PSYCHOLOGY

Chair, Associate Professor Melissa Glenn
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We believe the best way to learn the science of psychology is by engaging our faculty and students in a collaborative search for new knowledge about human cognition, emotion, and behavior. This process begins with an understanding of the discipline’s conceptual foundations, and it requires a firm grounding in methods of research design and statistical analysis. Psychology majors learn how to explain behavior from multiple perspectives; how to ask substantive questions and to use appropriate empirical methodologies to address those questions; how to communicate their findings clearly in written, oral, and visual forms; and how to interact with humans and animals following the ethical standards of the field.

An extensive program of laboratory research provides the means for students and faculty to work together to explore interesting phenomena in cognition, development, emotion, health, motivation, neuroscience, perception, personality, psychopathology, and social psychology. Civic engagement and internship opportunities allow students to apply course content to real-world contexts.

The concentration in neuroscience allows students to explore an interdisciplinary field combining the study of psychology and biology, and the computational psychology major allows students to address questions about human or animal behavior by harnessing the tools of computer science. More information on research in the various laboratories may be found on the department’s website, colby.edu/psychology.

Students who major in psychology will graduate knowing how to ask good questions and how to find and communicate the answers to those questions. These skills are useful in any field of endeavor, especially for graduate study in psychology or other professional programs such as law or medicine and as general preparation for entry into business, educational, nonprofit, or governmental work settings.

Because Psychology 214 and 215 impart skills that are crucial for the required advanced work in collaborative research, students must maintain minimum grades of C in these courses in order to continue in the major. Psychology 214 and 215 should be taken in the sophomore year and no later than the junior year; these courses may not be repeated. Two courses (equivalent to Psychology 111 or the 200-level electives) transferred from other institutions, including those taken while abroad, may be counted toward the major. Psychology and psychology: neuroscience majors may not take any psychology course satisfactory/unsatisfactory. Psychology courses used to fulfill a major in educational studies cannot also count toward a psychology or psychology: neuroscience major.

Requirements for the Major in Psychology

Psychology 111, 214, 215, 420; at least two courses from 223, 241, 251, 253, 254, 259; at least two courses from 232, 233, 234, 236, 242, 244, 272, 275; at least one 300-level seminar with an associated course in collaborative research; at least one other 300-level course.

Requirements for the Major in Psychology: Neuroscience

Psychology 111, 214, 215, 233, 420; at least two courses from 232, 234, 236, 242, 244, 254, 272, 275; at least two courses from 223, 241, 251, 253, 259; at least one course from 352F, 374, 375; at least one 300-level seminar with an associated course in collaborative research. In addition, Biology 163, 164, and 274 (with lab); at least one biology course from 225, 276, 279, 332, 371J, 373, and 374. A student may not double major in biology with a concentration in neuroscience and psychology: neuroscience.

Requirements for the Major in Computational Psychology

Psychology 111, 214, 215; at least three additional 200-level courses; at least one 300-level seminar with an associated course in collaborative research. In addition, Computer Science 151, 152, or 153; 231 and 251 or 252; 341, 363, 365, 343 or 346; one additional 300-level or 400-level course. In addition, either Psychology 416 or 483 and 484 (by invitation), Computer Science 483 and 484 (by invitation), or a 400-level Computer Science course.

Honors in Psychology, Psychology: Neuroscience, or Computational Psychology

Near the end of the junior year, students may be invited by the department to participate in the honors program. Criteria for invitation normally include major GPA, completing at least one seminar and collaborative research paired course by the end of the junior year, overall engagement in research, and compatibility of student and faculty interests. In addition to fulfilling the basic requirements for the psychology major, students must complete the honors research sequence (Psychology 483, 484). Upon vote of the department, the student will be awarded his or her degree with “Honors in Psychology.”

