQIA+ status in psychology. Themes will include the myths and stereotypes associated with men, women, and sexual minorities in our society, the social and psychological gender differences that have been identified in research, and the evidence and theoretical arguments concerning the origin of these differences. Students will gain an awareness of the hidden and obvious gender and sexuality-based biases in the study of human behavior and an appreciation of the complexity of the research on gender and issues of sexuality. Additionally, students will gain a greater appreciation of the role of intersectionality as it relates to ethnic, gender, and sexual minorities; critically think about and evaluate race, gender, and sexuality in the media; develop intellectual tolerance and exercising respect for others' viewpoints; and develop self-understanding and empowerment with the understanding that one does not need to be constrained by traditional gender roles and stereotypes.

Prerequisites: PY 215 [Min Grade: C]

PY 418. Psychotherapy and Behavior Change. 3 Hours.

Different therapeutic approaches and issues relating to their effectiveness. Principles of behavior modification.

Prerequisites: (PY 218 [Min Grade: C] or PY 228 [Min Grade: C]) and (PY 316 [Min Grade: C] or PY 315 [Min Grade: C])

PY 420. Special Topics in Psychology. 3 Hours.

Issues of current interest in psychology.

Prerequisites: PY 215 [Min Grade: C]

PY 422. Infant Development. 3 Hours.

The goal of the course is to review contemporary theory, research, and methods relevant to understanding infant development. The course focuses on both normative and atypical development because an understanding of one enriches an understanding of the other. Individual differences, sociocultural diversity, and a historical perspective on the study of all these themes will be emphasized throughout. Topics will include: Genetic and environmental influences on development & temperament; Neurodevelopment & Risk, Resilience, & Intervention; Sensory development; Cognitive development; Social cognitive development, joint attention; Language development; Emotion & emotion regulation; Social Interaction; Precursors to attachment.

Prerequisites: PY 212 [Min Grade: C] or PY 222 [Min Grade: C]

PY 423. Advanced Child Psychopathology. 3 Hours.

Current research and theories related to aberrations of normal development processes, including autism, childhood schizophrenia, and other disorders of childhood.

Prerequisites: (PY 218 [Min Grade: C] or PY 228 [Min Grade: C])

PY 424. Psychology of Race and Ethnic Relations. 3 Hours.

This course is intended to construct and advance students' knowledge employed in race and ethnicity as they relate to human behavior in various social contexts. Students will gain knowledge of race and ethnic relations in the United States from a psycho-historical perspective and how those changes have affected our current view of race relations. Topics will include social psychological principles such as forms of racism and discrimination, attitude formation, psychological response to racism, and racial identity development.

Prerequisites: PY 215 [Min Grade: C]

PY 425. Psychology of Aging. 3 Hours.

A comprehensive overview of psychological aspects of aging. Topics will include age-related changes in cognitive function, behavior, sensation/perception, health, and personality, as well as dementia and other forms of psychopathology. (Also offered under Gerontology.).

Prerequisites: (PY 212 [Min Grade: C] or PY 222 [Min Grade: C])

PY 426. Creative Arts Therapies. 3 Hours.

The goals of the course are to provide an introduction to and overview of the educational, ethical and credentialing requirements for each of the creative arts therapies. The course includes lecture, discussion, research, and presentation requirements.

PY 431. The Dynamics of Pain. 3 Hours.

Physiology, pharmacology, and anatomy of acute and chronic pain. How medical treatments relieve pain. Stress-induced analgesia, transcutaneous electrical stimulation, acupuncture, inflammation, and psychological approaches to treatment of pain.

Prerequisites: (PY 253 [Min Grade: C] or NBL 230 [Min Grade: C])

PY 433. Diseases of the Nervous System. 3 Hours.

Molecular mechanisms and treatments for neurological, psychiatric, and injury based disorders and diseases of the nervous system. Topics include neurodevelopmental disorders (including intellectual disability and autism spectrum disorders), neurological disorders (including neurodegenerative and demyelinating disease), neuropsychiatric disorders (including depression disorders and schizophrenia), and injury to the nervous system (including stroke and traumatic brain and spinal cord injury).

