ANATOMICAL SCIENCES AND NEUROBIOLOGY (ASNB)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm).

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (http://louisville.edu/bursar/tuitionfee/).

ASNB 502. Fundamentals of Neuroscience 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): PSYC 355 or permission of instructor.
Description: Basics of cellular and systems neuroscience are taught through a combination of lectures and laboratories. Topics include: electrical potentials in the nervous system, synaptic transmission, somatosensory pathways, special senses (vision, hearing, balance, taste, and smell), eye movements, motor systems and higher functions (language, sleep and wakefulness, cognition, emotion and memory).
Note: Credit may not be earned in both ASNB 502 and ASNB 602.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 514. Molecular Neuroscience - CUE 3 Units
Term Typically Offered: Fall Odd Years
Prerequisite(s): ASNB 502, and BIOL 329 or ASNB 514.
Description: The purpose of this course is to provide the student with a basic understanding of the processes and mechanisms of neural development. Specific topics include emergence of the neural primordium, patterning and growth of the nervous system, neuronal determination, axonal navigation and targeting, neuron survival and death, synapse formation, synaptic refinement and the formation of specific connections.
Course Attribute(s): CUE - This course fulfills the Culminating Undergraduate Experience (CUE) requirement for certain degree programs. CUE courses are advanced-level courses intended for majors with at least 90 earned credits/senior-level status.

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ASNB 517. Seminar on Developmental Neurobiology - CUE 3 Units
Term Typically Offered: Spring Even Years
Prerequisite(s): ASNB 502, and BIOL 329 or ASNB 514.
Description: The purpose of this course is to provide the student with a basic understanding of the processes and mechanisms of neural development. Specific topics include emergence of the neural primordium, patterning and growth of the nervous system, neuronal determination, axonal navigation and targeting, neuron survival and death, synapse formation, synaptic refinement and the formation of specific connections.
Course Attribute(s): CUE - This course fulfills the Culminating Undergraduate Experience (CUE) requirement for certain degree programs. CUE courses are advanced-level courses intended for majors with at least 90 earned credits/senior-level status.

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ASNB 530. Origin of Mammalian Sensory Systems and Comparative Neurobiology - CUE 3 Units
Term Typically Offered: Fall Even Years
Prerequisite(s): PSYC 305, or permission of instructor.
Description: This course examines the phylogenetic and developmental history of the mammalian senses with a focus on the integration of anatomy, neurobiology, and fossil evidence. We will study how our understanding of non-human vertebrates (both model and non-model organisms) can provide important insights into the structure and function of the modern mammalian senses and their brain correlates.
Course Attribute(s): CUE - This course fulfills the Culminating Undergraduate Experience (CUE) requirement for certain degree programs. CUE courses are advanced-level courses intended for majors with at least 90 earned credits/senior-level status.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 556. Synaptic Organization of the Central Nervous System - CUE 3 Units
Term Typically Offered: Spring Odd Years
Prerequisite(s): ASNB 502.
Description: The purpose of this course is to provide the student with a basic understanding of synaptic circuits and the techniques used to study them. Each week we will focus on a different brain region or circuit. During the first meeting of each week the instructor will provide an overview of the topic which includes both lecture and reading material. During the second meeting of each week, students will meet with a graduate student teaching assistant to review and discuss the course material presented that week.
Course Attribute(s): CUE - This course fulfills the Culminating Undergraduate Experience (CUE) requirement for certain degree programs. CUE courses are advanced-level courses intended for majors with at least 90 earned credits/senior-level status.

