

EEB 240: HUMAN ANATOMY

THE UNIVERSITY OF TENNESSEE – KNOXVILLE
FALL 2013

Instructor: Dr. Benjamin M. Auerbach

Contact information:

Office: 229 South Stadium Hall
Office hours: Walk-in hours: Thursdays, 3:45 – 5:00 P.M.
By appointment (sign up at <http://doodle.com/auerbach/>)
E-mail: auerbach@utk.edu

Time: Tuesdays and Thursdays, 2:10 – 3:25 PM
Location: 210 Alumni Memorial Building

Laboratory: All labs will take place in Hesler Biology, room 606

Lab instructors: Mr. Evin Carter ecarte19@utk.edu
Ms. Sharon Clemmensen sclemmen@utk.edu
Ms. Christina Fojas cfojas@utk.edu
Ms. Jocelyn Minsky-Rowland jminskyr@utk.edu
Ms. Hillary Parsons hparson3@utk.edu
Ms. Kristen Rectenwald krectenw@utk.edu

Lab sections, meeting times, and instructors: (M, Monday; T, Tuesday; W, Wednesday; R, Thursday; F, Friday)

Day	Time Period		
	8:00 – 11:00 (MWF) 8:10 – 10:55 (TR)	11:15 – 2:15 (MWF) 11:10 – 1:55 (TR)	5:00 – 8:00 (MTWR)
MONDAY	Section 7 FOJAS	Section 8 MINSKY-ROWLAND	Section 11 RECTENWALD
TUESDAY	Section 1 FOJAS	Section 2 PARSONS	Section 12 CARTER
WEDNESDAY	Section 3 PARSONS	Section 4 MINSKY-ROWLAND	Section 13 CARTER
THURSDAY	Section 5 PARSONS	Section 9 PARSONS	Section 14 CLEMMENSEN
FRIDAY	Section 6 CLEMMENSEN	Section 10 RECTENWALD	

Course description and objectives: Anatomy is at the core of all medical practice, and is an important component in biomedical research and applications. This course is designed to give you a comprehension of human anatomy for general knowledge (never hurts to know your own body!) and clinical application. We will be exploring the basic layout (or *bauplan*) of the human body, as well as the functions and relationships of the structures of the body. This will be tied to disease (pathology).

Anatomy is taught *regionally* (not by systems) in this course. For example, when you will be learning the anatomy of the thorax, you will study all of the visceral (e.g., heart and lungs), vascular (arteries and veins), nervous (sensory, motor, and special function), lymphatic (thoracic duct), and muscular (e.g., intercostalis, serratus) structures in that region. However, you will be expected to integrate knowledge of one compartment of the body with other regions; nerves originating in the brain, for example, affect structures in the neck, the thorax, and the abdomen.

By the end of the course, you will

- have knowledge of human anatomical structures, their location in the body, and their spatial and functional relationships;
- learn how to integrate this knowledge with some clinical applications;
- develop an appreciation for variation in some anatomical structures among humans.

Course web site: Access this via the UT Blackboard site: **bblearn.utk.edu**. A number of very useful resources will be available on Blackboard. You are strongly advised to access the site often. **All course announcements will be posted to blackboard, including any schedule changes.**

Required texts:

Gilroy, Anne M. 2013. *Anatomy: An Essential Textbook*. New York: Thieme Medical Publishers, Inc. (This is available at the UT Bookstore.)

Agur, Anne M.R. and Dalley, Arthur F. 2012. *Grant's Atlas of Anatomy. Thirteenth edition*. Philadelphia: Lippincott Williams & Wilkins. (This is available at the UT Bookstore.)

You should use the editions of the books as listed. The course in previous years used Moore et al.'s *Essential Clinical Anatomy*. **Do not use this textbook**, as the course has been improved to reflect the change in textbook.

Additional material will be given out in class and made available as PDFs on the Blackboard site. **Terms lists for lab sections and study guides will be made available on Blackboard, which you will need in the lab sessions.**

Please note: Wikipedia is not a good study resource. Use your textbook and links provided on the course web site. Direct all course content questions to Dr. Auerbach.

Course structure: We will meet twice a week for lectures. You are required to attend your lab section during its weekly meeting time. In lecture, we will be covering and clarifying information about general anatomy. The lecture PowerPoint presentations will be made available to you on Blackboard before each lecture. Laboratories will give you the best opportunity to have practical experience with the anatomy by using prosected cadavers, diagrams and models to understand the physical arrangement of the structures that we discuss in lecture.

Attendance: You are expected to attend all lectures and your *assigned* labs. See the Lab Guidelines (posted on Blackboard) for more about lab section change policy. It is to your benefit to attend both lecture and lab. Note that, even though PowerPoint slides will be provided for you on Blackboard, *no lecture notes or outlines will be made available online*. Attendance will be taken using the Top Hat system (see below) for each lecture section (starting on the 29th of August), though no points are assigned for attendance.