Prerequisites: PY 353 [Min Grade: B] or PY 355 [Min Grade: C] or PY 356 [Min Grade: C]

PY 435. Motivation and Emotion. 3 Hours.

The psychobiology of homeostatic human drives thirst, eating, sexual motivation, sleep, aggression, emotions, and reward. Role of genes, central and peripheral nervous system, hormones, and interaction between these and environment. Includes hallmark experiments and abnormal conditions of these motivated behaviors including obesity, eating disorders, sleep/wake disorders, anxiety, depression, psychopathy, sexual deviance, and addiction.

Prerequisites: PY 253 [Min Grade: C] or NBL 230 [Min Grade: C]

PY 436. Statistical Programming. 3 Hours.

This course integrates an introduction to the most commonly-used statistical methods in psychology and neuroscience with an introduction to statistical programming. The statistical programming material includes basic programming concepts, and focuses on specific needs of data management, data visualization, and reproducible data analysis. The statistical methods include descriptive and inferential statistics, organized around the generalized linear modeling framework.

Prerequisites: PY 216 [Min Grade: C] or PY 226 [Min Grade: C]

PY 453. Advanced 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. The associated lab will utilize the collection and analysis of physiological data to reinforce core course concepts.

Prerequisites: PY 353 [Min Grade: D] or PY 355 [Min Grade: D] or PY 363 [Min Grade: D] or NBL 355 [Min Grade: D]

PY 453L. Advanced Behavioral Neuroscience Laboratory. 0 Hours.

Advanced Behavioral Neuroscience Laboratory required with PY 453 lecture. Concurrent enrollment in PY 453 required.

PY 454. Advanced Topics in Behavioral Neuroscience. 3 Hours.

Advanced Topics in Behavioral Neuroscience will cover methods and discoveries in the neuroscience of behavior, such as brain imaging, human and animal learning, perception, neurophysiology, neuropharmacology and psychiatric disorders.

Prerequisites: PY 453 [Min Grade: C]

PY 455. Psychology of Eating Disorders and Obesity. 3 Hours.

The history, epidemiology, genetic, environmental, and behavioral correlates and prevention and treatment strategies of eating disorders and obesity. Includes mechanisms of normal feeding and weight control and general research methods used to understand psychiatric disorders.

Prerequisites: PY 253 [Min Grade: C] and (PY 315 [Min Grade: C] or PY 316 [Min Grade: C]) and (PY 353 [Min Grade: C] or PY 335 [Min Grade: C] or PY 355 [Min Grade: C])

PY 457. Neural Measurement Lab. 3 Hours.

This course is about how to obtain nervous system data. It will include basic and applied research techniques, including data collection, measurement, and analysis methodology. Students will learn basic instrumentation for the measurement of autonomic and central nervous system responses related to psychological, psychophysiological, and emotional tasks.

Prerequisites: PY 253 [Min Grade: B] or PY 353 [Min Grade: C]

PY 460. Advanced Neuroscience: From Molecules to Mind. 3 Hours.

Builds on foundation set in PY 355. Provides in-depth understanding of nervous system functions at molecular, cellular, biophysical, and circuit level. Includes developmental, cognitive, systems and clinical neuroscience.

Prerequisites: PY 355 [Min Grade: C]

PY 463. Cognitive Neuroscience. 3 Hours.

Interdisciplinary study of higher-order cognitive functions in humans. Data from functional brain imaging, neurology, neuroanatomy, and neurophysiology used in study of human perception, language, learning, and memory.

Prerequisites: PY 253 [Min Grade: C] or PY 353 [Min Grade: C]

PY 464. Honors Cognitive Neuroscience. 3 Hours.

Interdisciplinary study of higher-order cognitive functions in humans. Data from functional brain imaging, neurology, neuroanatomy, and neurophysiology used in study of human perception, language, learning, and memory.