Course Offerings

PS111fs Introduction to Psychology An examination of classical and contemporary topics in psychology, including neuroscience,
learning, memory, cognition, language, intelligence, development, personality, psychopathology, and social psychology. Students will begin developing skills that will enhance understanding of the discipline of psychology, including explaining behavior from multiple theoretical perspectives, conducting research and evaluating the results, applying research to real-world contexts and thinking about implications of research. Four credit hours. S. ARTERBERRY, GLENN, RAAG, ROGERS, SOTO

[PS120B] Memories and Memoirs Memory supports an individual's sense of self and place in the world. To learn how memory underlies the construction of individual and social narratives, we will talk about memory and memory failures and apply this knowledge to assess memoir essays and other forms of writing. Students will a) practice writing for diverse audiences; b) learn about the process of writing through outlining, drafting, and revising; c) refine skills in writing clearly and eloquently; and d) properly represent and integrate the ideas of others. Students will also learn about the science of memory and memory processes related to long-term memory. Four credit hours. W1.

PS120Cf Worlds of Childhood In this writing-intensive course, we will explore childhood across diverse contexts. Through reading memoirs and novels, we will explore the topics of the context of development, the importance of early experience, identity, and reliance. Students will also practice various forms of writing, including reading responses, opinion pieces, persuasive writing, and a research paper. Can count as Psychology 259 toward the psychology majors. Four credit hours. W1. ARTERBERRY

PS214f Research Methods and Statistics in Psychology I Along with Psychology 215, provides students with knowledge of research design and statistical tools for working with data, which will allow them to engage in original empirical research. Topics include descriptive and inferential statistics, literature review, hypothesis formulation, and issues of control and ethics in research. Students practice a variety of statistical tests, work with SPSS, powerful statistical software, and prepare a written proposal for an experiment following the stylistic conventions of the American Psychological Association. Lecture and laboratory. Prerequisite: Psychology 111 and another 200-level psychology course (may be taken concurrently). Four credit hours. Q. GOH

PS215s Research Methods and Statistics in Psychology II Continuation of Psychology 214. Topics include experimental design, analysis of variance (ANOVA), interpretation of complex factorial studies, and oral and written communication of findings following the conventions of the American Psychological Association. Collaborative laboratory activities center on design, data collection, analyses, and oral and written communication of an original empirical research project. Lecture and laboratory. Prerequisite: Psychology 214, a W1 course, and sophomore or junior standing. Four credit hours. W2. COANE

PS223s Social Identities Social identities are fundamental to how people understand themselves and how they relate to others. Examples of social identities include (but are not limited to) gender, social class, race, and religion. In this class, we will examine the psychology behind how social identities are developed, how they shape people's judgments of themselves and others, and what they mean to different people. Students will engage with published research, media (op-eds, videos), and fellow classmates to understand this diverse world. Prerequisite: Psychology 111. Four credit hours. U. GOH

PS232f Cognitive Psychology Study of human cognition: how the cognitive system encodes, processes, and uses information. Emphasis is on the areas of pattern recognition, attention, memory, and language. We will explore these areas by discussing classic and contemporary research and the theories proposed to explain the observed phenomena. We will integrate findings from behavioral studies, neuroscience, and special populations to gain understanding of the basic processes underlying normal cognitive operations that are pervasive in everyday life. Readings and discussion of original papers and written assignments will supplement lectures and texts. Prerequisite: Psychology 111. Four credit hours. W2. COANE

PS233fs Biological Basis of Behavior Broad survey of behavioral neuroscience will include instruction on neural anatomy and function; modulation of these systems by hormones, drugs, and disease; and the neural basis of many behaviors of interest to psychologists, including sex, sleep, learning, and memory. Students will gain a comprehensive working knowledge of the mammalian central nervous system in the context of psychology to use as they learn the historical and modern framework of specific questions by reading and discussing research articles and completing assignments. Assignments will prepare students to write a research proposal on one topic they will learn about and critically analyze in more depth. Prerequisite: Psychology 111. Four credit hours. GLENN, HUFFMAN

[PS236] Drugs, Brain, and Behavior An examination of relationships among drugs, nervous system, conscious experience, and behavior. Historical and legal as well as psychopharmacological aspects of a wide variety of licit and illicit substances will be surveyed, including cocaine, amphetamines, nicotine, caffeine, alcohol, opiates, marijuana, hallucinogens, psychotherapeutic and other prescription medications, and over-the-counter drugs. Includes critical reading and discussion of information from scientific and popular media, related written assignments, and oral presentation. Credit cannot be earned for both Psychology 115 and 236. Prerequisite: Psychology 111. Four credit hours.