Dr. Auerbach permits the recording of lectures using mobile devices (e.g., laptops, smartphones, tablets, etc.) or digital recorders, with the understanding that students will not publish, share or otherwise disseminate these without the explicit, written permission of the professor. This includes not posting to web sites, including Study Blue. Recording is not permitted in the lab sections.

Top Hat: This course uses Top Hat, a web-based interactive classroom system, for taking attendance each day and for five in-class quizzes (see **Evaluation**, below). You will need to register with Top Hat online at <http://www.tophat.com>. Instructions for registering with Top Hat are available on Blackboard. The service costs \$20 for a one-time registration. You will need to bring a laptop, tablet, or smartphone to lecture in order to interact with Top Hat; any device that can connect to the Internet is compatible with this service. If you do not have any of these electronic devices, **please let Dr. Auerbach know on the first day of class or via e-mail**.

You will need the following information to access the course on Top Hat:

Top Hat course name:	Human Anatomy - Fall 2013
Direct URL:	https://app.tophat.com/e/169127
6-digit course code:	169127

Lab safety: All students must wear closed-toe shoes in the laboratory at all times. This means that sandals, flip-flops, or other footwear with exposed foot skin are not permitted in the lab. Students wearing inappropriate footwear may not participate in the lab. Additional safety instructions may be found in the lab guidelines, which are found on Blackboard.

Clinical special lectures: During the semester, there will be two special lectures covering clinical correlations for anatomy content discussed in the course. Dr. Erik Berger, M.D., a Sports Medicine Fellow at the University of Tennessee Medical Center, will deliver these lectures. Attentive attendance of these lectures will reward you with five extra credit points each, for a total of ten extra credit points if you attend both. These are a wonderful opportunity, as they will provide an occasion to apply the anatomy you are learning in class, while also seeing that information used in clinical cases. The lectures will take place on 4 October and 16 October in 210 Alumni Memorial Building (where lecture meets), from 5:00 to 6:00 P.M.

Academic honesty: Simply, don't cheat. Anatomical knowledge is an awesome asset, and it is hoped that you will find the discovery of this information extremely rewarding. Any student caught cheating on an examination will be given a score of zero on that exam, and if that student is caught *during* the exam, she or he will be dismissed from the examination immediately and the exam will not be graded.

Evaluation: There are four lecture exams, three lab practical exams, and five randomly occurring quizzes for the course. The quizzes can occur on any lecture day, will consist of a single question asked using Top Hat (which functions like Clickers, but see above), and are worth five points each (for a total of 25 points). Lecture exams, *except the first one*, are worth 150 points each and consist of matching, fill-in-the-blank, short answer, and multiple-choice questions. Lab practical exams are worth 50 points each, involve timed stations, and are short answer. The first lecture exam is a "mini-examination" on the thorax worth 50 points; this exam will give you an idea of the general format of the examinations and the kinds of questions asked. These are the exams:

Thorax mini-lecture exam	50 pts.
Thorax, abdomen and pelvis & perineum (TAPP) lab practical	50 pts.
Thorax, abdomen and pelvis & perineum (TAPP) lecture exam	150 pts.
Back and limbs lab practical	50 pts.
Back and limbs lecture exam	150 pts.
Head and neck lab practical	50 pts.
Head and neck lecture exam	150 pts.
Lecture in-class quizzes (5 points each)	25 pts.

Previous years' exams are posted with answer keys on the Blackboard site for your reference and practice. Know that questions do not get recycled! (However, concepts do.)

Exam dates are listed on the course schedule (pages six and seven of this syllabus). There are a total of **625 points** available in the course. **Your lowest 50-point exam score (any lab practical exam or the thorax mini-lecture exam) will be excluded from the final course grade.** You must

take all of the exams, and no curve will be applied to the grades. Exams are not cumulative in the strictest sense, though you will need to recall anatomy from other regions throughout the body in each subsequent exam in order to answer some questions. The grade scale is:

Letter grade	Percent grade	Points
A	91.5-100%	571-625
A ⁻	90.5-91.4	565-570
B ⁺	89.5-90.4	559-564
B	81.5-89.4	509-558
B ⁻	80.5-81.4	503-508
C ⁺	79.5-80.4	496-502
C	71.5-79.4	446-495
C ⁻	70.5-71.4	440-445
D ⁺	69.5-70.4	434-439
D	61.5-69.4	384-433
D ⁻	60.5-61.4	378-383
F	<60.5	<377

FINAL GRADES ARE NOT NEGOTIABLE

Tips for getting the most out of this course: Any course on human anatomy is challenging but rewarding. Many of you are taking this course in preparation for a professional career in which some anatomical knowledge will be essential. Even if you are not taking this for professional reasons, knowledge of your anatomy has long-term practical use. [So, remember that you are not learning this information for the exam, but for the rest of your life, professional or otherwise.](#)

You are expected to read Gilroy's textbook. **It is to your advantage to keep up with the reading and keep reviewing throughout the course.** Cramming in anatomy just before the exam isn't to your advantage; some learning is, admittedly, rote memorization, but much of anatomical study involves integrating functions and intuiting spatial relationships. Give time to reading anatomy each day. Make flashcards. Draw schematics of blood flow or nerves & their branches. Create tables of muscles and their functions. These techniques will help you much more than all-nighters before exams.

