Required Core Courses for all Neuroscience Students:

ACB:6252:0001 Functional Neuroanatomy  4 SH
060:252:001

Instructor: Justin Sipla (Primary Instructor) Stacey DeJong (Team Teacher)
Lecture: 1:00P - 3:30P T B111 ML
   Start and end times: 2:00P - 4:00P F 1-230 BSB
   Start and end times: 1:00P - 2:15P TTh B111 ML
   Start and end times: 10:00A - 12:00P F 1-230 BSB

Description: Functional Neuroanatomy is a course for physical therapy students and graduate students in the basic medical and related sciences, which emphasizes the multidisciplinary study of the human central nervous system. The course consists of lectures and laboratories, with course material interrelated across these forums, giving students multiple approaches for learning the material and giving faculty multiple approaches for teaching. All lectures and labs emphasize integration of basic science concepts with clinical significance and applications. Basic and clinical correlations are further reinforced by a series of supplementary discussions highlighting contemporary research and relevance to physical therapy practice and graduate study.

Course Fees: Fee Per Course: $50.00

Textbooks and Materials: The following textbook and material information is for planning purposes only and could be modified. Final textbook information will be available four weeks before the start of the semester. Please check then to finalize your textbook and material purchases
Recommended: Afifi and Bergman, Functional Neuroanatomy, Text and Atlas, McGraw-Hill, 2nd Edition, 20015 (**Students at the University of Iowa have free access to the electronic copy of this text via the Hardin Library link.)

NSCI:7180:0A01 Neurobiology  4 SH
132:180:A01

Instructor: TBD (Primary Instructor)
Lecture: 7:30P - 9:30P T 70 VAN

Description: Cellular neurobiology (cytoskeleton and transport, membrane physiology, synaptic transmission and plasticity, sensory transduction); systems neurobiology (peripheral and central sensory processing, autonomic and somatic motor systems); cognitive neurobiology (emotion, biological rhythms and sleep, memory, attention, language); developmental neurobiology.

Mid-Term Exams: 6:30P - 8:00P W Arranged Location

NSCI:7180:0AAA Neurobiology (This section is automatically added)  0 SH
132:180:AAA LECTURE

Instructor: TBD (Primary Instructor)
Lecture: 12:30P - 1:45P TTh 101 BBE

Description: Cellular neurobiology (cytoskeleton and transport, membrane physiology, synaptic transmission and plasticity, sensory transduction); systems neurobiology (peripheral and central sensory processing, autonomic and somatic motor systems); cognitive neurobiology (emotion, biological rhythms and sleep, memory, attention, language); developmental neurobiology.
neurobiology (emotion, biological rhythms and sleep, memory, attention, language); developmental neurobiology.

Mid-Term Exams 6:30P - 8:00P W 101 BBE on
Wednesday, February 25, 2015
Wednesday, April 8, 2015

NSCI:6265:0001 Neuroscience Seminar - Fall and Spring 0,1 SH
132:265:001

Instructor None
Lecture Begins: Jan 20, 2015
Ends: May 26, 2015
3:30P - 5:00P T 2189 MERF
Arranged Time Arranged Location

Description: The seminar meets every Tuesday 3:30 - 5:20 p.m. 2189 MERF except the 4th Tuesday of every month which is in 101 BBE. The Neuroscience Seminar Series provides a weekly forum for research presentations by faculty and students of the Program, and by invited guest speakers. The Seminar is attended by all students in the Program, and by faculty and guests from other departments and programs on campus. Class attendance is required by all students registered for the course.


NSCI:7301:0IND Directed Study in Neuroscience ARR
132:301:IND

Instructor Staff
Lecture ARR

Description: If you have not received permission from the instructor to add this section, your enrollment may be administratively dropped.

NSCI:305:0IND Neuroscience Research (Fall, Spring and Summer) ARR
132:305:IND

Instructor Your Advisor

Description: There is a 3-digit number assigned to each thesis advisor, which is the number that is entered after the NSCI:7305:___. Please select the instructor's name from the drop down menu. The instructor's number will be automatically added. Once you have registered for your courses hours, you will need to register for research hours. Your total registered hours must equal 15 for the fall and spring semesters.

