



El Camino College

COURSE OUTLINE OF RECORD - Official

I. GENERAL COURSE INFORMATION

Subject and Number: Anatomy 32
Descriptive Title: General Human Anatomy

Course Disciplines: Biological Sciences

Division: Natural Sciences

Catalog Description: This in-depth course covers all eleven systems of the human body including related histology and pathology. The systems covered are skeletal, muscular, nervous, integument, respiratory, digestive, reproductive, urinary, endocrine, immune, and lymphatic. Models of the human body and dissection of higher vertebrates are emphasized in laboratory. The course is designed for science, health-related, pre-nursing (Bachelor of Science in nursing), and pre-professional majors.

Conditions of Enrollment: Recommended Preparation

Anatomy 30 or
Biology 10
AND
English 84

Course Length: ☒ Full Term ☐ Other (Specify number of weeks):
Hours Lecture: 2.00 hours per week ☐ TBA
Hours Laboratory: 6.00 hours per week ☐ TBA
Course Units: 4.00

Grading Method: Letter
Credit Status Associate Degree Credit

Transfer CSU: ☒ Effective Date: Prior to 7/1992
Transfer UC: ☒ Effective Date: Prior to 7/1992

General Education:

El Camino College: 1 – Natural Sciences
Term: Other: Approved

CSU GE: B2 - Life Science
Term: Other: Approved
B3 - Laboratory Sciences

Term:

Other: Approved

IGETC:

5B - Biological Science with a Lab

Term: Fall 1991

Other:

5C - Science Laboratory

Term: Fall 1991

Other:

II. OUTCOMES AND OBJECTIVES

A. COURSE STUDENT LEARNING OUTCOMES (The course student learning outcomes are listed below, along with a representative assessment method for each. Student learning outcomes are not subject to review, revision or approval by the College Curriculum Committee)

1. The student will be able to use language appropriate to anatomy and the health sciences.
2. The student will demonstrate the use of instruments for dissection, histology, and to gather data.
3. The student will be able to identify higher vertebrate body structures of all body systems.

The above SLOs were the most recent available SLOs at the time of course review. For the most current SLO statements, visit the El Camino College SLO webpage at <http://www.elcamino.edu/academics/slo/>.

B. Course Student Learning Objectives (The major learning objective for students enrolled in this course are listed below, along with a representative assessment method for each)

1. Demonstrate the proper use of the microscope and identify specimens.
Laboratory reports
2. Identify cellular structures, organelles, and tissue types for all human organ systems.
Objective Exams
3. Apply appropriate terminology such as directional terms and regional terms to various anatomical features.
Multiple Choice
4. Identify the major anatomical structures for the major organ systems of the human body including integumentary, musculoskeletal, nervous, endocrine, digestive, circulatory, respiratory, urinary, and reproductive systems.
Objective Exams
5. Analyze clinical case studies with signs and symptoms to arrive at a differential diagnosis.
Essay exams

III. OUTLINE OF SUBJECT MATTER (Topics are detailed enough to enable a qualified instructor to determine the major areas that should be covered as well as ensure consistency from instructor to instructor and semester to semester.)

Lecture or Lab	Approximate Hours	Topic Number	Major Topic
Lecture	3	I	

			Cellular Component A. Common organelles and their functions in the cell B. Phases of meiosis, mitosis, and gametogenesis
Lab	6	II	Laboratory Exercise A. Models of cells B. Models of mitosis
Lecture	3	III	Embryology, Surface Anatomy, and Phylogeny A. Embryonic germ layers and their derivatives B. Taxonomy and developmental derivatives of the phylum Chordata C. Directional terms and surface anatomy given a case study
Lab	6	IV	Laboratory Exercise A. Models of human torso
Lecture	5	V	Tissues and Integument A. Histological tissues with their characteristics and functions 1. Epithelium 2. Connective Tissue 3. Muscular Tissue 4. Nervous Tissue B. Skin, blood vessel walls, digestive system walls, and respiratory walls C. Integument and its functions D. Light microscope
Lab	8.5	VI	Laboratory Exercise A. Models of the integument B. Use of microscope to see tissue specimens
Lecture	5	VII	Skeletal System A. Bone features and functions B. Joint features and functions C. Endochondrial and intramembranous ossification D. Microscopic bone structures
Lab	17.5	VIII	Laboratory Exercise A. Models of joint B. Models of osteon C. Bones
Lecture	5	IX	Muscular System A. Major skeletal muscles of the human body including the neck, thorax, hip, knee, ankle, shoulder, elbow, and wrist 1. Flexors and extensors 2. Adductors and Abductors B. Muscle action based on origin and insertion of the pectoral, abdominal, upper limb, hip, and lower limb C. Microscopic structure of muscle cells D. Process of muscle contraction
Lab	17.5	X	Laboratory Exercise A. Muscle dissections** B. Models of human muscles C. Cadaver observations when applicable ** Dissection may be performed on a preserved cat or through a virtual program.
Lecture	5	XI	Nervous System and Endocrine System A. Adult derivatives of the nervous system with respective embryonic region of origin B. Function and Structure