PS241fs Health Psychology An examination of the contributions of psychology to identifying factors that relate to health and illness, promoting and maintaining health, and preventing and treating illness. Students will gain knowledge of methodologies for studying health
behavior, the role of psychological, social, and structural factors in health and illness, theories of health behavior, and designing interventions to promote health and manage illness. In addition, students will apply course content to real-life contexts. Prerequisite:

Psychology 111. Four credit hours. BUCCIGROSSI

PS242f Psychoneuroimmunology Study of the influence of psychological state on the communication and coordinated function among cells of the nervous system, the endocrine system, and the immune system. We will review the current molecular and cellular evidence that these systems interact through sharing the same cells, chemical messengers, and receptors. Other topics include the role of conscious thought, emotional states, meditation, depression, stress, and positivity on immune function. Through exams and written assignments, students will also evaluate the influence of the complex coordinated activity of this psycho-neuro-immuno cell system on psychogenic disease and aging via the impact on cellular detoxification, tumor surveillance, epigenetic mechanisms, and human gut microbiota. Prerequisite: Psychology 111. Four credit hours. BUCCIGROSSI

PS244s Cognitive Neuroscience Cognitive neuroscientists attempt to further our understanding of cognition by studying the brain. You will gain an understanding of the methodological toolkit of cognitive neuroscientists, including behavioral techniques, functional magnetic resonance imaging (fMRI), electroencephalography (EEG), studies of patient populations, and computational modeling. You will learn how the field has advanced our understanding of high-level cognitive functions, such as memory, spatial navigation, semantic cognition, and language. In addition to reading the textbook and primary journal articles, you will analyze data and explore simulations of the brain. Prerequisite: Psychology 111. Four credit hours. HUFFMAN

PS245s Industrial and Organizational Psychology Industrial and organizational psychology is psychology applied to the world of work. This course will explore topics related to personnel selection, job performance, and training and development. This course will also look at how to improve employee motivation, job satisfaction, leadership, and organizational effectiveness. Previously offered as Psychology 298 (Spring 2020). Prerequisite: Psychology 111. Four credit hours. BROOKS-SHESLER

PS251f Personality Psychology An individual's personality is that person's characteristic pattern of thinking, feeling, and behaving, together with the psychological mechanisms that underlie this pattern. In this introduction to personality science, students will critically engage with a variety of theories, methodologies, and research findings that influence current thinking about personality. Issues considered include approaches to studying personality: biological, social, and cultural bases of personality; conscious and unconscious personality processes; and influences of personality on behavior and life outcomes. Prerequisite: Psychology 111. Four credit hours. BROOKS-SHESLER

PS253fs Social Psychology Social Psychology is the scientific study of the causes and consequences of people’s thoughts, feelings, and actions regarding themselves and other people. Introduces students to major theoretical perspectives as well as classic and contemporary research in the field. Topics include social cognition and perception, the self, attitudes and persuasion, social influence, prejudice, aggression, prosocial behavior, and interpersonal attraction. Prerequisite: Psychology 111. Four credit hours. SOTO

PS254s Abnormal Psychology An examination of major paradigms, research, and current issues in abnormal psychology. Includes diagnostic classification, etiology, and clinical intervention strategies as applied to the major categories of mental disorder. Special topics such as professional ethics in mental health settings and the criminalization of mental illness are also addressed. Prerequisite: Psychology 111. Four credit hours. DATTILIO

