

BIOLOGY 103**HUMAN ANATOMY****Fall 09****Professor: Robert Ballantyne****Office: Holt Hall Room 254****Office Hours: Tuesday after lecture starting at 9:30AM & Thursday after lecture starting at 9:30AM or by appointment. {Complete office hours will be announced in class, week 1, Fall 09}****Office Phone: (530) 898-5757****Email: RBallantyne@csuchico.edu****Note: This syllabus is available at the Vista (black board) site for this class.****Human Anatomy is a Natural Science (Area B2) GE Course with the following two goals. Life Forms (Sub-Area B2)**

1. Students must have a laboratory component or similar activity in the life sciences and inquire into the life forms of the universe.
2. Students must demonstrate an introductory understanding of the fundamental concepts of life science as illustrated in plants and animals, e.g. , structure and function, heredity, evolution, and ecology or course must emphasize these concepts in a study of some specific part of the life sciences.

Course Description

This class consists of three hours lecture and three hours of lab per week (4 units). Topics will include a detailed study of cells, tissues, organs and organ systems of the human body.

This class is designed to provide the student with a thorough understanding and appreciation for human structures, basic functions and relationships between structure and function. It's possible that you will love yourself/body more as the understanding of "yourself" becomes more complete.

Because of federal & state decision making (furlough days, other budget muddle) you will need to "self teach" & think months in advance to schedule/perform class responsibilities for success in Anatomy. The Anatomy student will need to exhibit self motivation and be able to plan/schedule/perform class responsibilities with forethought.

Learning Objectives: Knowledge & Understandings

After taking this course, students will be able to:

Recognize the structure, composition, functions of human organ systems (Musculoskeletal, Nervous, Cardiovascular, Respiratory, Digestive, Endocrine, Urogenital).

Define basic technical terms and language associated with human anatomy.

Recognize how the organ systems function and interrelate (at the cellular/molecular level).

Explain how human structure is unique and adaptive.

Describe basic development of the Musculoskeletal, Nervous and Urogenital systems

Understand manifestations of organ system failure.

Learning Objectives: Skills

Use the process of dissection to investigate anatomical structure.

Use the microscope to investigate anatomical or histological structure.

Learn how to study, interpret and care for anatomical specimens.

Learn to interpret anatomical and histological sections and preparations.

Learn procedures that are standard practice in an anatomy laboratory.

Be aware of laboratory safety concern and how to apply safe practices in the laboratory.

Be able to obtain desired information about human structures, functions or pathology using common references.

Prerequisites:

None

Required Texts (Tools required to learn Human Anatomy in this class):

- 1) Human Anatomy by Marieb, Mallatt & Wilhelm 5th edition
- 2) Human Anatomy Laboratory Manual with cat Dissections by Marieb 5th ed.
- 3) Human Anatomy Study Guide (PRINT from Vista ASAP)
- 4) Dissecting kits for dismantling of preserved materials (by week four).

Grading Criteria

Lecture Examinations	3	100 points each	= 300
Final Lecture Exam (cumulative)	1	120 points	= 120
Lecture quizzes	variable	variable points	= 40
Lab Practicals	2	100 points each	= 200
Lab quizzes	variable	variable points	= 75
Lab participation	variable	10 points	= 10
Proposal	1	10 points	= 10
Paper or Oral report	1	30 points	= 30
Total class points			= 785

Grading Scale

706 - 785	= A's
628 - 705	= B's
471 - 627	= C's
393 - 470	= D's
392 - 0	= F

Reading and Study questions

Chapters of the course text which correspond to the lecture topics are noted on the attached schedule.

Read the material from each book before you come to class on the scheduled date! (Always be ahead, never fall behind). Try to do the lecture text (Chapter review questions including short answer/essay questions) and laboratory exercises (lab manual) before you come to class and definitely have them finished by the next meeting (**I will be quizzing you on this material**). To be sure you are "A" in the class you should be able to answer all these questions **from memory!** In the sciences, university students are expected to spend approximately 3 hours outside of class for every hour in class, per week. This amounts to 15 hours outside of class devoted to Human Anatomy and a total of 20 hours per week. Of course this varies from person to person and depends on study discipline and mental abilities. Unannounced written lecture activities will contribute to the class writing requirement.

Lecture Examinations

There are three lecture examinations during the semester and one Final exam. Since we are building the body from the atom to the organism, all exams are essentially cumulative with the emphasis being on recent material. It is imperative that you don't allow yourself to fall behind. The exams questions will be answered on a scantron (I will provide the scantrons for the lecture exams). There may also be essay questions on some exams. Once you have completed an exam and it's been graded I encourage

you to come to my office and see which questions you missed (a great way to learn is to see/understand your ambiguity).

