

Spring 2005

Biology 232, Sections 301 (4 cr hrs) – **Anatomy** – An integrated lecture and laboratory approach **Lec: T-Th 4:30 – 5:45 pm**
Lab: Tues 6:00 – 8:40 pm

Instructor: Dr. John D. Spooner (johnsp@usca.edu)
Office: Room 106 (next door to lab)

Student help times – Immediately before or after class/lab.
See me before leaving. I am on campus only these two days.

CATALOG DESCRIPTION: Anatomy. Required of students in nursing and pharmacy. Not available for major credit in biology.
Three lecture and three laboratory hours per week.

Furnished by students

1. Text – VandeGraaff, Human Anatomy
(Lab Manual – Allen, Basic Anatomy)
2. Band-Aids. Occasional minor injuries may occur in lab.
3. Optional but very useful: Lab coat, apron, or old long sleeve shirt – dissection specimens are messy

COURSE CONTENT and COMPETENCY GOALS: By the end of the course the student will be able to identify and/or describe, using proper terminology: 1) anatomical orientation and human body organization, 2) cell structure and function 3) basic histology, 4) structure, and function of all major body systems, 5) origin of the embryo, the primary embryonic germ layers and their tissue derivatives

METHODS OF PRESENTATION: Lectures, small group discussions, laboratory exercises, & appropriate visual aids.

METHODS OF EVALUATION: 1) Lecture progress tests, practical lab tests, 2) homework quizzes, 3) optional individual reports

COMPETENCY LEVELS: Numerical average of progress tests & report. Four quizzes will be averaged and counted as one major grade. (A=90-100, B+=85-89.9, B=80-84.9, C+=75-79.9, C=70-74.9, D+=65-69.9, D=60-64.9). You must pass at least ½ of the tests to pass the course. You must take all progress tests to pass the course. Any more than two absences from lecture or one absence from lab will lower your grade average. Your test grade trend, increasing or decreasing, will adjust your average. Pop tests and homework check quizzes will collectively affect your primary average at the end of the course.

BEHAVIORAL OBJECTIVES – Nothing about human anatomy is particularly hard to learn. However, it has proven to be a difficult course due to the large volume of material. To make this course enjoyable you must be conscientious – here's how:

1. Ask questions – lots of questions! No question is “too dumb” to ask. Interrupt (courteously!) at any time. Keep in mind, however, that there is only one of me; it may take a minute or two to get to your question. Also discuss problems with me.
2. Take notes; make sketches (I'll show you how). **You may be tested on any material discussed at any time.**
3. You are expected to read the accompanying text material in the textbook and lab manual. We will not be able to use the entire text, so it will be important to be present for my synthesis, interpretations, and pages covered.
4. You are expected to do honorable work. Verified dishonest work will earn a **zero (O)** for the test as well as invoke the Code of Student Academic Responsibility, USCA Student Handbook (**you should read it**).
5. Conduct yourself so as to avoid injury. Utility, dissecting, or surgical gloves should be worn when working with preserved specimens. Minor injuries are possible from handling dissecting instruments; you should keep bandaids on hand. Preserving fluid splashed on the face or in eyes should be rinsed thoroughly to prevent stinging.
6. **You must attend classes.** Roll will be checked by the instructor by noting your presence at your seating position. Missing class simply affects performance in this course, because you miss important material.
7. **There are no excused absences from progress tests.** You are expected to show up for tests on time or be locked out. If you should have an unavoidable, **pre**-scheduled conflict with a test, you are expected to take the test ahead of time. If you are sick when you take a test, advise your instructor verbally, and note it on your test paper by your name. If you miss a test you must show proof that you could not physically be present for the test (e.g. receipt for car tow, doctor's receipt of paid visit – **NOT doctor's note**). Be prepared to take the test immediately when you report to the instructor with the written evidence. You may not continue in class without taking the make-up test. You must take all progress tests to pass the course.

NOTE: I do not support a thesis of dropping your random lowest test grade.

If you have a physical, psychological, and/or learning disability that might affect your performance in this class, please contact the Office of Disability Services, 126A B&E, (803) 641-3609 as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation.

SCHEDULE

NOTE: This schedule does not follow the textbook; you must be present for my synthesis, interpretations, and pages covered.