PS259s Lifespan Development A study of human development across the lifespan with emphasis on the general characteristics of development from birth to death. Various theories will be explored to explain developmental processes. Topics include perceptual, cognitive, social, and identity development; the role of families, communities, and culture in development; and death and dying. Students have the option to participate in civic engagement activities in the local community. This applied work helps students explore how to apply the findings of research or tenets of theory to real-world contexts. Students with prior credit for Psychology 120 cannot receive credit for 259. Prerequisite: Psychology 111. Four credit hours. RAAG

PS272f Sensation and Perception A key part of psychology is understanding how we perceive and interact with our world. In this course we will discuss the functions of some of our sensory systems, how they work alone and in concert with each other to provide us with information. Through the course of the class we will review historic as well as our current understanding of the field with demonstrations as well as reading. By the end of the course, students will be able to identify the human sensory machinery and explain the perceptual process in varying situations, explain and evaluate the differing theoretical perspectives in the science of perception, as well as critically think about the science of psychology. Prerequisite: Psychology 111. Four credit hours. ROMERO

[PS332] Seminar in Diversity Science This seminar draws on social psychological theories and methods to examine the science behind our diverse social experiences, particularly when individuals of different social groups (such as gender, race, and nationality) interact with one another. In Spring 2020, we will focus on prejudice and its origins, maintenance, consequences, and interventions. We will examine the perpetuation of prejudice as well as the experience of being the target of prejudice. Students will learn how to critically discuss, defend, and dissect published research, current social events, and their own research data. Prerequisite: Psychology 215 and 223 or 253,
[PS333] Collaborative Research in Diversity Science  Collaborative empirical research projects on topics discussed in Seminar in Diversity Science. Students will collaborate, design, conduct, and present an original research project that contributes to diversity science through social psychological framework. Collaborative and individual performance will be evaluated based on oral and written assignments of completed research project. Prerequisite: Concurrent enrollment in Psychology 332. One credit hour.

PS336f Seminar in Experimental Social Psychology  Trains students to critically examine, write about, and discuss primary empirical sources/contemporary research in social psychology. Topics include self-esteem, attachment, risk-taking behavior, intergroup conflict, motivation, and the establishment and maintenance of meaning. Prerequisite: Psychology 215 and 251 or 253, and concurrent enrollment in 337. Four credit hours. W3. ROGERS

PS337f Collaborative Research in Social Psychology  Collaborative empirical research projects on topics discussed in Psychology 336. Students will design, conduct, and present an original research project that contributes to the knowledge of contemporary issues within social psychology. Collaborative and individual oral and written assignments, following the conventions of the American Psychological Association, will be used to evaluate students' research and communication competencies. Prerequisite: Concurrent enrollment in Psychology 336. One credit hour. ROGERS

PS339s Seminar in Personality Psychology  With its companion, Psychology 340, trains students to be personality psychologists—informed consumers and producers of personality science. Students will critically engage with a variety of personality theories and research through reading, writing, and discussion. Issues considered include how specific habits of thinking, feeling, and behaving cohere into broader personality traits; how personality develops across the life span; and how personality influences behavior and life outcomes. Prerequisite: Psychology 215 and 251, and concurrent enrollment in Psychology 340. Four credit hours. W3. SOTO

PS340s Collaborative Research in Personality Psychology  Each student will become an expert about a specific issue related to personality. Working collaboratively, students will then design, conduct, and present a research project that contributes new scientific knowledge about this issue. Prerequisite: Psychology 215 and 251, and concurrent enrollment in Psychology 339. One credit hour. SOTO

[PS341] Seminar in Memory  Focuses on the processes by which memories are modified or distorted. Students will acquire a basic understanding of how memories are reconstructive in nature and depend on and interact with other cognitive processes. Evaluation of theories and interpretation of data will be achieved through reading and discussing original sources. In-class discussion, as well as presentations and written assignments, will help students develop critical and analytical skills to understand and interpret data. Prerequisite: Psychology 215 and 232, and concurrent enrollment in Psychology 342. Four credit hours. W3.

