BIOL C220: HUMAN ANATOMY

Item	Value
Curriculum Committee Approval Date	04/17/2015
Top Code	041000 - Anatomy and Physiology
Units	5 Total Units
Hours	126 Total Hours (Lecture Hours 72; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• Area 5B Life Sciences (CB2)
California General Education Transfer Curriculum (Cal-GETC)	• Cal-GETC 5B Biological Sciences (5B) • Cal-GETC 5C Laboratory Activity (5C)
Intersegmental General Education Transfer Curriculum (IGETC)	• IGETC 5B Biological Sciences (5B) • IGETC 5C Laboratory Activity (5C)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B2 Life Science (B2) • CSU B3 Laboratory Activity (B3)

Course Description

Formerly: BIOL C170. Introduction to the structure and design of the human body. Includes structural components, spatial relationships, and body system interactions. Students participate in the laboratory, which will include dissections. Appropriate for students interested in human anatomy and in pursuing a health field pathway; satisfies requirements for nursing, physician assistant, occupational therapy, physical therapy, pre-pharmacy majors, kinesiology majors, medical, dental, and other health field programs. ADVISORY: BIOL C100 or BIOL C102 and ENGL C1000 and MATH C100. Transfer Credit: CSU; UC: Credit Limitation: Credit may be granted for either BIOL C102 or BIOL C221 or BIOL C220, BIOL C225. C-ID: BIOL 110 B.**C-ID:** BIOL 110 B.

Course Level Student Learning Outcome(s)

1. Analyze anatomic systems, spatial relationships, and system interactions.
2. Follow appropriate laboratory etiquette and laboratory technique (including effective dissection and use of the compound light microscope).

Course Objectives

- 1. Demonstrate understanding of the structural organization of the human body from the microscopic to gross anatomical levels.
- 2. Describe in detail the twelve major systems of the human body.

Lecture Content

CELLULAR STRUCTURE Introduction to the systematic organization of the human body starting with its organelles and cellular components Structure and function of the cellular components HISTOLOGY Major tissue categories and subcategories Structure and function of the major tissue categories EMBRYOLOGY Development of the embryo from zygote to blastula stage Presentation of the three major categories of the embryo INTEGUMENTARY SYSTEM Major organs of the integumentary system Detailed presentation of the skin, its structure and function SKELETAL SYSTEM Microscopic and macroscopic bone anatomy Bones of the axial and appendicular skeleton MUSCULAR SYSTEM Introduction to the basic structure of a muscle and its function Major muscles of the skull, face, chest, back, abdomen, arms, and legs SURFACE ANATOMY Recognition of major structures on the surface of the body; may include muscles, tendons, bones, vessels etc. NERVOUS SYSTEM INCLUDING SPECIAL SENSES Central nervous system (brain and spinal cord), its organization, parts, and functions Peripheral nervous system including the sensory, somatic motor, and autonomic systems Special senses including detailed structure and function of the eye, ear and understanding of taste, touch, and smell ENDOCRINE SYSTEM Major endocrine organs including the hypothalamus, pituitary, pineal, thymus, thyroid, parathyroid, pancreas, adrenal glands, and gonads Basic interaction between these organs CARDIOVASCULAR SYSTEM Detailed examination of the heart's structure and function Blood and its components Major circulatory vessels (arteries and veins) including understanding of flow LYMPHATIC SYSTEM Basic understanding of the parts of the lymphatic system, its structure and function in the immunity of the body RESPIRATORY SYSTEM Components of the conductive respiratory system Components of the respiratory portion of the respiratory system and its function in gas exchange URINARY SYSTEM The structure and function of the kidney, ureters, bladder, and urethra Basic mechanisms of the process of urine formation and urination DIGESTIVE SYSTEM Mechanical Digestion and its anatomical parts Chemical Digestion and absorption and its anatomical parts Elimination of waste products and its parts Examination of structure and function of the digestive system parts REPRODUCTIVE SYSTEM Examination of the male internal and external genitalia Examination of the female internal and external genitalia Basic hormonal interactions in the reproductive system COMPARISON OF NORMAL VERSUS DISEASED, INJURED, OR AGE-RELATED STRUCTURAL CHANGES IN ANY OR ALL OF THE ABOVE ORGAN SYSTEMS Introduction to pathophysiology in the above systems (e.g. diabetes) Introduction to normal aging (e.g., osteoarthritis)

Lab Content

This course includes a laboratory component with greater than 80% hands-on learning supporting the course outcomes. Laboratory content includes but is not limited to Identification of microscopic structures and tissues. Identification of bones and bone features. Identification of skeletal musculature and muscle features. Identification of internal organs of all systems Dissection of organs and/or observation of dissected organs. Dissection of organisms and/or observation of dissected organisms. Identification of structures on models.

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

Lecture Drawings PowerPoint Video presentations Current events in health care as it relates to anatomy Group work and projects including drawings and flow charts Anatomical dissection Microscopic examination Examination of anatomical models both individually and in groups

Reading Assignments

Reading assignments in textbook and/or laboratory manuals or online sources.

Writing Assignments

Essays on anatomical subjects

Out-of-class Assignments

Essays on anatomical subjects Anatomical Coloring Book Drawings and Flowcharts

Demonstration of Critical Thinking

Examinations with objective and written components Lab practical examinations

Required Writing, Problem Solving, Skills Demonstration

Use or understanding the use of the microscope, understanding preparation of slides, dissection or understanding dissection techniques, essays

Eligible Disciplines

Biological sciences: Master's degree in any biological science OR bachelor's degree in any biological science AND master's degree in biochemistry, biophysics, or marine science OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Saladin, Kenneth. Human Anatomy, 5th ed. McGraw-Hill Publisher, 2017 2. Required OPENSTAX. Anatomy and Physiology, ed. Openstax, 2013 Rationale: Class can be zero cost. ISBN 9781938168130 Legacy Textbook Transfer Data: Legacy text

Manuals Resources

1. Wise, Eric. Saladin Laboratory Manual, McGraw Hill , 03-26-2017
2. Amerman, Eric C. Exploring Anatomy in the Laboratory, Morton , 01-01-2016

Other Resources

1. Anatomy Coloring Book, Kapit/Elson 2. Handouts - Course outline - Work sheets 3. Coastline Library 4. Virtual human cadaver dissection software: www.aprevealed.com 5. Dissection material