

# EEB 240: HUMAN ANATOMY

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THE UNIVERSITY OF TENNESSEE – KNOXVILLE  
FALL 2016

**Instructor:** Dr. Benjamin M. Auerbach

**Contact information:**

Office: 229 South Stadium Hall (Dr. Auerbach's office is an official university Safe Zone)

Office hours: Walk-in hours: Wednesdays, 1:00 – 2:30 P.M.

By appointment (sign up via direct e-mail to Dr. Auerbach)

E-mail: auerbach@utk.edu (**Dr. Auerbach does not read e-mails between 8 PM & 8 AM.**)

**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:** Ms. Elizabeth Agosto eagosto@vols.utk.edu  
Ms. Sharon Clemmensen sclemmen@vols.utk.edu  
Ms. Angela Mallard amallard@vols.utk.edu  
Mr. John Reese jreese11@vols.utk.edu  
Ms. Kristen Savell ksavell@vols.utk.edu  
Mr. Gregory Wehrman gwherman@vols.utk.edu  
Mr. Samuel Williams swill140@vols.utk.edu

**Instructors (Dr. Auerbach & lab instructors) do not reply to questions about exams the night before or day of exams, with the exception of emergencies.**

**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 Savell	Section 8 Savell	Section 11 Mallard
TUESDAY	Section 1 Wehrman	Section 2 Agosto	Section 12 Mallard
WEDNESDAY	Section 3 Williams	Section 4 Clemmensen	Section 13 Clemmensen
THURSDAY	Section 5 Reese	Section 9 Agosto	Section 14 Williams
FRIDAY	Section 6 Reese	Section 10 Wehrman	

**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), skeletal (e.g., ribs, vertebrae), 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](http://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. ISBN: 9781604062076. (This is available at the UT Bookstore.)

Gilroy, Anne M. 2016. *Atlas of Anatomy*. Third edition. New York: Thieme Medical Publishers, Inc. ISBN: 9781626232525. (This is available at the UT Bookstore.)

*You should use the editions of the books as listed. Do not use Moore et al.'s **Essential Clinical Anatomy**, which was used many years ago.*

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 clickers (see below) for each lecture section (**starting on the 23<sup>th</sup> of August**).

**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, including video recording and photography, is not permitted in the lab sections.**

**Clickers:** This course uses Turning Technologies' personal response systems—the “clicker”—for taking attendance each day and for five in-class quizzes (see **Evaluation**, below). You will need to purchase a ResponseCard XR from the UT Bookstore for \$50. Mobile devices using ResponseWare will not be an option for this course. Instructions for using the clicker may be found from the UT Office of Information Technology's website: [https://oit.utk.edu/instructional/tools/clickers/Documents/Blackboard\\_Student\\_Guide2013.pdf](https://oit.utk.edu/instructional/tools/clickers/Documents/Blackboard_Student_Guide2013.pdf). If you do not have access to these electronic devices, **please let Dr. Auerbach know on the first day of class or via e-mail.**

**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.

**Lab attendance:** Successful students in the course use all of the available lab time; leaving lab early does not work in your favor. Go to lab with a study plan! You are required to attend the lab section in which you are enrolled. Exceptions are made only for those students who have been given permission by Dr. Auerbach to attend a different section due to a semester-long schedule conflict. All students are eligible for temporary lab section attendance switches on a week-to-week basis with instructor permission; see the lab guidelines for more information.

**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 clickers (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 exam	50 pts.
Thorax, abdomen and pelvis & perineum (TAPP) lecture exam	150 pts.
Back and limbs lab practical exam	50 pts.
Back and limbs lecture exam	150 pts.
Head and neck lab practical exam	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.)**

***Attendance is its own reward. But, as incentive, at the beginning of each class, attendance will be taken with a quiz. Participation in these is worth ½ a bonus point; correct answers are worth an additional ½ point (so you are eligible for up to 1 bonus point). Extra points may only be earned from attendance quizzes, bonus questions on exams, or from lab quizzes.***

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. 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 <sup>-</sup>	90.5-91.4	565-570
B <sup>+</sup>	89.5-90.4	559-564
B	81.5-89.4	509-558
B <sup>-</sup>	80.5-81.4	503-508
C <sup>+</sup>	79.5-80.4	496-502
C	71.5-79.4	446-495
C <sup>-</sup>	70.5-71.4	440-445
D <sup>+</sup>	69.5-70.4	434-439
D	61.5-69.4	384-433
D <sup>-</sup>	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. Draw schematics of blood flow or nerves & their branches. Create tables of muscles and their functions. These and other techniques will help you much more than all-nighters.