[PS342] Collaborative Research in Memory  Collaborative empirical research projects on topics discussed in Psychology 341. Students will conduct original empirical work testing the reconstructive nature of memory. Students' competence in research and communication will be assessed, following the guidelines of the American Psychological Association, through written assignments and oral presentations, both collaborative and individual. Prerequisite: Concurrent enrollment in Psychology 341. One credit hour.

[PS343] Seminar in Emotion Theory and Research  Critical examination of various areas of research in emotion, with an emphasis on current issues. Discussion topics may include models of emotion, emotion antecedents and appraisal, emotional response (facial expression, subjective report, physiological arousal), emotion regulation, and dysfunctional emotion in the context of psychopathology. Prerequisite: Psychology 215 and either 253 or 254, and concurrent enrollment in Psychology 344. Four credit hours.

[PS344] Collaborative Research in Emotion  Laboratory involving collaborative empirical research projects on topics discussed in Psychology 343. Students design, conduct, and present original research on emotion. Prerequisite: Concurrent enrollment in Psychology 343. One credit hour.

PS345f Seminar in Human Movement  Examination of human movement research with an emphasis on the role of action for understanding perception, cognition and social interaction. Through reading of empirical journal articles dynamical systems theory and embodiment will be explored as tools to better understand human movement, as opposed to the classical motor control thesis. Discussion topics may include the perception and action cycle, mimicry, imitation, intrapersonal and interpersonal coordination, postural control, locomotion, social action, and affordances. Prerequisite: Psychology 215 and 232 or 272, and concurrent enrollment in 346. Four credit hours. ROMERO

PS346f Collaborative Research in Human Movement  Collaborative empirical research projects on topics discussed in Seminar in Human Movement. Students will collaborate, design, conduct, and present an original research project that contributes to our understanding...
of human movement in individual or social situations using dynamical systems tools. Collaborative and individual performance will be evaluated based on oral and written assignments of completed research project. Prerequisite: Concurrent enrollment in 358. Four credit hours. ROMERO

PS347s Seminar in Cognitive Development Study of children's cognition with a goal of understanding their increasing competency in eyewitness testimony. Focusing on 3- to 5-year-old children, current theories and empirical research are explored. Discussion topics may include memory development, information processing, perception, attention, and/or how the social context influences cognition. Reading and discussion of empirical research articles allow for development of skills for evaluating current empirical research, placing new data within a theoretical context, and explaining cognitive development from several theoretical perspectives. Prerequisite: Psychology 215 and 120, 232, or 259; and concurrent enrollment in 348. Four credit hours. ARTERBERRY

PS348s Collaborative Research in Cognitive Development Collaborative empirical research projects on topics discussed in Psychology 347. Empirical work addressing an original research question on a topic pertaining to 3- to 5-year-old children's cognitive development. Collaborative and individual oral and written assignments, following the conventions of the American Psychological Association, evaluate students' research and communication competencies. Includes volunteering weekly in a local early-childhood program. Prerequisite: Concurrent enrollment in Psychology 347. One credit hour. ARTERBERRY

[PS349] Seminar in Neural Plasticity and Behavior Several topics within the field of behavioral neuroscience will be examined in depth with an emphasis on rat models of cognition, emotion, and motivated behaviors. Current and historical contexts will be examined and discussion topics will focus on key developments in the field. Students will learn about the role of intelligence in how these functions work and how these functions, in turn, support intelligence. Also, we will place these two components by first understanding how they work in isolation and together to support higher cognitive functions. In addition, we will consider the role of intelligence in explaining age-related changes, differences between healthy and disordered aging, and what factors can reduce risks of cognitive decline and dementia. Presentations, discussions, and critical analysis of original papers will support learning goals. Prerequisite: Psychology 350. Four credit hours. W3.

[PS350] Collaborative Research in Neural Plasticity Collaborative empirical research projects on topics discussed in Psychology 349. Empirical work addressing an original research question on a topic pertaining to a feature of brain plasticity and a corresponding behavioral construct will be conducted. Data science techniques to manage and visualize large data sets will be practiced. Collaborative and individual oral and written assignments, following the conventions of the the field, will be used to evaluate students' research and communication competencies. Prerequisite: Concurrent enrollment in Psychology 349. One credit hour.

