

Summer I 2005

Biology 232, Sections 001 (4 cr hrs) – Anatomy – An integrated lecture and laboratory approach MTWTh 9 – 1:00

Instructor: Dr. John D. Spooner (johnsp@usca.edu)

Student help times – Immediately after class/lab daily.

Office: Room 106 (next door to lab)

or email me.

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
2. Lab Manual – Dr. Spooner's in-house work sheets
3. Band-Aids. Occasional minor injuries may occur in lab.
4. 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 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. 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 in the 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. **Note the location of the sinks.**
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.

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SCHEDULE

*Remember: ask questions, lots of questions. There are only 2 “dumb” questions, but no question is **too dumb**.*

May 26 Introduction. **1) Assign homework:** = study carefully the syllabus for course objectives and behavioral objectives & write in answers to handout questions.

Lec: Discuss human taxonomy (p23-27), levels of organization (p28-29), anatomical word endings and body planes (33-34), directional terms (p36), body regions (p37), the skeleton p133, bone features with short definitions only – p136

Lab: Group work with skeleton

30 *Last day to drop without a “W”*

30 **TEST 1** – *All material from May 27.* **Lec/lab:** Anatomy of skeletal system, principle processes, fossae, foramina

31 **TEST 2 – Lab Practical Exam:** Skeleton – bones, processes, fossae, foramina, sutures, rt/lr side, bone nos.

Jun 1 **Lec:** Diagrams and terms: integument, articulations (synovial and intervertebral), sheep brain, human muscles,

\ general neuronal synapse

Lab: Skin the cats. Examine skin, subcutaneous areolar tissue (hypodermal, loose connective tissue) & segmental nerves to skin. Set cats aside to surface dry.

2 **TEST 3:** On June 2 diagrams and terms

Lab: Cat muscles, sheep brain w/ meninges. *One of the dumbest questions is the one you don't ask.*

6 **TEST 4 – Lab Practical Exam:** Cat muscles and sheep brain.

Lec: Micro-anatomy of muscles and muscle fibers. Gross anat. of nervous system, neuron anatomy

7 **Lec:** Synapses, neuromuscular junctions. Reflex arcs, somatic and autonomic nervous system divisions.

8 **TEST 5:** Material since last test. **Lec:** Special senses.

9 *Last day to drop without a “WF” being assigned.*

9 **Lab/lec:** Tissues.

13 **TEST 6 – Special senses and tissues.**

Lab/lec: The peritoneal cavity of the cat: visceral./parietal peritoneum, all organs, mesentery terminology.

14 Complete peritoneal cavity: organ parts, diaphragm details, urinary, and reproductive systems, organ synonymy.

15 **Lab/lec:** Thorax: vis/par pleurae & pericardia, mediastinal details, heart anatomy, blood vessels, heart-lung circulation,

16 **Lab/lec:** oral, nasal, pharyngeal cavities, larynx, esophagus. and trachea. Also reproductive system & urinary system through pelvis to outside; compare to human models. Allantois and circulation in fetal pig

20 **TEST 7 – Lab Practical Exam:** Internal Anatomy of Cat, Fetal pig circulatory adaptations, Sheep heart

Lec: Discuss whole body functions: e.g. digestion, excretion, etc. Anatomy and function of respiratory and digestive systems. **Turn in 5 locations in body at end of class. Homework to turn in: ingestion-circulation-excretion \ problem.**

21 **Turn in homework.**

Lec: Urinary system and excretory functions of the body, the amniote egg and the origin and fate of the allantois

22 **TEST 8** – All discussion material on Digestion, Respiration and Excretion.

Lec: Chart fetal circulation special adaptations, Compare cat and human circulation Electrical conduction system of the heart. Physical and cellular composition of blood. Micro-projection of bloodslide.

23 **Lec:** Lymphatic system, its importance in fluid circulation. Phagocytosis and chemical immunity.

Lec: Endocrine system: paracrines vs hormones, endocrine tissues, their hormones, and hormonal actions.

27 **Lec:** Anatomy of male/female reproductive systems, ovary/testis slides, amniote egg and implantation.

Chart the endocrine control of the menstrual cycle.

28 or 29 **TEST 9** – 8:00 am or 11:00 am Material since last test.