**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 must 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 lecture exam is from 2:45 to 4:45 P.M. on **Thursday, 8 December**. Make your travel plans accordingly.

**Course schedule:** All assigned reading refers to the *Anatomy: An Essential Textbook*. Exams are indicated by blue highlighted dates.

Week	Date	Lecture	Assigned reading	Lab (weekly session)
1	18 August	Introduction, anatomical terminology, systemic overview	<b>Chapter 1</b>	
	19 August			Lab Orientation Sessions
2	23 August	Systemic overview continued: nerves, vessels Thoracic wall introduction	<b>Chapters 1 &amp; 3</b>	Thorax TAPP Terms List p. 1-2
	25 August	Thoracic regions, the pleural cavity	<b>Chapters 3, 4 &amp; 6</b>	
3	30 August	Mediastinum	<b>Chapters 3 &amp; 5</b>	Thorax & abdomen TAPP Terms List p. 1-4 (Thursday labs will reschedule)
	1 September	NO LECTURE (Campus closed)		
4	6 September	<b>Thorax mini-exam.</b> Introduction to the abdomen	<b>Chapter 7</b>	Abdomen TAPP Terms List p. 3-4 (Monday labs will reschedule)
	8 September	Peritoneal cavity and abdominal organs	<b>Chapters 8 &amp; 9</b>	
5	13 September	Abdominal organs, retroperitoneal space	<b>Chapter 9</b>	Abdomen, pelvis & perineum TAPP Terms List p. 3-6 (cadaver presentations: TAPP)
	15 September	Ligaments, bones & muscles	<b>Chapters 10, 11 &amp; 12</b>	
6	20 September	Pelvis and perineum II: Organs; TAPP examination review	<b>Chapters 10, 11 &amp; 12</b>	Pelvis & perineum TAPP lab practical review time TAPP Terms List p. 5-6
	22 September	<b>TAPP exam</b>		
7	27 September	Lower limb I: Movement, terminology, and the thigh	<b>Chapters 15 &amp; 16</b>	<b>TAPP Lab Practical Exam</b> Lower limb Back & Limbs Terms List p. 1-2
	29 September	Lower limb II: Leg	<b>Chapters 15 &amp; 16</b>	
8	4 October	Lower limb III: Foot; basic gait	<b>Chapters 15 &amp; 16</b>	
	6 October	NO LECTURE (Fall Break)		No lab (Fall Break)

Week	Date	Lecture	Assigned reading	
9	11 October	Upper limb I: Arm	<b>Chapters 13 &amp; 14</b>	Lower limb Back & Limbs Terms List p. 1-2
	13 October	Upper limb II: Forearm	<b>Chapters 13 &amp; 14</b>	
10	18 October	Upper limb III: Hand	<b>Chapters 13 &amp; 14</b>	Back, upper limb Back & Limbs Terms List p. 3-4 (cadaver presentations: back & limbs)
	20 October	The back	<b>Chapter 2</b>	
11	25 October	Back and limbs examination review	<i>Materials posted on Blackboard</i>	Upper limb Back & Limbs lab practical review time Back & Limbs Terms List p. 3-4
	27 October	<b>Back and limbs exam</b>		
12	1 November	Head I: Brain and cranial nerves I	<b>Chapters 17 &amp; 18</b>	<b>Back &amp; Limbs Lab Practical Exam</b> Head: skull, brain, and cranial nerves Head & Neck Terms List p. 1-3
	3 November	Head II: Cranial nerves II	<b>Chapter 18</b>	
13	8 November	Head III: Muscles of facial expression; deep face	<b>Chapter 19</b>	Head: Face, eye, ear Head & Neck Terms List p. 1-3 (cadaver presentations: head & neck)
	10 November	Head IV: The eye	<b>Chapter 20</b>	
14	15 November	Head V: Oral cavity; the ear	<b>Chapters 19 &amp; 20</b>	Head: Face & neck Head & Neck Terms List p. 1-3 <b>Last week that labs meet!</b>
	17 November	Neck I: Basicranium; triangles and muscles of the neck	<b>Chapter 21</b>	
15	22 November	Neck II: Nerves and viscera of the neck	<b>Chapter 21</b>	No lab (Thanksgiving week)
16	29 November	Neck III: Larynx and pharynx	<b>Chapter 21</b>	
	1 December	Head and neck examination review	<i>Materials posted on Blackboard</i>	
	2, 5, and 6 December	--	<b>Head and Neck Lab Practical Exam (SIGN UP FOR EXAM PERIOD)</b>	
	8 December	<b>Head and neck exam</b>	<b>Exam will be from 12:30-2:30 P.M. in 210 Alumni Memorial Bldg.</b>	