PS352Bf Cognitive Aging Seminar As the world's population is graying, understanding the aging process is critical for social and policy decisions. Examines how psychological processes change as we age, with an emphasis on the cognitive aspects critical for maintaining independence and health. Key areas include attention, memory, and language processes, with an examination of how changes in these domains influence psychological well-being. Students will develop an understanding of issues related to aging, theoretical approaches to explaining age-related changes, differences between healthy and disordered aging, and what factors can reduce risks of cognitive decline and dementia. Presentations, discussions, and critical analysis of original papers will support learning goals. Prerequisite: Psychology 232. Four credit hours. COANE

[PS352C] Seminar on Mood Disorders and Creativity: The Mad-Genius Debate Are creative people more likely to experience mood disorders? Can extreme mood experiences inform and even enhance creativity? The concept of the "mad genius" has been debated for centuries and remains controversial within modern psychological science. We will explore the nature of creativity and its intersection with mood and mental illness. Learning goals include discussing and critically examining conflicting claims about the effects of mood episodes on creative productivity, conceptually linking psychological science to disciplines of creative expression, and proposing a novel research project regarding mood disorders and creativity. Prerequisite: Psychology 254. Four credit hours.

[PS352D] Seminar on Attention and Memory Human thinking would not be possible without attention and memory. We will explore these two components by first understanding how they work in isolation and together to support higher cognitive functions. In addition, we will consider the role of intelligence in how these functions work and how these functions, in turn, support intelligence. Also, we will place these functions in the larger context of everyday cognition, such as equipment design and usage, emotion management, and cognitive dysfunction, to further understand the roles of attention and memory. Students will read the primary literature, guide discussion, and write a research proposal. Prerequisite: Psychology 232. Four credit hours.

PS352Es Seminar: Developmental Psychology Psychological principles as they relate to developmental psychology. Topics including theoretical perspectives on how development proceeds will be addressed in the first half; specific topics related to development in the second. Topics are selected by students and have included dating violence, bullying, sexuality, domestic violence, links between systems of discrimination (sexism/racism/homophobia/classism), resiliency, parenting, attachment, friendships, mentoring, death, and dying. Students
are expected to participate in applied work to reflect on how to bridge the gap between research/theory and using research/theory in the real world. **Prerequisite:** Psychology 120 or 259.  
**Four credit hours.**  

**PS352Fs**  
**Seminar: Neuroscience of Addiction**  
Explores the neurobiology of substance abuse and addiction. Drawing on research using animal and human models, explores a) the neurological foundations of addiction, b) neurological changes as a function of the long-term use of addictive substances, and c) implications for treatment options to restore healthy function. Students will learn about psychoactive substances, previous efforts to control their use by legislation and other means, and current efforts to regulate illegal drug use. Students will read the primary empirical literature, lead discussion, and engage in assignments designed to synthesize what is known about the subject. **Prerequisite:** Psychology 233.  
**Four credit hours.**  

**PS354f**  
**Seminar in Emerging Adulthood**  
Study of identity change in emerging adults. Current theories and empirical research on identity are explored with an emphasis on developmental processes. Discussion topics may include contexts of change, contextual triggers of change, scaffolding for healthy identity change, and the intersection among identities. Students will determine the more specific focus of identities we study: religious, political, sexual, gender, ethnic/racial, etc. Reading and discussion of empirical research articles allow for development of skills for evaluating current research, placing new data within a theoretical context, and explaining identity development from several theoretical perspectives. **Prerequisite:** Psychology 215, and either 255, 256, or 259, and concurrent enrollment in 355.  
**Four credit hours.**  

**PS355f**  
**Collaborative Research in Emerging Adulthood**  
Collaborative empirical research projects on topics discussed in Psychology 354. Empirical work addressing an original research question on a topic pertaining to emerging adult identity. Collaborative and individual oral and written assignments, following the conventions of the American Psychological Association, in addition to evaluating student research and communication competencies. **Prerequisite:** Concurrent enrollment in Psychology 354.  
**One credit hour.**  

