ANATOMY AND REGENERATIVE BIOLOGY (ANAT)

Explanation of Course Numbers

- Courses in the 1000s are primarily introductory undergraduate courses.
- Those in the 2000s to 4000s are upper-division undergraduate courses that can also be taken for graduate credit with permission and additional work.
- Those in the 6000s and 8000s are for master’s, doctoral, and professional-level students.
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office.

ANAT 2130. Human Embryology. 3 Credits.
Development of the basic organ systems; molecular control of development, congenital birth defects, and assisted reproductive technologies.

ANAT 2150. Human Microscopic Anatomy. 3 Credits.
Normal histological structure of cells, tissues, and organs. Structural-functional correlates; the relationship between histological structure-function and the etiology of disease states.

ANAT 2160. Human Functional Neuroanatomy. 3 Credits.
The central and peripheral nervous systems; diseases and injuries with impact on the normal structural-functional relationship.

ANAT 2181. Human Gross Anatomy. 3 Credits.
Structure and function of the musculoskeletal system; regional organization, structure, and function of the major organ systems; structural organization of the head and neck. Same as BISC 2581.

ANAT 6130. Clinically Oriented Human Embryology. 3 Credits.

ANAT 6150. Clinically Oriented Human Microscopic Anatomy. 3 Credits.
The normal histological structure of cells, tissues, and organs of the human body with emphasis on clinical relevance; structural/functional correlates at both the light and electron microscopic levels; alterations in normal histology through disease or injury and the etiology of various disease states; integration of histological concepts with clinical correlates. Restricted to students in either the Graduate Certificate in Anatomical and Translational Sciences (GCATS) or Special Master's in Anatomical and Translational Sciences (M-ATS) program. Prerequisites: BISC 1115 and BISC 1125; and BISC 2202.

ANAT 6160. Clinically Oriented Human Functional Neuroanatomy. 3 Credits.
Structure/function relationships of the human central and peripheral nervous systems and clinical correlations of diseases or injuries whose occurrence or expression has an abnormal impact on the normal structure/function relationship. Integration of neuroanatomy concepts with contemporary clinical neuroscience. Demonstrations of human brain material in the anatomy lab. Students must have completed an introductory course in biology for science or non-science majors prior to enrollment. Restricted to students in the graduate certificate in anatomical and translational sciences program.

ANAT 6181. Clinically Oriented Human Gross Anatomy. 3 Credits.
Structural organization of the human body and the relationship of the organization to regional and systems-related functions. Clinical implications and how disease or injury affects normal anatomical structure/function relationships. Clinical cases match the topic of each lecture. Online manual uses content from the department’s NetAnatomy website. Demonstrations in the gross anatomy laboratory. Students must have completed an introductory course in biology for science or non-science majors prior to enrollment. Restricted to students in the graduate certificate in anatomical and translational sciences program.

ANAT 6182. Fundamentals of Regenerative Biology and Systems Physiology. 4 Credits.
Students will attain knowledge about the fundamental processes of how a body develops and maintains itself as a functional organism. In Part I, students are introduced to developmental biology; tissue inductions; patterning during organogenesis; and the formation of major organs and tissue systems. In Part II, students will develop an understanding of how major organs and tissue systems work and integrate; how tissue structure relates to tissue function; how injury leads to dysfunction and its clinical signs; how organ function can be assessed; and how this information can potentially be used for tissue repair and regeneration. Restricted to students in the graduate certificate in anatomical and translational sciences program.