POST COMPS: Register for 1 hour of Neuroscience Seminar
NSCI:6265:0001 Neuroscience Seminar - Fall and Spring 0,1 SH
132:265:001

Final Registration
GRAD:6003:0001 Doctoral Final Registration 0 SH
000:003:001

Description: Programming looks for student with Post Comp Exam with status of "Passed" and the session of registration falls between the Eligible Begin and End Sessions.

Restrictions: Post Comp students, with Graduate College approval

Requirements: Doctoral degree candidate in final session of enrollment.
**Elective Courses (Total of 9 SH)**

**BIOL:3343:0A01 Animal Physiology**  
**Discussion**  
**Instructor:** TBD (Primary Instructor), Alan Kay (Course Supervisor)  
**Lecture Time & Location:** 6:30P - 7:20P M 106 BBE  
**Description:** The course covers the fundamental principles of animal physiology, with an emphasis on the experimental and quantitative aspects of the science. Topics covered include membrane transport and cellular energetics, nerve and muscle physiology, intracellular signaling, sensory physiology, osmoregulation, cardiovascular physiology, respiration and neurophysiology. There are two midterm exams (27% each), a final exam (36%) and lecture clicker questions & attendance (10%). There is no lab associated with this course. All lectures are conducted by faculty.

002:124:AAA (BIOL:3343:0AAA) will be automatically added with this section.

**BIOL:3343:0AAA Animal Physiology**  
**Lecture**  
**Instructor:** Alan Kay (Primary Instructor)  
**Lecture Time & Location:** 2:00P - 3:15P TTh 101 BBE  
**Description:** The course covers the fundamental principles of animal physiology, with an emphasis on the experimental and quantitative aspects of the science. Topics covered include membrane transport and cellular energetics, nerve and muscle physiology, intracellular signaling, sensory physiology, osmoregulation, cardiovascular physiology, respiration and neurophysiology. There are two midterm exams (27% each), a final exam (36%) and lecture clicker questions & attendance (10%). There is no lab associated with this course. All lectures are conducted by faculty.

**BIOL:5199:0001 Critical Readings in Biology**  
**Lecture**  
**Instructor:** 35 Instructors Available  
**Lecture Arranged Time Arranged Location**  
**Description:** The participant will be required to present multiple papers both within and outside his or her own field, including highlighting papers in different areas as well as in-depth analysis of one or two original research papers. Presentations will be chalk-talks with concise handouts. PowerPoint or overhead projector use will be discouraged. The grading will be based on how effectively the participants communicate different subjects both within and outside their immediate research areas. Each participant will be required to present multiple times, i.e. several short presentations for highlighting papers and one major presentation for critical analysis of a major research paper. The participant will also be required to submit a final written report based on his or her presentations. However, these will be in the format of abstract, i.e. concise review of the major points of the papers. This course will also serve as good practice for teaching general subjects to a “naïve” or a general audience, e.g. situations faced by TA’s in undergraduate laboratory courses.

If you have not received permission from the instructor to add this section, your enrollment may be administratively dropped.

**HHP:6300:0001 Seminar in Motor Control**  
**Instructor:** Warren Darling (Primary Instructor)  
**Lecture Time & Location:** 8:30A - 9:20A Th 418 FH  
**Description:** Current topics in neural control of movement, biomechanics, and rehabilitation sciences  
**Restricted:** Contact Professor Cole or Darling to override restriction.
Visual Perception and Cognition

Instructor: Cathleen Moore (Primary Instructor)

Lecture Time & Location:
2:00P - 3:15P TTh 2016 PH

Description: This course examines the ability of the human brain to gather and interpret information provided by the senses. The course focuses heavily on the visual system. It is designed not only to provide a broad introduction to visual perception but also to examine a set of core issues in depth. Topics will typically include visual physiology, color vision, form perception, object and face recognition, attention, scene perception, and visual memory. Classes consist of lectures, class discussions, demonstrations, and group projects. Some readings are taken from texts, but most readings are original sources (journal articles and book chapters). Students are assessed through regular quizzes and papers at midterm and semester’s end.

