ANATOMY AND CELL BIOLOGY (ANAT)

ANAT 100  Anatomy of the Human Body  Units: 3.00
This anatomy course is designed to introduce students to the basic structure and functional relationship of the human body. Through a series of weekly learning modules, students will learn about the basic language of Gross Anatomy and Histology in order to understand the working of various body systems. This course is also suitable for individuals who have a general interest in human anatomy.
Requirements: Exclusion ANAT 101/3.0; IDIS 150/6.0 One-Way Exclusion May not be taken with or after: ANAT 215/3.0; ANAT 216/3.0; ANAT 312/3.0; ANAT 315/3.0; ANAT 316/3.0
Offering Faculty: Faculty of Health Sciences

ANAT 101  Introductory Human Anatomy  Units: 3.00
A basic anatomy course with an emphasis on clinical relevance of structure and function of human body systems. RECOMMENDATION 4U Biology.
Requirements: Exclusion ANAT 101/3.0; IDIS 150/6.0 One-Way Exclusion May not be taken with or after: ANAT 215/3.0; ANAT 216/3.0; ANAT 312/3.0; ANAT 315/3.0; ANAT 316/3.0
Offering Faculty: Faculty of Health Sciences

ANAT 215  Principles of Human Morphology I  Units: 3.00
The general principles of human structure and function as appreciated through a survey of the morphological sciences, including: history of anatomy; embryology; neuroanatomy; developmental, microscopic and gross anatomy of the locomotor system.
NOTE Priority will be given to students registered in a LISC Specialization Plan.
Requirements: Prerequisite (BIOL 102 and BIOL 103) or (BIOL 201 and BIOL 202) or permission of the Department of Biomedical Molecular Sciences. Exclusion ANAT 315.
Offering Faculty: Faculty of Health Sciences

ANAT 216  Principles of Human Morphology II  Units: 3.00
The general principles of human structure and function as appreciated through a survey of the development, microscopic and gross anatomy of the body systems: cardiovascular, respiratory, immune/lymphatic, endocrine, digestive and genitourinary.
NOTE Priority will be given to students registered in a LISC Specialization Plan.
Requirements: Prerequisite ANAT 215. Exclusion ANAT 316.
Offering Faculty: Faculty of Health Sciences

ANAT 270  Human Anatomy and Morphology  Units: 3.00
This course is designed to introduce the foundations of human structure and function to students at all levels of post-secondary education. Through a series of learning modules, students will develop an understanding of the architecture of the human body through interactive study using a virtual cadaver. This course will survey the gross and microscopic anatomy of the body organ systems including the skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary and reproductive systems.
NOTE Only offered online. Consult the Bachelor of Health Sciences program office.
NOTE May not be taken for credit towards the Plan requirements of the LISC Specialization or Major Plans.
Learning Hours: 120 (60 Online Activity, 60 Private Study)
Requirements: Prerequisite Level 2 and one of (ANAT 100; BIOL 102; PHGY 170) One-Way Exclusion May not be taken with or after ANAT215; ANAT216; ANAT315; ANAT316.
Offering Faculty: Faculty of Health Sciences

ANAT 309  Functional Histology  Units: 3.00
Introduction to mammalian histology, or microscopic anatomy, a branch of anatomical sciences focusing on structures and functions of tissues and cells at the light and electron microscope level. Structure-function relationships within many tissues and organs at the cell and tissue level will be a focus.
NOTE Priority will be given to students registered in a LISC Specialization Plan or Health Sciences plan.
Learning Hours: 120 (36 Lecture, 24 Laboratory, 60 Private Study)
Requirements: Prerequisite Level 3 or above and (PHGY 170 or BIOL 102 or BIOL 103 or BIOL 202).
Offering Faculty: Faculty of Health Sciences

ANAT 312  Functional Neuroanatomy  Units: 3.00
Study of the structure and function of the nervous system by lectures, hands-on laboratories, brain dissection, and readings. Topics include, but are not limited to, sensory and motor systems, brain imaging, and clinical examples.
Requirements: Prerequisite (ANAT 215 and ANAT 216) or (ANAT 315 and ANAT 316) or (PHGY 215 and PHGY 216).
Offering Faculty: Faculty of Health Sciences
ANAT 315  The Human Musculoskeletal System  Units: 3.00
Gross and functional anatomy of the back, body wall, upper and lower limbs, including blood supply and neural controls.
Requirements: Prerequisite (BIOL 102 and BIOL 103) or (BIOL 201/3.0 and BIOL 202/3.0) or KNPE 153. Exclusion ANAT 215.
Offering Faculty: Faculty of Health Sciences

