BIOLOGY 446L Human Microscopic and Gross Anatomy

GENERAL COURSE INFORMATION

Lecture: MTWThF, 10:00 - 11:30
Room: Via Zoom

Prerequisites:
Biology 311C; Biology 325 or 325H with a grade of at least C-; Chemistry 301 with a grade of at least C-; and one of the following courses with a grade of at least C-: Mathematics 408C, 408K, 408N, 408R, Statistics and Scientific Computation 302.

This course may be used to fulfill three hours of the natural science and technology (Part I or Part II) component of the university core curriculum and addresses the following four core objectives established by the Texas Higher Education Coordinating Board: communication skills, critical thinking skills, teamwork, and empirical and quantitative skills.

Lecture Instructor and Course Director:
William J. Babler, PhD Email: Through Canvas® Inbox
Office Hours: MTWThF: 11:45 - 12:45
Phone: 317-965-9700

Lecture TA:
Soroosh Sadeh Email: Through Canvas® Inbox
Office hours: TBA

Lovisa Nylander Email: Through Canvas® Inbox
Office hours: TBA

Laboratories:
MTWTh: 5-9 PM
Room: Via Zoom

Lab Director:
Tim Fleisher Email: Through Canvas® Inbox
Office hours: M 12:00-3:00 pm

Course Overview:
Human Microscopic and Gross Anatomy (BIO 446L) is an upper division lecture and lab course designed for biology and health careers majors. This course will provide students

with an intensive survey of the microscopic and gross anatomy of various human tissues and organs. The relationship between microscopic anatomy (histology) and gross anatomy will be stressed. The course will use a systems approach, with an emphasis on integrated structure-function relationships at the cell, tissue and organ level, as well as an emphasis on clinical applications of the material at all levels. Lecture and lab study will be provided online. Online materials will include a virtual microscopic slide library and 3D computer models. On completion of the course, students will be able to identify and describe: the different types of human tissues, the structure and location of different organs, their specific functions, and their relationships with each other in the human body.

This semester you will have the opportunity to dive deeply into the intriguing field of human anatomy and physiology. It can be one of the most satisfying subjects you will ever study because it brings together so much material you have learned from other courses and it can be applied to understand so much that you encounter in your daily life. You will certainly use both the facts and the skills you develop in this course in your future careers. Have an open, engaged mind, work hard and ENJOY!

Course Objectives:
This course is as much about how to learn as it is about human anatomy and physiology. It requires that you be able to **understand and apply** the material as well as memorize it. Students who complete this class should be able to:

1. Explain the inseparable relationship between microscopic and gross anatomic structure and function; and be able to apply that understanding to new situations/images.
2. Use systematic, logical thinking processes to correctly identify tissues at the microscopic level.
3. Provide knowledge of the ultrastructure and function of the eukaryotic cell and its organelles.
4. Provide knowledge of the microscopic anatomy and function of the four basic tissues; epithelium, connective tissue, muscle tissue and nerve tissue.
5. Identify and describe gross and microscopic anatomical details of the major tissues, organs, and organ systems of the human body.
6. Explain the functions of the organ and the structural mechanisms that allow the organ to carry out its functions.
7. Compare and contrast structure and function in various organ systems.
8. Use anatomical terminology of the major body regions and its cavities, and the directions and planes of section of the human body to communicate 3-dimensional complexity accurately and succinctly to others in writing and in speech.

The following six objectives will not be directly assessed but are objectives for your course experience and will enhance your grade:

9. Organize, memorize, and integrate significant amounts of information in a framework that you can use.
10. Recognize what you do not understand.
11. Improve critical reading and thinking skills.
12. Maintain composure and focus when faced with problem solving and questions on material you have not studied directly.
13. Cooperate with classmates and work effectively in teams.
14. Examine in detail the fascinating structure and workings of the human body.

LEARNING RESOURCES

Class Canvas Site

All information pertinent to course content, (syllabus and course schedule, announcements, grades, and other information) will be posted on the Canvas web site. The Grade tab in Canvas is not the official grade record and is for student information only. Grades that are changed may not be updated immediately in Canvas. You can find the site by going to your courses on your UT Direct page or by going to canvas.utexas.edu . – *HUMAN MICROSCOPIC AND GROSS ANAT- 446L.* **It is absolutely critical that you check the Home Page, Announcements, PowerPoint Slides and your Grades on this site frequently**.

Email and Canvas are the official means of electronic communication for this class. It is University policy that all students have a functioning email address on record and that they check email at least once a day. Full email IN boxes or failing to check email are not excuses for missing an assignment or an important announcement.

Zoom

Lectures, laboratory sessions, office hours and meetings will all use the Zoom software. Lectures will be recorded in Zoom and posted for your viewing after class.

Textbooks: Required

1) ***Junquiera's Basic Histology***, 15th edition, by Anthony L. Mescher. 2016 (ISBN 978-0-07-184270-9)
2) ***Complete Anatomy Application,*** 3d4Medical Limited, 445 Marine View Ave, Suite 110 Del Mar, CA 92014

*Purchase through University Co-op or through 3d4Medical.com. You must have a laptop or personal device (Mac or Android) to operate this. The lab manual is built within this platform. This is a required "text" for lab so please make sure you have ready by the time lab begins.