Elementary Psychology

Instructor: TBA (Primary Instructor)

Lecture Time & Location:
4:30P - 5:20 P M E106 SSH

Description: This course surveys psychology as a behavioral science. Topics include sensation and perception, basic learning processes, child development, memory and cognition, biological basis of behavior, individual differences, psychotherapy, abnormal behavior, and social influences on behavior. Course format consists of lectures presented daily. Requirements include assigned readings in the text, class lectures, and participation in discussions. Students also are required to become familiar with methods of investigation in psychology either through participation in research studies and demonstrations or through review of selected research literature. Readings are primarily taken from a text, but additional readings and class materials may be assigned.

The courses in this category are eligible for Courses In Common Options

Mid-term Exams 6:30P - 8:30P W Arranged Location

Elementary Psychology (lecture)

Instructor: Amy Poremba (Primary Instructor)

Lecture Time & Location:
11:30A - 12:20P MW AUD MH

Description: This course surveys psychology as a behavioral science. Topics include sensation and perception, basic learning processes, child development, memory and cognition, biological basis of behavior, individual differences, psychotherapy, abnormal behavior, and social influences on behavior. Course format consists of lectures presented daily. Requirements include assigned readings in the text, class lectures, and participation in discussions. Students also are required to become familiar with methods of investigation in psychology either through participation in research studies and demonstrations or through review of selected research literature. Readings are primarily taken from a text, but additional readings and class materials may be assigned.

The courses in this category are eligible for Courses In Common Options.

Midterm exams for lecture 0AAA & 0BBB will be held from 6:30-8:30pm on:
Wednesday, February 25, 2015
Wednesday, April 8, 2015
Examinations will be held in MH AUD, W290 CB, W10 PBB and C20 PC. Students should check with their instructor for specific location assignments.

**Mid-term Exams** 6:30P - 8:30P W Arranged Location

**PSY:3320:0001  Abnormal Psychology**
- Instructor: Alan Christensen (Primary Instructor)
- Lecture Time & Location: 9:30A - 10:45A TTh 101 BBE
- Description: The purpose of this course is to provide students with a comprehensive overview of abnormal behavior. Topics will include the definition, description, and classification of abnormal behavior, the development of abnormal behavior, and the etiology and treatment of abnormal behavior. Attention will also be given to research methods used to study abnormal behavior. Readings are primarily taken from a text, but additional readings and class materials may be assigned.

**PSY:7150:0001 Current Topics in Psychology** (Subtitle: Embodied Cognition and Development)
- Instructor: Susan Cook (Primary Instructor)
- Lecture Time & Location: 2:00P - 3:15P TTH W18 SSH
- Description:

**PSY:7610:0001 Sem: Cognitive Psychology** (Cognitive Experimental Methods)
- Instructor: Richard Hazeltine (Primary Instructor)
- Lecture Time & Location: 3:30P - 5:20P M W18 SSH
- Description:

**PSY:7210:0001 Sem: Adv Topics in Behav Cog Neuroscience**
- Instructor: Mark Blumberg (Primary Instructor)
- Lecture Time & Location: 3:30P - 6:00P W W10 SSH
- Description: None
- Prerequisites: PSY:5210 (031:241).

**MICR:5218:0001 Microscopy for Biomedical Research**
- Instructor: Katherine Walter (Primary Instructor)
- Lecture Time & Location: 3:00P - 5:00P T 79 EMRB
- Description: Preparation and analysis by light and electron microscopy of biomedical projects.
- Restrictions: Restricted for all students

**PCOL:5137:0001 Neurotransmitters**
- Instructor: Yuriy Usachev (Primary Instructor)
- Lecture Time & Location:
  - Begins: Apr 07, 2015
  - Ends: May 07, 2015
  - 1:30P - 2:50P TTh 2-224 BSB
Description: Mechanisms of neurotransmission focusing on mechanisms of synthesis, regulation of release, mechanisms of action, means of degradation, and CNS pathways for major neurotransmitters; disease states involving various neurotransmitter systems. Offered spring semesters.