ANAT 316  The Human Visceral Systems  Units: 3.00
Gross and functional anatomy of the thorax, abdomen and pelvis, head and neck.
Requirements: Prerequisite ([BIOL 102 and BIOL 103] or [BIOL 201/3.0 and BIOL 202/3.0] or KNPE 153) or permission of the Department of Biomedical and Molecular Sciences. Exclusion ANAT 216.
Offering Faculty: Faculty of Health Sciences

ANAT 380  Clinically Relevant Human Anatomy  Units: 3.00
ANAT 380 will explore regional anatomy of the human body focusing on the major organ systems, their components, and the relationships between them. In this course, students will apply anatomical knowledge to collaboratively solve case-based clinical scenarios, and develop a realistic clinical case based on an underlying anatomical issue.
Note: Also offered online.
Learning Hours: 120 (48 Online Activity, 72 Private Study)

ANAT 391  Introduction to Cadaveric Dissection  Units: 3.00
Students work individually and collaboratively to develop macro and microdissection skills using human cadaveric specimens. Students learn how cadaveric dissection for teaching purposes (prosection) influences communication and teaching of anatomy.
Learning Hours: 120 (36 Laboratory, 48 Online Activity, 36 Private Study)

ANAT 409  Selected Topics in Histology  Units: 3.00
A focused histological and cell biological study of three selected mammalian tissues, organs and/or systems.
Requirements: Prerequisite Minimum 4th year (Level 4) standing, registration in a LISC/BHSc Major or SSP, a GPA of 2.5, and one of ([ANAT 215/3.0 and ANAT 216/3.0]; (ANAT 315/3.0 and ANAT 316/3.0); ANAT 309/3.0).
Offering Faculty: Faculty of Health Sciences

ANAT 417  Mammalian Embryonic Development  Units: 3.00
Comprehensive overview of cellular and molecular mechanisms that direct embryogenesis including gastrulation, neurulation, establishment of body axes, differentiation, sex determination, limb development, organogenesis, and teratology. Participation in seminar presentations and group discussions is required.
Learning Hours: 114 (24 Lecture, 12 Seminar, 1 Individual Instruction, 77 Private Study)

ANAT 471  Human Embryology  Units: 3.00
In ANAT 471, students work individually/collaboratively to explore stages of normal human embryonic and fetal development and how changes in underlying mechanisms link to common congenital or developmental abnormalities. Various assessments include quizzes, a journal club, a PBL investigating a developmental abnormality, a midterm and final exam.
Learning Hours: 120 (48 Online Activity, 72 Private Study)

Course Equivalencies:
- ANAT 417, ANAT 471
Offering Faculty: Faculty of Health Sciences
ANAT 499 Research Project in Anatomy and Cell Biology  
Units: 12.00  
An examination of the development and present state of knowledge in selected research areas of Anatomy and Cell Biology. Research project involves experimental design, data collection and analysis, written report, poster presentation and oral presentation. Students will be required to attend seminars and tutorials on topics related to research. Limited enrolment; restricted to fourth year honours, permission of the department required.  
NOTE Acceptance by a supervisor required prior to registration.  
NOTE Students whose research requires the care and/or handling of animals must also complete the Introductory Animal Care Course and if required the appropriate Animal Use workshops through the Office of the University Veterinarian.  
Learning Hours: 480 (288 Laboratory, 24 Group Learning, 24 Individual Instruction, 144 Private Study)  
Requirements: Prerequisite Level 4 and registration in a LISC Specialization Plan and a cumulative GPA of 2.50 or higher and ([ANAT 215 and ANAT 216] or ANAT 309 or [ANAT 315 and ANAT 316]). Exclusion CANC 499; EPID 499; LISC 499; MICR 455; MICR 499; NSCI 499; PATH 499; PHAR 499; PHGY 499; REPD 499.  
Offering Faculty: Faculty of Health Sciences