**PS358s**  
**Seminar in Cognitive Neuroscience**  
This seminar will provide you with an in-depth exposure to cognitive neuroscience. We will focus our discussions on spatial navigation, memory, and visual cognition. You will learn about the methods of cognitive neuroscience, including behavioral techniques (computerized tasks and virtual reality), electroencephalography (EEG), and functional magnetic resonance imaging (fMRI). You will learn computer programming skills for experiment creation and data analysis (e.g., machine learning). You will also learn scientific communication skills, such as reading and discussing journal articles, creating figures, and creating scientific talks. **Prerequisite:** Psychology 215 and either 233 or 244, and concurrent enrollment in 359.  
**Four credit hours.**  

**PS359s**  
**Collaborative Research in Cognitive Neuroscience**  
Collaborative empirical research projects on topics discussed in Psychology 358. Students will design, conduct, and present an original research project that contributes to the knowledge in the field of cognitive neuroscience. Collaborative and individual oral and written assignments, following the conventions of the American Psychological Association, will be used to evaluate students research and communication competencies.  
**One credit hour.**  

**PS362s**  
**Advanced Quantitative Analysis of Psychological Data**  
An exploration of methods of analysis from non-linear dynamical systems and complexity theory and their application to large behavioral data sets ("big data"). We will learn about three data analysis techniques, collaboratively use these techniques to answer empirical questions that can be posed of different behavioral big data sets, and communicate our findings in oral, visual, and written forms. This seminar style class will consist of reading, data analysis, writing assignments, as well as oral presentations of the centered around each of the projects. **Prerequisite:** Psychology 111, 214, and 215.  
**Four credit hours.**  

**PS374fs**  
**Seminar: Psychology and Neuroscience**  
Exploration of the vast intersection between the fields of psychology and neuroscience: how psychology has shaped and contributed to the field of neuroscience, and how findings from neuroscience aid psychological research and theories. Topics may include developmental and degenerative neuropathology and the impact of environment, genetics, psychological factors, and sociocultural contexts over them. Students will read, critically evaluate, and discuss empirical and theoretical papers as they gain depth of knowledge on different topics. Students will present their ideas in oral and written form and will work on a collaborative writing project. **Prerequisite:** Psychology 233.  
**Four credit hours.**  

**PS416fs**  
**Senior Empirical Research**  
A senior independent empirical project conducted in one semester that addresses a question about human or animal behavior or mental processes. Students will be expected to carry out all phases of a research investigation, including a literature review, study design, data collection and analyses, and writing a final report. **Prerequisite:** Psychology 215, content area courses relevant to the research topic, and permission of the department.  
**Three or four credit hours.**  

**PS420fs**  
**Senior Integrative Seminar**  
A culminating experience for students majoring in psychology, organized around the department's research colloquio series. Students will critically engage with a variety of current psychological research and will integrate theories, methodologies, and findings across areas of psychology. Specifically, students will attend research presentations by invited guest speakers, read companion papers selected by the speakers, meet in a seminar session to discuss each speaker's presentation, and write a final paper that integrates the theories, methodologies, or research findings of at least two colloquio speakers. **Prerequisite:** Senior standing in
psychology and permission of the instructor. Three credit hours. BROOKS-SHESLER, BUCCIGROSSI

PS483fj  Honors Research I  Under faculty supervision, students prepare a proposal and carry out an independent, empirical project culminating in the preparation of a paper of publishable quality and a formal presentation. A 3.50 major average at the end of the senior year is a condition of successful completion of this program. Application required during junior year. Prerequisite: A 3.50 major average at the end of the junior year and permission of the department. Four credit hours. FACULTY

PS491f, 492s  Independent Study  Individual projects, under faculty supervision, in areas in which the student has demonstrated the interest and competence necessary for independent work. Cannot be counted toward the psychology major or minor. Prerequisite: Permission of the instructor. One to four credit hours. FACULTY