Laboratory Examinations

These are practical exams. The specific format for lab exams will be covered in Lab.

Laboratory Activities including the Lab participation grade, Paper/Proposal/Oral Report

The writing requirement is fulfilled by the lecture quizzes, lab quizzes, paper/proposal (details will be covered in lab and the 4-6 page paper can replace oral report paper-details to be announced). You should have your lab texts on the first day of lab. The lab section of this course will give you a "hands on" exposure to Human Anatomy. There is a 10 point class participation grade for being active by helping with dissections, cleaning and maintaining the lab. The lab texts are excellent. Read them carefully and they will guide you through the lab very smoothly. To enhance learning of lab information, complete the laboratory exercises (Lab manual) before class meets that week (see lab schedule). You will get a separate schedule for lab activities.

Class Participation

In a class such as Human Anatomy, Students and Instructors should help each other out during the learning process. This includes offering a helping hand to anyone who may seek it, being courteous to fellow classmates and sharing of time and materials. Please have consideration for your fellow classmates. There is a 10 point class participation grade for being active in lab by doing dissections, cleaning and maintaining the lab, participate in discussions. Lab will be open for 1 hour between labs during the day & monitored from 7-9PM on Mondays, Tuesdays and Thursdays. On Wednesdays lab will be open and monitored from 5-9PM for learning (**note: On lab exam weeks no open labs are available, exam set up**).

Attendance

Regular attendance at lecture and laboratory meetings is mandatory and crucial to your success in this course. Plan to be here for all class hours.

You must pass the lab portion of the course in order to pass the class.

Extra Credit

Many assignments under the grading criteria have an extra credit component to them.

Homework involves learning some human disorders of each system (I will assign) and will comprise extra credit points on lecture exams. There will also be one extra quiz in lecture (so you can drop one). No other extra credit is provided.

Punctuality

Class begins on the hour, please be on time. Quizzes may be given at the beginning and end of some classes in both lecture and lab.

Make-up Exams

No make-up exams are given. If you miss an exam without a "serious and compelling reason" (CSUC catalog), you receive a score of "0".

Early Exams

No early exams are given. Plan to be here on the scheduled day of the examination.

Withdrawing

It is up to you to drop or withdrawal. University policy regarding dropping/ withdrawal will be followed. **After** the official "last day to drop/withdrawal " (see university guidelines), you cannot drop and/or receive a "W" without a "serious and compelling reason" (CSUC catalog). If you enroll and do not drop/withdrawal you will have earned an "F".

Class Atmosphere

I expect you to behave in a civilized and professional manner, be punctual and be prepared to work. If you disturb others through loudness or carelessness, you will be asked to leave, first, second offense = earned "F". Cell phone interruptions will result in similar disciplinary actions (1st offense = 10-point penalty for lacking courtesy to fellow classmates, second offense = earned F).

ADVICE FROM STUDENTS TAKING THIS CLASS PAST SEMESTERS

Ask questions immediately. ***** Don't waste a second.

Keep up and get the articles for the oral report early in the semester ***** Study hard

Go to all lectures.

Biology and Anatomy involves the study of life, you are alive, excite yourself to learn it!

Pay close attention to the lectures and don't get behind

Keep up with the studying, don't feel too overwhelmed. ***** Pay attention in lectures.

Study the lecture notes.

Think critically about what you are learning. Try to make sense, associate don't just memorize.

Go to all the labs for they also help in understanding the lecture.

Study the lecture notes every day. It will be familiar and who knows he might give a quiz which will raise you grade a lot!

Define bold terms and do the exercises at the end of each chapter.

In the beginning of the semester, you told us that if we had any Anatomy in High School, this course would be easier. That made me not try so hard, and it was hard to get back into the swing of things once I was behind.

Study as you go along. ***** Define "terms" and answer "concepts".

Read, Read, Read, The books are excellent. Go to class and keep up with readings.

Use common sense. ++++ Attend class regularly. Review lecture notes **very** fully!

Study for the lecture exams and don't procrastinate.

Don't put it off until the last minute.

Read material and enjoy!

If you can instill a genuine interest in yourself for Anatomy (your body), you will get a good grade in this class.