Additional text reference books (Optional)

1) ***Essential Clinical Anatomy,*** 5th edition by Keith L. Moore, Arthur F. Dalley, Anne M.R. Agur, 2015 (ISBN 978-1-4511-8749-6)
2) ***Human Physiology, an Integrated Approach***, 7th edition, by Dee Unglaub Silverthorn, 2007
3) ***Human Anatomy and Physiology***, 8th edition, by Elaine N. Marieb, 2010.
4) ***The Anatomy Coloring Book***, 4th edition by Wynn Kapit/Lawrence M. Elson, 2014 (ISBN-13: 978-0-321-83201-6)

CLASS PREPARATION AND PARTICIPATION:

Active class participation and regular class attendance are essential because we will be covering material that is not in the texts and will be covering material in a short amount of time. Daily quizzes and attendance for class are worth 10% of your grade. Please come prepared daily by looking over the PowerPoint presentation posted in Canvas and/or the textbook assignment.

You need to be willing to ask for help when you need it, and you will need to study every day, not cram at the last minute. It is important to let instructors know that you are serious about learning. This can be demonstrated by questions and discussion in class, attendance and participation at office hours. **Students who must pass BIO 446L to qualify for graduation at the end of the current term MUST contact Dr. Babler within the first full week of the term to discuss your strategy for success.**

Assessments/Evaluations/Grades:

Evaluation Components:
BIO 446L is designed to facilitate your learning through multiple learning experiences in both lecture and laboratory activities. Accordingly, sixty-five percent of your course grade will be derived from the lecture portion of the course and thirty-five percent will be compiled from laboratory assessments.

Several assessment/examination tools will be used in this course and will vary in format from standard assessments with which you may be familiar. Our goal is to have you learn anatomy (gross and microscopic) in a professional context that focuses on your developing ability to recall, communicate and problem solve. The assessment / examination tools used in the course are explained below.

Exams:
All examinations will be completed online. Rather than having traditional large exams, there will be five (5) weekly exams and four (4) testlet exams.

Weekly exams will cover lecture material from the lectures. They will include factual material, but also emphasize application and synthesis of material, anatomical relationships, physiological processes and problem solving. You may be asked to apply your knowledge in a scenario that was not specifically discussed in class. You will have 48 hours to complete the exam.

Testlets

Testlets are clinically based scenarios that show you how the anatomy you learn is used in dealing with clinical issues. Each testlet will present a patient and his/her clinical issue. You will not need to diagnosis the problem, it will be given to you. You will not need to research the problem, unless you want to. You will be asked questions about the related anatomy. For example, what is the epithelium involved or what is an important characteristic of cell in the tissue involved. Testlets will be made available and reviewed on Mondays in advance of the testlet exam. Students may take the exam any time during the week of the testlet. The exam will close on Friday at noon.

You may NOT use an iPod or related device, or a cell phone during an exam. We will be using the Proctorio software for exam security. So you will need to ensure that the software works on your device. Study guides will be posted at the beginning of the term to assist your study. The exams will focus on the material presented in class and supportive Powerpoints posted in Canvas. Quiz questions and the Exam Study Guide will help you prepare for exams. All exams will consist of only multiple choice questions.

Daily Quizzes:

Each class session will have a quiz covering the topic of the session. Each quiz will consist of three (3) multiple choice questions. The quiz will be in Canvas and will need to be taken prior to the next class. The quiz will be open starting a 5 p.m. the night of the lecture and close at 9:50 the next morning. You may not make-up a daily quiz. There will be 18 quizzes. We will drop the lowest three. This means there will be 15 quiz scores used to compute your quiz grade. The object of the quiz is for you to stay up with the material. The question will not be in depth, but rather it is designed to see if you are familiar with the material.

Attendance:

Attendance is mandatory and will be provided through the Zoom app. The link to Zoom will be displayed on the Canvas home page. Each class is worth 1 point. For attendance we will drop two zeros, i.e. you have up to 2 excused absences in the course.

Grading Policy:

BIO 446L Grade distribution:

Lecture exams (10)	39%		
Testlet exams (4)	16%		
Daily Quizzes	5%		
Attendance	5%		
		Lecture total	**65%**
Lab exams (2)	25%		
Lab quizzes	5%		
Lab attendance and participation	5%		
		Lab total	**35%**

Course grades cannot be calculated until the end of the term because all test data have to be collected and entered. Your scores, as mentioned previously will be calculated as points earned/points possible x the weight of that testing item. We will use the university grading scale (see attachment in the Syllabus and Schedule folder of Canvas).

We do not "bump" scores or add extra points at the end of the term. If you have questions about your course grade, please contact Dr. Babler BEFORE the end of the term.