			<ol style="list-style-type: none"> 1. Central nervous system 2. Peripheral Nervous system 3. Autonomic Nervous system 4. Enteric Nervous system <p>C. Major peripheral nerve plexi</p> <p>D. Reflex arc</p> <p>F. Classification of neurons in the nervous system</p> <p>F. Role of neurotransmitters</p> <p>G. Mechanisms of signal transduction</p> <p>H. Endocrine glands, hormones produced, and hormonal functions</p>
Lab	17.5	XII	<p>Laboratory Exercise</p> <ol style="list-style-type: none"> A. Sheep brain dissection B. Sheep eye dissection C. Models of human torso D. Models of nervous system
Lecture	5	XIII	<p>Circulatory System</p> <ol style="list-style-type: none"> A. Blood tests (blood differentials) B. Classification of blood cells and their characteristics C. Cardiovascular system <ol style="list-style-type: none"> 1. Heart 2. Arteries 3. Veins 4. Capillaries D. Lymphatic system by structure and function E. Path of blood <ol style="list-style-type: none"> 1. Pulmonary circuit 2. Systemic circuit F. Common pathologies of the cardiovascular system G. Structural differences between blood vessels and lymphatic vessels H. Basic immune response
Lab	17.5	XIV	<p>Laboratory Exercise</p> <ol style="list-style-type: none"> A. Sheep heart dissection B. Models of the cardiovascular system C. Models of lymphatic system D. Cadaver observations when applicable
Lecture	5	XV	<p>Respiratory, Digestive, Urinary, and Reproductive Systems</p> <ol style="list-style-type: none"> A. Respiratory system <ol style="list-style-type: none"> 1. Structures 2. Histology 3. Path of air 4. Pathology B. Digestive system <ol style="list-style-type: none"> 1. Structures 2. Histology 3. Accessory digestive glands 4. Path of food 5. Pathology C. Urinary system <ol style="list-style-type: none"> 1. Structures 2. Functions 3. Nephron D. Reproductive system <ol style="list-style-type: none"> 1. Structures 2. Functions 3. Path of Gamete 4. Fertilization

Lab	17.5	XVI	Laboratory Exercise A. Systemic dissection** B. Preserved kidney dissection C. Models of the internal organs D. Cadaver Observations when applicable ** Dissection may be performed on a preserved cat or through a virtual program.
Total Lecture Hours		36	
Total Laboratory Hours		108	
Total Hours		144	

IV. PRIMARY METHOD OF EVALUATION AND SAMPLE ASSIGNMENTS

A. PRIMARY METHOD OF EVALUATION:

Problem solving demonstrations (computational or non-computational)

B. TYPICAL ASSIGNMENT USING PRIMARY METHOD OF EVALUATION:

The seventh grade of a middle school has just completed its annual eye examination. The examiner determines that there are only two abnormal cases. One child has myopia and the other hypermetropia. Write the answers to the following questions: What is myopia? Why does it occur and how should it be corrected? What is hypermetropia? Why does it occur and how should it be corrected?

C. COLLEGE-LEVEL CRITICAL THINKING ASSIGNMENTS:

- Jeremy who is 14 years old, notices that his face is developing many pimples and blackheads. Explain to him three things:
 - 1) what is the difference between pimples and blackheads,
 - 2) what caused the change in his face, and
 - 3) what are the three types of glands in the integumentary system?
- Jenny's father loved to hold her by the hands and swing her around in great circles. One day, Jenny's joy turned to tears as she screamed that her elbow hurt. When examined, the little girl was seen to hold her elbow semiflexed and her forearm pronated. What is your diagnosis and how did you reach it?

D. OTHER TYPICAL ASSESSMENT AND EVALUATION METHODS:

Other exams

Quizzes

Laboratory reports

Multiple Choice

Completion

Matching Items

True/False

Other (specify):

Problem sets/case studies

Dissection Exercises

Dissection skills and identification of features of dissected specimens

Laboratory Practicum

V. INSTRUCTIONAL METHODS

Laboratory

Lecture

Multimedia presentations

Other (please specify)

References to related websites and use of interactive computer programs

Note: In compliance with Board Policies 1600 and 3410, Title 5 California Code of Regulations, the Rehabilitation Act of 1973, and Sections 504 and 508 of the Americans with Disabilities Act, instruction delivery shall provide access, full inclusion, and effective communication for students with disabilities.

VI. WORK OUTSIDE OF CLASS

Study

Answer questions

Skill practice

Required reading

Problem solving activities

Estimated Independent Study Hours per Week: 4

VII. TEXTS AND MATERIALS

A. UP-TO-DATE REPRESENTATIVE TEXTBOOKS

Tortora and Nielsen. PRINCIPLES OF HUMAN ANATOMY. 13th ed. Wiley, 2014.
Pearson Custom Library. HUMAN ANATOMY LABORATORY MANUAL WITH CAT

B. ALTERNATIVE TEXTBOOKS

C. REQUIRED SUPPLEMENTARY READINGS

D. OTHER REQUIRED MATERIALS

Gloves
Dissection kits
Scantron forms
Lab Coats (highly recommended)

VIII. CONDITIONS OF ENROLLMENT

A. Requisites (Course and Non-Course Prerequisites and Corequisites)

Requisites	Category and Justification
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B. Requisite Skills

Requisite Skills

C. Recommended Preparations (Course and Non-Course)

Recommended Preparation	Category and Justification
Course Recommended Preparation or Anatomy-30	
Course Recommended Preparation AND Biology-10	
Course Recommended Preparation English-84	

D. Recommended Skills

Recommended Skills
Prior knowledge of scientific terms will increase the success rate for this course. BIOL 10 - Define basic chemical terms and describe the molecules that make up living things. ANAT 30 - Use appropriate terminology to describe anatomical and physiological concepts.
Ability to read college level materials will increase the chances of success in this course. ENGL 84 - Identify an implied main idea (thesis), and support with major and minor details, from a longer text or novel.

E. Enrollment Limitations

Enrollment Limitations and Category	Enrollment Limitations Impact
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Course created by Gerry Thompson on 05/01/1957.

BOARD APPROVAL DATE:

LAST BOARD APPROVAL DATE:

Last Reviewed and/or Revised by Abiodun Osanyinpeju on 09/11/2015