Have fun

Lecture Schedule Fall 2009 (Tentative & may change at any moment, results from decisions made by federal & state elected humans)

Date (week of)	LECTURE TOPICS	CHAPTER READINGS (read before class meets)
Aug 25	Introduction, Levels of human organization.	1 (Marieb et. al.)
	Cell structure & Cell reproduction	2 (Marieb et. al.)
Sep 1	Cell reproduction/Tissues	4 (Marieb et. al.)
	Tissues, The skeleton	6 (Marieb et. al.)
Sep 8	No class (result of federal & state decision making)	
	Joint tissues, Muscle tissues	9, 10 (Marieb et. al.)
Sep 15	Joint tissues, Muscle tissues Muscle tissues, Muscle contraction	
Sep 22	<u>EXAM 1 (100 Pts.)</u>	
	Integumentary system	5 (Marieb et. al.)
Sep 29	Integumentary system/ Respiratory system	21 (Marieb et. al.)
	Respiratory system	
Oct 6	Digestive system	22 (Marieb et. al.)
	Digestive system/ Urinary system	23 (Marieb et. al.)
Oct 13	Urinary system/ Reproductive System	24 (Marieb et. al.)
	No class (result of federal & state decision making)	
Oct 20	<u>EXAM 2 (100 Pts.)</u>	
	Cardiovascular, Blood, Immunity	17, 20 (Marieb et. al.)
Oct 27	Cardiovascular, Blood, Immunity	
	Cardiovascular system, Heart	18 (Marieb et. al.)
SCHEDULE (Continued)		
Nov 3	Cardiovascular, Vessels	19 (Marieb et. al.)
	Nervous system, introduction	12 (Marieb et. al.)
Nov 10	Nervous system, Central	13 (Marieb et. al.)

Nervous system, Central

Nov 17 **EXAM 3 (100 Pts)**

Nervous system, Central/ Peripheral

14 (Marieb et. al.)

Nov 23-27 Holidays

Holidays Happy Thanksgiving

Dec 1

Nervous system, Central/ Peripheral

Nervous system, Autonomic/Special senses

15, 16 (Marieb et. al.)

Dec 8

Nervous system, Autonomic/Special senses

25 (Marieb et. al.)

Endocrine system

Final examination = Tuesday, Dec 18th at 10AM PAC144

LECTURES IN ANATOMY

Robert J. Ballantyne III

Introduction to Anatomy

A. Definition of the Disciplines in the study of the human body.

1. Anatomy.
2. Physiology.
3. Biochemistry.

B. Hierarchy of organization.

1. Macromolecules= made of atoms.
2. Organelles.
3. Cells.
4. Tissues.
5. Organs
6. Organ Systems
7. Organism

C. Specific organ systems in the human body.

1. Musculoskeletal
 - a. Skeletal
 - b. Muscular
2. Nervous.
3. Endocrine.
4. Cardiovascular
 - a. Heart
 - b. Blood
 - c. Vessels
 - d. Lymphatic
5. Respiratory.
6. Digestive.
7. Urinary.
8. Reproductive.

- D. Plan of the human body [Most of this (small font terms) will be covered in lab].
1. Anatomical position
 2. General terms:
 - a. Anterior
 - b. Ventral
 - c. Posterior
 - d. Dorsal
 - e. Medial
 - f. Lateral
 - g. Superior
 - h. Inferior
 - i. Rostral
 - j. Cephalic
 - k. Caudal
 - l. Proximal
 - m. Distal
 - n. Superficial
 - o. Deep
 - p. Afferent
 - q. Efferent
 3. Planes of the body.
 - a. Sagittal
 - b. Coronal/Frontal
 - c. Transverse/Cross-sectional
 - d. Oblique
 4. General movements of the Body.
 - a. Flexion
 - b. Extension.
 - c. Abduction.
 - d. Adduction.
 - e. Medial (=internal) rotation
 - f. Lateral (=external) rotation.
 - g. Circumduction.
 4. General movements of the Body (continued).
 - h. Pronation.
 - i. Supination.
 - j. Elevation.
 - k. Depression.
 - l. Protraction.
 - m. Retraction.
 - n. Dorsiflexion.
 - o. Plantarflexion.
 5. General terms relating to parts of the body.
 - a. Head.
 - Cranium.
 - Face
 - Orbit.
 - Auricular
 - Nasal

- Oral
- b. Cervical.
- c. Thorax
 - Chest (Pectoral)
 - Sternal
- d. Shoulder
 - Axilla
- e. Arm (Brachium)
- f. Elbow
 - Cubit
- g. Forearm (Antebrachium)
- h. Wrist.
- i. Hand
 - Palm.
 - Thumb (Pollux)
 - Digits
- j. Abdomen
- k. Pelvis
- l. Gluteal region.
- m. Hip
- n. Thigh
- o. Knee
 - Popliteus
- p. Leg
 - Shin
 - Calf (Sural)
- q. Ankle
- r. Foot
 - Sole (plantar)
 - Hallux
 - Digits
- 6. Body cavities.
 - a. Dorsal Cranial Spinalb. Ventral
 - Thoracic
 - Pleural (x2)
 - Pericardial
 - Abdominopelvic (Peritoneal)
 - c. Concepts of serous membranes.
 - Parietal
 - Visceral
 - Mesenteries