Exam Conflicts: Students with a conflicting University class or examination must submit a request for a different test time in writing **at least one week prior to the scheduled date of the exam**. The request must state the class number, meeting time, and professor's name**. People taking non-UT classes such as MCAT prep courses are not allowed to take early exams, nor are students attending professional interviews off campus.**

Missed exams: A missed exam will be excused **only** if: 1) the student can produce a verifiable, written medical excuse OR there has been a verifiable death in the immediate family, AND 2) the student has contacted the instructor PRIOR to the exam. You may email or leave a phone message as soon as you realize you must miss an exam. **Again, no makeup exam will be given. No exceptions. If you have a valid excused exam, your final testlet exam score will count for the missed exam. Students with an excused absence for the final exam will receive an incomplete (X) for the semester and will take the final exam in the next term the course is offered.**

Special Accommodations: The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641 TTY. In addition, inform Dr. Babler at least one week before the first exam that you will need special accommodations.

Exam regrades: Questions about grading on the tests must be taken up with the lab TA or the instructor *no later than 1 week after the test is returned.* Be sure you have ample justification. For any re-grades other than arithmetic errors, the **entire test will be regraded** and you may lose points as well as gain them

The following policies will be in effect for all exams

1. Only the device you have signed on for the exam may be used. No memory calculators, ever. No cell phones, PDAs, or pagers, computers, or other electronics. All electronic devices must be turned OFF.
2. No consulation or discussion with any other person(s) is allowed during the period of time that the exam is open.

Religious Holidays: UT-Austin policy requires that you notify us at 14 days **prior** to dates on which you will be absent or miss assignments due to observation of a religious holiday. You will be given reasonable time after your absence to complete any missed work.

Academic Integrity: It is expected that you will demonstrate absolute academic integrity. Academic dishonesty (cheating) will not be tolerated in any form and may be reported to the Dean of Students. Academic dishonesty includes (but is not limited to) cheating on exams and quizzes and altering tests after they have been returned. Ignorance of what constitutes academic dishonesty is not an excuse. The standards of academic integrity and conduct are described by the Dean of Students Office of Judicial Services: http://deanofstudents.utexas.edu/sjs/.

Use of Class Materials

Duplication or replication of course materials: The materials used in this class, including, but not limited to, exams, exam study guides, quizzes, and homework assignments are copyright protected works. Any unauthorized copying of the class materials is a violation of federal law and may result in disciplinary actions being taken against the student. Additionally, the sharing of class materials without the specific, express approval of the instructor may be a violation of the University's Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This type of “sharing” includes, among other things, uploading class materials to websites for the purpose of sharing those materials with other current or future students (e.g. placing items in Facebook or Google docs).

BIO 446L Laboratory:

UNIQUE	DAYS	TIME
84355	MONDAY/THURSDAY	5-9 PM
84360	MONDAY/THURSDAY	5-9 PM
84365	TUESDAY/WEDNESDAY	5-9 PM
84367	TUESDAY/WEDNESDAY	5-9 PM

Lab Director:
Tim Fleisher Email: Through Canvas® Inbox
Office hour: M: 12-3 pm

Lab Instructor:
Christina Mihova Email: Through Canvas® Inbox
Office hours: TBD

Lab Instructor:
Szyan Wu Email: Through Canvas® Inbox
Office hours: TBD

Attendance in all lab sessions is mandatory. Labs cannot be made-up except during the four days in which they are regularly scheduled. If you are ill, you must contact your lab T.A. immediately about missed lab material and so that you can be rescheduled to another lab session. Those in Thursday lab sessions must reschedule in advance to another session in that week.

Each lab (except #1) will have a short quiz over the material from previous labs. These quizzes will be graded and used to determine your quiz grade (no quiz will be dropped). If you miss a quiz, your quiz grade will be zero.

Labs (except #1) may have a pre-lab homework to be answered prior to the lab session. These assessments will not be graded, but will be used for the attendance/participation grade. Additional lab activities may also be used for the attendance/participation grade.

Weekly review sessions will be provided by Mr. Fleisher on Fridays from 12-3 pm. These review sessions are voluntary and will serve to prepare students for both lab exams. The first lab review session will be after lab 2.

Required Lab Exams are scheduled in the evenings. See schedule for dates and times. Students with UT class conflicts will take a makeup exam earlier in the day. Lab exams will be released on Friday evenings and must be completed by **THAT SUNDAY** at 5 pm.

You will be provided two hours to complete each exam.

If it has been determined (see above UT criteria) that you need extra time or other consideration for the lab exam, you must inform Mr. Fleisher at the beginning of the semester and no later than a week before the exam to be taken.

Academic Integrity: It is expected that you will demonstrate absolute academic integrity. Academic dishonesty (cheating) will not be tolerated in any form. The penalties for cheating range from a zero on the test to an "F" in the course. Academic dishonesty includes (but is not limited to) cheating on exams, quizzes and altering tests after they have been returned. Ignorance of what constitutes academic dishonesty is not an excuse. Standards of academic integrity and conduct are described by the Dean of Students Office of Judicial Services: http://deanofstudents.utexas.edu/sjs/.

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