PCOL:6208:0001  G Proteins & G Protein-Coupled Receptors  1 SH
071:208:001

Instructor: Instructor: Mario Ascoli (Primary Instructor)
Lecture Time & Location:
   Begins: Feb 24, 2015
   Ends: Apr 02, 2015
   3:00P - 4:20P TTh 2-224 BSB
Description: Structure and function of small molecular weight G proteins; heteromeric G proteins and G protein-coupled receptors. Offered spring semesters.
Prerequisites: 099:243 (BIOC:5243), 156:201 (BISC:5201), and 156:203 (BISC:5203).

PCOL:6025:0001  Topics in Cell Signaling and Cancer  1 SH
071:225:001

Instructor: Dawn Quelle (Primary Instructor)
Lecture Time & Location: 12:30P - 1:20P M 2-224 BSB
Description: Recent advances in cell signaling mechanisms, mechanisms of cancer, cancer biology, and related sciences.

PCOL:6035:0001  Topics in Pain Analgesia  1 SH
071:235:001

Instructor: Donna L. Hammond (Primary Instructor)
Lecture Time & Location: 9:00A - 10:00A W 2117 MERF
Description: Recent advances in pain research, therapy.

MPB:6226:0001  Cell Cycle Control  1 SH
072:226:001

Instructor: Prabhat Goswami (Primary Instructor) Dawn Quelle, (Team Teacher), Aloysius Klingelhutz (Team Teacher)
Lecture Time & Location:
   Begins: Feb 24, 2015
   Ends: Apr 02, 2015
   8:30A - 9:50A TTh 2-224 BSB
Description: Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence.

GEN:6200:0001  Special Topics in Genetics  1 SH
127:200:001

Instructor: John Manak (Primary Instructor) , Ben Darbro (Team Teacher)
Lecture Time & Location:
   4:00P - 5:00PM 2117 MERF
   2:30P - 3:30PF 106 BBE
   5:00P - 6:00PM 1117 MERF
Description: 

NSCI: 6209:0001  Steroid Receptor Signaling  1 SH
132:209:001

Instructor: Barry Kasson (Primary Instructor)
Lecture Begins: Apr 07, 2015
   Ends: May 07, 2015
NSCI:6240:0001  Topics in Cognitive Neuroscience  3 SH
132:242:001

Instructor: Steven Anderson (Primary Instructor)

Lecture Arranged Time Arranged Location

Description: Key topics in the neural basis of human cognition; research literature. In the Spring 2015, the focal topic is neuroethics.

NSCI:5365:0001 Seminar: Neuropsychology & Neuroscience  ARR
132:365:001

Instructor: None

Lecture Arranged Time Arranged Location

Description: Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research.

MCB:6215:0001 Transcription RNA  1 SH
142:215:001

Instructor: Scott Moye-Rowley (Primary Instructor), David Price (Team Teacher)

Lecture Begins: Jan 21, 2015
Ends: Feb 20, 2015
10:30A - 11:25A MWF 1-107 BSB

Description: Principles and techniques for investigating mechanisms of controlling eukaryotic gene expression; basic genome organization, chromatin structure, transcription, RNA processing, translation; cloning methods, use of electronic sequence databases, footprinting, chromatin immunoprecipitation, in vivo and in vitro transcription assays, DNA microarray analysis, information retrieval.

MCB:6217:0001 Epigenetics, Cancer & Mouse Models  1 SH
142:217:001

Instructor: Adam Dupuy (Primary Instructor)

Lecture Begins: Apr 06, 2015
Ends: May 08, 2015
10:30A - 11:20A MWF 1-107 BSB

Description: Epigenetic mechanisms of transcriptional control; regulation of chromatin structure and its relation to disease; fundamental concepts in cancer; mouse models for understanding the molecular basis for human disease; based on research publications.

MCB:6225:0001 Growth Factor Receptor  1 SH
142:225:001

Instructor: John Koland (Primary Instructor)

Lecture Begins: Jan 20, 2015
Ends: Feb 19, 2015
9:00A - 10:20A TTh 1-107 BSB

Description: Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases.
**Instructor:** Todd Scheetz (Primary Instructor)

**Lecture** Begins: Jan 02, 2015  
Ends: Jan 16, 2015  
2:00P - 5:00P MWF 207E HLHS

**Description:** Formal instruction on the use and application of bioinformatics for bench scientists; bioinformatics, resources, genome annotations, sequence analysis, comparative genomics, expression analysis, and systems biology.