- Jan 11 1) Get acquainted. 2) Assign **Homework:** Carefully study the syllabus, you will be tested on it, particularly behavioral and testing objectives. 3) Introduction to A & P: word stems, body planes, directional terms; body regions, noun, adjectival, singular, and plural endings of anatomical terms (pp 23 – 37). Assign worksheets **homework.**
- Lab:** Discuss worksheet of skeleton; **assign** bone features (p 136); Group work with skeleton, indiv. bones.
- 13 **PROGRESS TEST 1** – on all homework, lecture, and lab material covered. **Lec:** Assign **Homework:** Bone diagrams
- 14 *Last day to change schedules, or to drop without a grade of W being recorded, or to elect/revoke audit option.*
- 18 **Turn in homework.** **Lec & Lab:** Developmental anatomy of bones, details of skull, anatomy of individual bones
- 20 **PROGRESS TEST 2** – on bone diagrams only. **Lec:** Articulations
- 25 **Lec/Lab:** Finish skeleton and articulations. *The dumbest question is the one you don't ask.*
- 27 **PROGRESS TEST 3** – on all lec and lab material on skeleton. Assign **homework:** human muscles & selected tendons, & sheep brains (diagrams).
- Feb 1 **PROGRESS TEST 4** – diagrams of human muscles, tendons, and sheep brain. **Lec:** muscle anatomy, terminology.
Lab: Sheep brains, cat superficial features. Skin the cats, start muscle dissections.
- 3 Assign **homework:** cellular anatomy and functions, basic synapse. **Lec:** Muscle actions, neuron anatomy, general synapse, compare histology of a skeletal muscle and a nerve.
- 8 **Quiz:** On homework. **Lec:** Cont. previous lecture. **Lab:** Cat superficial features & muscles /sheep brain.
- 10 **Lec:** Microanatomy and function of a skeletal muscle fiber, neuromuscular junction, action potential pathway and function
- 15 **Lec:** Finish above lecture. **Lab:** Finish cat and sheep brain.
- 17 **PROGRESS TEST 5** during lecture period – **Lab practical test** on cat superficial features and muscles /sheep brain.
- 22 **PROGRESS TEST 6** – all discussion material on muscles, neurons, neuromuscular junction. **Lec:** Begin tissues.
Lab: Use of the microscope or demonstrations: basic cell anatomy and early embryology (starfish egg), begin tissues.
- 24 **Lec:** Finish tissues. Review tissues overview sheet.
- Mar 1 **PROGRESS TEST 7:** Tissues. **Lec:** Gross anat. of nervous system, reflex arcs, Compare somatic and autonomic systems.
Lab: Cont. above lecture, and Special sense organs
- 3 **PROGRESS TEST 8** – Test on Nervous System
- Mar 4 *Last day to drop a course or withdraw with receiving a WF*
- 7-11 *Spring Break*
- 15 **Lec:** Digestion, respiration, and excretion. **Lab:** Perit. cavity of cat - organs, organ parts, linings, mesenteries, systems, synonymy (kidney, liver, uterus). **Homework:** Body cavity work sheet.
- 17 **Quiz** on homework. **Lec:** Digestion, respiration, and excretion
- 22 **Lec:** Discuss integration of body systems; trace molecule through the body. **Lab:** Thoracic cavities, vis / par pleurae & \ pericardia, mediastinal details, heart anatomy, vessels.
- 24 Discuss and assign **homework** diagrams: heart, arteries, veins
- 29 **Quiz:** on diagrams of heart, arteries, veins **Lec:** Circulation – heart and blood vessels. **Lab:** Cat circulatory system.
- 31 **PROGRESS TEST 9** – Comp. lab practical on cat internal anatomy
- Apr 5 **PROGRESS TEST 10** – Comprehensive test on digestive, respiratory, and excretory systems structure and function
Lec: **Homework:** Trace molecule through the body: ingestion-digestion-absorption-circulation-cell respiration-excretion.
Lab: Microscopic examination of blood; Allantois and umbilical vessels of fetal pig. Practice homework
- 7 **PROGRESS TEST 11** – *ingestion-circulation-excretion problem - must pass to pass course.*
Lec: Fetal circulation special features, origin and fate of allantois
- 12 **Lec/Lab:** Electrical system of heart. Physical and cellular composition of blood.
14. **Lec:** Lymphatic system, its importance in fluid circulation. Phagocytosis and chemical immunity Review sheets
- 19 **PROGRESS TEST 12** – Circ. / lymph. systems. Assign **homework:** Endocrine chart and amniote egg.
Lec/Lab: Endocrine system: paracrines vs hormones, endocrine tissues, their hormones, and hormonal actions.
- 21 **Lec:** Anatomy of male/female reproductive systems, Discuss fertilization, hormonal control of the menstrual cycle. Hormones involved in pregnancy.
- Apr 28, Thurs, 5:00 pm **FINAL TEST 13** – Material since last test, unless lax class performance warrants a comprehensive exam.

Spring 2005

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