Students with special needs: If you require accommodation because of special needs in learning, please contact the Office of Disability Services at 2227 Dunford Hall (974-6087). Please also contact Dr. Auerbach immediately via e-mail after you register with the Office of Disability Services. Arrangements will be made to adjust exams to fit your needs.

Make-up policy: Short of legitimate athletic, religious, legal or medical reasons, you will not be eligible to take examinations at any time other than those that are officially designated. If you must miss a lecture exam, you must contact Dr. Auerbach before the lecture exam is administered. If you miss a lab practical exam, you must contact your laboratory instructor and Dr. Auerbach before lab practical exams are administered. The scheduling of a time to make up missed exams is at the discretion of Dr. Auerbach or your lab instructor. The final will occur from 2:45 to 4:45 P.M. on **Friday, 6 December**. Make your travel plans accordingly.

Course schedule: All assigned reading refers to the *Anatomy: An Essential Textbook*. Blue highlighted dates correspond with scheduled lecture and lab exams.

Date	Lecture	Assigned reading	Lab (weekly session)
22 August	Introduction, anatomical terminology, systemic overview	Chapter 1	No lab (short week)
27 August	Systemic overview continued: nerves, vessels	Chapter 1	Introduction to the lab; anatomical terminology
29 August	Thorax I: Thoracic wall, regions, the pleural cavity	Chapters 3, 4 & 6	
3 September	Thorax II: Mediastinum	Chapters 3 & 5	Introduction to the thorax & abdomen (Monday labs will reschedule)
5 September	Thorax mini-exam. Introduction to the abdomen	Chapter 7	
10 September	Abdomen I: Peritoneal cavity and organs	Chapters 8 & 9	Thorax
12 September	Abdomen II: Retroperitoneal space	Chapter 9	
17 September	Pelvis and perineum I: Ligaments, bones & muscles	Chapters 10, 11 & 12	Abdomen
19 September	Pelvis and perineum II: Organs; TAPP examination review	Chapters 10, 11 & 12	
24 September	TAPP exam		Pelvis and perineum (cadaver presentations for TAPP)
26 September	Lower limb I: Movement, terminology, and the thigh	Chapters 15 & 16	
1 October	Lower limb II: Leg	Chapters 15 & 16	Lab practical I: TAPP Lower limb I
3 October	Lower limb III: Foot; basic gait	Chapters 15 & 16	
4 October	Clinical Special Lecture I: Lower Limb	<i>Lecture will take place from 5 to 6 P.M.</i>	
8 October	The Back. Introduction to the upper limb	Chapter 2	Lower limb II
10 October	Upper limb I: Arm	Chapters 13 & 14	

Date	Lecture	Assigned reading	Lab (weekly session)
15 October	Upper limb II: Forearm	Chapters 13 & 14	No lab (Fall Break)
16 October	Clinical Special Lecture II: Upper Limb	<i>Lecture will take place from 5 to 6 P.M.</i>	
22 October	Upper limb III: Hand	Chapters 13 & 14	Upper limb I (cadaver presentations for lower limb)
24 October	Back and limbs examination review	<i>Materials posted on Blackboard</i>	
29 October	Back and limbs exam		Upper limb II (cadaver presentations for upper limb)
31 October	Head I: Brain and cranial nerves I	Chapters 17 & 18	
5 November	Head II: Cranial nerves II	Chapter 18	Lab practical II: Back and limbs Head I (brain & skull models)
7 November	Head III: Muscles of facial expression; deep face	Chapter 19	
12 November	Head IV: The eye	Chapter 20	Head II (the brain & face)
14 November	Head V: Oral cavity; the ear	Chapters 19 & 20	(cadaver presentations for head & neck)
19 November	Neck I: Basicranium; triangles and muscles of the neck	Chapter 21	Head III; Neck (cadaver presentations for cranial nerves)
21 November	Neck II: Nerves and viscera of the neck	Chapter 21	
26 November	Neck III: Larynx and pharynx	Chapter 21	No lab (Thanksgiving). Study for the exam!
3 December	Head and neck examination review	<i>Materials posted on Blackboard</i>	No regular labs: Exams start Dec. 6th
5 – 11 December	--	Lab practical III: Head and neck (times assigned by lab instructors)	
6 December	Head and neck exam	Exam will be from 2:45-4:45 P.M. in 210 Alumni Memorial Bldg.	