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 4 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 for both ASNB 502 and ASNB 602.

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ASNB 602. Fundamentals of Neuroscience 4 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, 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.

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ASNB 603. Microscopic Anatomy 5 Units
Prerequisite(s): Permission from course director at least two weeks before beginning of course.
Description: Presented as an integrated study of cells, basic tissues, and organ system. The classical light microscopic approaches are supplemented by information derived from electron microscopy.
Note: Cross-listed with ASNB 803.

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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.

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ASNB 606. Anatomy Seminar 1 Unit
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 607. Neuroanatomy 3 Units
Prerequisite(s): Consent of course director at least 2 weeks before course begins.
Description: Anatomy of the nervous system (brain and spinal cord) is taught through a combination of self study, lectures and laboratories.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASNB 608</td>
<td>Neural Systems</td>
<td>4</td>
<td>Consent of course director at least 2 weeks before course begins.</td>
<td>Provides an introduction to the anatomical sciences and neurobiology with a focus on the nervous system.</td>
</tr>
<tr>
<td>ASNB 610</td>
<td>Neuroscience Methods</td>
<td>1-2</td>
<td>Consent of the Course Director.</td>
<td>Focuses on electrophysiological concepts and methods to research activities, preparing students for subsequent studies in the field.</td>
</tr>
<tr>
<td>ASNB 611</td>
<td>Methods in Neurobiology</td>
<td>3</td>
<td>Consent of instructor.</td>
<td>Introduces students to the methods used to study the nervous system through didactic sessions and hands-on experiences.</td>
</tr>
<tr>
<td>ASNB 612</td>
<td>Cellular Electrophysiology</td>
<td>3</td>
<td>Consent of instructor.</td>
<td>Teaching students about cellular electrophysiology and its applications in the field.</td>
</tr>
<tr>
<td>ASNB 614</td>
<td>Molecular Neuroscience</td>
<td>4</td>
<td>Consent of instructor.</td>
<td>Provides students with an understanding of molecular neuroscience.</td>
</tr>
<tr>
<td>ASNB 616</td>
<td>Special Projects in Anatomy</td>
<td>1-15</td>
<td>Permission from instructor at least two weeks before beginning of course.</td>
<td>Specialized projects tailored to individual student needs, covering topics ranging from basic to advanced levels of molecular neuroscience.</td>
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<tr>
<td>ASNB 617</td>
<td>Seminar on Developmental Neurobiology</td>
<td>3</td>
<td>Consent of instructor.</td>
<td>Covers neural development from neurulation through development of integrated systems.</td>
</tr>
<tr>
<td>ASNB 618</td>
<td>Laboratory Rotation</td>
<td>1-3</td>
<td>Consent of instructor.</td>
<td>Introduces students to the laboratory methods and techniques used in neuroscience research.</td>
</tr>
<tr>
<td>ASNB 619</td>
<td>Original Investigations</td>
<td>1-15</td>
<td>Consent of instructor.</td>
<td>Provides students with original research projects, allowing them to explore specific areas of interest in neuroscience.</td>
</tr>
<tr>
<td>ASNB 620</td>
<td>Thesis</td>
<td>1-6</td>
<td>Consents of department required.</td>
<td>Provides a platform for students to develop their research and analytical skills through a comprehensive thesis project.</td>
</tr>
<tr>
<td>ASNB 660</td>
<td>Communication Skills</td>
<td>2</td>
<td>Consent of instructor.</td>
<td>Focuses on developing communication skills relevant to the field of neuroscience.</td>
</tr>
<tr>
<td>ASNB 665</td>
<td>Techniques of Biological Electron Microscopy</td>
<td>3</td>
<td>Consent of department required.</td>
<td>Students learn to use the electron microscope in the context of neuroscience research.</td>
</tr>
</tbody>
</table>
ASNB 666. Synaptic Organization of the Central Nervous System 3 Units  
**Description:** An overview of the synaptic organization of the central nervous system will be covered through lectures and discussion of seminal systems neuroscience journal articles.  
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ASNB 671. General and Oral Histology 5 Units  
**Prerequisite(s):** Oral Biology major or related field.  
**Description:** Provides knowledge of histological structure including ultrastructure of tissues and organs. Oral structures presented in detail.  
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ASNB 672. Survey of Dental Gross and Neuroanatomy 7 Units  
**Prerequisite(s):** Oral Biology major or related field or consent of course director.  
**Description:** This course is designed specifically for the academic needs of students interested in the field of dentistry. The purpose of the course is to present clinically related anatomical principles in a lecture format, followed by a dissection-based laboratory experience. This course will provide the foundational knowledge in Dental Gross Anatomy necessary for the student to attain competency in the practice of dentistry and will identify the linkages between human structure as it relates to normal function in various body systems, with special emphasis on head and neck anatomy.  
**Note:** Cross-listed with BMSC 809.

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ASNB 675. Advanced Head and Neck Anatomy 2 Units  
**Prerequisite(s):** One of the following: 1) Admission to the MS Oral Biology program; 2) a DDS, DMD, MD, or DO degree or its foreign equivalent; 3) consent of the course director.  
**Description:** Advanced topics in the anatomic relations of the head and neck as applicable to the post-graduate health professional, with major emphasis on cadaver dissection.  
For class offerings for a specific term, refer to the Schedule of Classes [here](http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 677. Current Topics in Sensory Systems Research 1 Unit  
**Grading Basis:** Pass/Fail  
**Prerequisite(s):** Consent of course director at least 2 weeks before course begins.  
**Description:** Recent research directed toward understanding the organization and function of the auditory, gustatory, olfactory, somatosensory, and visual systems will be presented and critiqued.  
For class offerings for a specific term, refer to the Schedule of Classes [here](http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

ASNB 678. Craniomaxillofacial Diagnostic Imaging 2-4 Units  
**Prerequisite(s):** Enrollment in master's program in Anatomy, Oral Biology, or Image-related Engineering program; permission from instructor.  
**Description:** To teach principles of safety, quality assurance, selection criteria and interpretation for current diagnostic imaging modalities of interest to the health care provider treating the craniomaxillofacial complex.  
**Note:** Cross-listed with OBIO 612.  
**Note:** Course given only in the Fall Semester.

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