Prerequisites: PY 353 [Min Grade: C] or PY 355 [Min Grade: C] or PY 363 [Min Grade: C] or NBL 355 [Min Grade: C]

PY 465. Neural Analysis Lab. 3 Hours.

This course extends the analysis methodology from the PY 457 course and includes an advanced focus on the processes associated with data examination (probability and basic statistics), and how to model data (Simulink and Matlab).

Prerequisites: PY 457 [Min Grade: C]

PY 468. Cognitive Neuroimaging. 3 Hours.

This course will focus on examining the neural bases of higher cognitive and social functions. We will discuss the basics of functional MRI and will study scientific papers in neuroimaging to arrive at neural characterization of cognitive functions, such as: executive functions, emotion, intentionality, language comprehension, and social cognition. This course will provide students a unique opportunity to learn about the potential of neuroimaging in understanding cognition. It will also help students refine their research interests and possibly choose the field of neuroscience to pursue further studies.

Prerequisites: PY 315 [Min Grade: C] or (PY 316 [Min Grade: C] and PY 253 [Min Grade: C])

PY 470. Introduction to Neurobiology. 3 Hours.

Students will be introduced to the fundamental basis of neuronal communication and the neurobiological bases of behavior. They will use laboratory exercises to learn to form hypotheses and to collect and analyze experimental data to test their hypothesis. Topics will include invertebrate and vertebrate neuroanatomy, neurons and glia, resting potentials, action potentials, synaptic transmission, neurotransmitters and receptors, sensory transduction, and sensorimotor integration. This class is taught at the Dauphin Island Sea Lab.

PY 472. 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.

Prerequisites: PY 215 [Min Grade: C]

PY 474. Positive Psychology. 3 Hours.

This course will provide a general overview of current research literature investigating topics such as: subjective and societal wellbeing; positive subjective experience; benefits of meditation practices; positive individual traits; and improving quality of life.

Prerequisites: PY 215 [Min Grade: C]

PY 476. Personnel Psychology. 3 Hours.

This course is designed to provide students with the tools for understanding the underlying theory, research and techniques of personnel psychology. In-depth review of the psychological basis of personnel selection including recruitment techniques, criterion development, performance evaluation, validity generalization, and instruments. Theoretical, practical, and legal issues are covered.

PY 484. Psychology of Driving. 3 Hours.

Overview of relevant theories of driver behavior and associated psychological principles such as attention and cognition. Students will design and conduct research related to human behavior in the driving context. Strong emphasis on quantitative analysis and experimental design. Writing, Quantitative Literacy, and Team-Based learning are significant components of this course.

Prerequisites: PY 316 [Min Grade: C]

PY 488. Pediatric Psychology. 3 Hours.

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

Prerequisites: (PY 212 [Min Grade: C] or PY 222 [Min Grade: C])

PY 490. Psychology Capstone/SL. 3 Hours.

Capstone emphasizes the synthesis of knowledge and research skills expected of the undergraduate Psychology major. Students are guided in conducting research within a specific content area. Use of computers in statistical analysis of psychological research data. Also includes class readings and discussions on ethical issues. Observation or community service in selected social service agencies is an integral part of the course. Ethics and Civic Responsibility, Writing and Quantitative Literacy are significant components of this course. This is a designated service-learning course integrating academic learning, civic learning and meaningful service to the community.

Prerequisites: PY 315 [Min Grade: C] or PY 316 [Min Grade: C]

PY 499. Psychology Honors Thesis. 2 Hours.

The Capstone course represents the culmination of the undergraduate major in Psychology for participants in the Psychology Honors Program. Students complete their honors thesis with guidance from their research mentor and the honors program Director, and defend their thesis in the Psychology Honors Seminar, and also present their research at a conference or in another public venue. Participation in the Honors Program in Psychology and completion of 3 semesters of PY 399 required, one of which may be concurrently enrolled.

Prerequisites: PY 399 [Min Grade: C](Can be taken Concurrently)