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ASNB 601. Gross Anatomy 6.5 Units
Prerequisite(s): Permission from course director at least two weeks before beginning of course.
Description: Primarily a laboratory course. Major emphasis is upon cadaver dissection, but lectures, group discussions, informal laboratory conferences, demonstrations, X-ray presentations are frequent. Correlation of function with structure is stressed in all areas. See Medical School Freshman Schedule for time. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 602. Fundamentals of Neuroscience 4 Units
Description: Basics of cellular and systems neuroscience are taught through a combination of lectures, laboratories, and independent study. Lectures concurrent with ASNB 502; one added lecture hour each week covers advanced topics through recent article readings and discussion. Topics covered include: electrical potentials in the nervous system, synaptic transmission, somatosensory pathways, special senses (vision, hearing, balance, taste, and smell), eye movements, motor systems, and higher functions (language, sleep and wakefulness, cognition, emotion and memory).
Note: Credit may not be earned for both ASNB 502 and ASNB 602.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 605. Human Embryology 3 Units
Prerequisite(s): Permission from course director at least two weeks before beginning of course.
Description: The 2012 embryology course is trying to emphasize the clinical aspect of embryology and to allow students to better understand the importance of this particular pre-clinical subject in their medical education. The embryology material is divided into 7 modules, organized by anatomical systems. Although embryology course runs over 8 weeks period, as much as possible, we tried to match your embryology material with the gross anatomy and histology. Modules contain: descriptive developmental embryology lectures, clinical lectures.
Note: Cross-listed with IDEP 865.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 606. Anatomy Seminar 1 Unit
Prerequisite(s): ASNB 602 as a pre-requisite or a co-requisite and restricted to Anatomical Sciences an Neurobiology graduate students.
Description: Presentations and discussions of individual research or topics of current anatomical interest throughout the year. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 608. Neural Systems 4 Units
Prerequisite(s): ASNB 607 or consent of course director at least 2 weeks before course begins.
Description: Topics covered include: electrical potentials in the nervous system, synaptic transmission, somatosensory pathways, special senses (vision, hearing, balance, taste, and smell), motor systems, higher functions (language, sleep and wakefulness, learning and memory). Emphasis is placed on clinical relevance. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 610. Neuroscience Methods 1-2 Units
Grading Basis: Pass/Fail
Prerequisite(s): ASNB 502 or ASNB 602, or consent of the Course Director.
Description: The primary goal of the Methods course is to provide graduate students with the framework to become familiar with key tools and techniques used in neuroscience research. One method will be learned per credit hour in a laboratory of the students choosing. By the end of the semester, each student will generate a written step-by-step protocol of the technique learned along with a two page description (double-spaced) of the method and its use.
Note: Cross-listed with BIOC 610, MBIO 610, PHTX 610, and PHXB 610.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 614. Molecular Neuroscience 4 Units
Prerequisite(s): Consent of instructor.
Description: Structure and function of the nervous system from a molecular perspective. Includes description of membrane proteins, channels and receptors in neurons and glia. Discussion of the role of such molecular structures in the nervous system. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 616. Special Projects in Anatomy 1-15 Units
Prerequisite(s): Permission from instructor at least two weeks before beginning of course.
Description: This course, to be arranged to fit individual needs, is intended primarily to accommodate students with special backgrounds in anatomy; it may also be offered for others who have special needs for other advanced training. May be offered each quarter. Schedule to be arranged.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 617. Seminar on Developmental Neurobiology 3 Units
Prerequisite(s): Consent of instructor.
Description: Covers neural development from neurulation through development of integrated systems. Emphasis will be on the cellular level. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
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**Prerequisite(s):**
- Consent of instructor.
- Enrollment in the School of Dentistry, Oral Biology major or related field or consent of course director.
- Consent of course director at least 2 weeks before course begins.
- Permission of the instructor.

**Grading Basis:**
- Pass/Fail
- Pass/Fail
- Pass/Fail
- Pass/Fail
- Pass/Fail
ASNB 909. Independent Study or Research 1-16 Units

Prerequisite(s): Permission of the instructor.

Description: This course is designed to provide an in-depth study of anatomy working with a faculty member in the field of the students’ interest. Goals: The student will develop with the supervising faculty member’s approval objectives and a plan of study which will meet the academic needs.

Note: Method of Evaluation to be determined by the supervising faculty member.

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