

# MODERN HUMAN ANATOMY (ANAT)

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## ANAT 6111 - Human Gross Anatomy (8 Credits)

The Human Gross Anatomy course examines the form and function of the human body at a macroscopic level. Systems-based and regional anatomy lectures are complemented by full-body cadaver dissection. Medical imaging labs provide the opportunity to learn ultrasound skills. Requirements: Must be a degree-seeking student in MS Modern Human Anatomy program.

Grading Basis: Letter Grade

Typically Offered: Spring.

## ANAT 6205 - Imaging and Modeling (4 Credits)

This course covers major medical and scientific imaging modalities with an emphasis on 3D scientific and medical visualization. Students will also receive instruction in advanced digital image processing and 3D modeling using industry-standard software such as MATLAB and Maya. Prerequisite: Only ANAT degree-seeking students

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

## ANAT 6208 - Foundations in 3D Modeling for Anatomical Sciences (1 Credit)

An introduction to the applications and techniques necessary for 3D scanning, modeling, and printing. This lab-based course will provide students with hands-on experience on acquiring and processing surface scan data along with strategies for printing and finishing objects using fused-deposition modeling and stereo lithography. Pre-requisite: ANAT 6205

ANAT 6205

Grading Basis: Letter Grade

Typically Offered: Fall, Spring, Summer.

## ANAT 6210 - Autodesk Maya for Anatomical Science (2 Credits)

Autodesk Maya for Anatomical Sciences teaches students to create professional animations illustrating concepts inherent in the study of medical science using Autodesk Maya. Pre-requisite: ANAT 6208.

Grading Basis: Letter Grade

Typically Offered: Fall, Summer.

## ANAT 6220 - Unreal Engine for the Anatomical Sciences (2 Credits)

This course builds upon the foundational 3D modeling skills learned in ANAT 6260 and provides students with the practical experience, inspiration, and confidence to incorporate the Unreal Engine into their capstone. Students will deploy an app built with Unreal Engine. Pre-requisite: ANAT 6208 Prerequisite; ANAT-MS student or instructor permission.

Grading Basis: Letter Grade

Typically Offered: Fall, Spring, Summer.

## ANAT 6310 - Neuroanatomy (4 Credits)

Structure & Function in the Human Nervous System. Basic neuroanatomy & neural systems with workshop focus employing facilitated discussions & problem-oriented cases. Laboratory sessions will employ brain specimens, models & image sets. Team-based projects are in-depth exploration of topics with development of collaborative presentations.

Requisite: Restricted to ANAT students only.

Grading Basis: Letter Grade

Typically Offered: Fall.

## ANAT 6321 - Human Histology (4 Credits)

Histology is the study of the tissues. By exploring the human structure, function and organization at the histological level, students will gain important pattern recognition skills to integrate microscopic knowledge with macroscopic gross anatomy and other foundational anatomical sciences. (Will replace ANAT 6320) Prereq: Restricted to ANAT students only.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

## ANAT 6330 - Human Embryology (3 Credits)

This graduate level, introductory human embryology course will emphasize developmental aspects of adult anatomy and congenital malformations. Educational value of three-or-four-dimensional models and other ancillary learning resources for human embryology will also be explored. Requisite: Restricted to ANAT students only.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Spring.

## ANAT 6412 - Foundations of Teaching (1 Credit)

This course will provide students with training, practice, and constructive feedback in effective teaching skills in order to be successful in the biomedical professions. Topics include learning objectives, the neurobiology of learning, assessments, and effective communication within and outside the classroom.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall.

## ANAT 6490 - Advanced Teaching in Anatomical Sciences (3 Credits)

This course offers a hands-on, supervised experience as an anatomical sciences educator. Readings and discussions will enhance your understanding of educational pedagogy. You will apply these skills as you develop and deliver lecture and lab content in a classroom setting. Instructor consent required.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring.

## ANAT 6600 - Experimental Design and Research Methods (1 Credit)

In this course, students will foster and apply strategies that enable critical evaluation of any published research (including basic, clinical, and educational), as well as develop the skills necessary to conduct and appropriately analyze their own research data.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Summer.

## ANAT 6750 - Special Topics: Modern Human Anatomy (1-6 Credits)

This course is offered in a variety of technical and thematic areas in modern human anatomy. The specific topics vary from year to year. Note: This course includes lectures, discussions and workshops.

Grading Basis: Letter Grade

Repeatable. Max Credits: 6.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

ANAT 6840 - Independent Study (1-6 Credits)

This course enables the student to pursue an investigation in a modern human anatomical field of choice toward completion of a capstone project with relatively minor supervision from faculty advisors.

Grading Basis: Letter Grade

Repeatable. Max Credits: 6.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

ANAT 6910 - Teaching Practicum (1-4 Credits)

Hands-on teaching course in which students apply pedagogical theories to practice in a professional program as a teaching assistant, lecturer or other instructional position. Prereq.: ANAT 6412. Course restricted to ANAT majors.

Grading Basis: Satisfactory/Unsatisfactory

Repeatable. Max Credits: 4.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

ANAT 6911 - Advanced Teaching Practicum (1-4 Credits)

Hands-on teaching course in which students apply pedagogical theories to practice in a professional program as a teaching assistant, lecturer or other instructional position. Pre-requisite: ANAT degree-seeking student; ANAT 6412

Grading Basis: Letter Grade

Repeatable. Max Credits: 4.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

ANAT 6931 - MSMHA Internship (1-6 Credits)

The internship provides hands-on learning opportunities and practical experience for graduate students in institutions related to anatomical sciences, imaging, technology/biotechnology, innovation, and entrepreneurship. Restricted to ANAT students only

Grading Basis: Letter Grade

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

ANAT 6950 - MSMHA Capstone Project (1-12 Credits)

The Capstone project is a scholarly and/or research-based pursuit of knowledge and content development in the area of anatomical sciences, modern imaging and modeling technologies, and educational science completed as part of the MS in Modern Human Anatomy. Prerequisite: Must be ANAT degree-seeking student.

Grading Basis: Letter Grade with IP

Repeatable. Max Credits: 12.

Additional Information: Report as Full Time.

Typically Offered: Fall, Spring, Summer.