

BISC 415 - Vertebrate Histology - Spring 2008
303 Shoemaker (Lecture 8:00 – 9:15 am, TX)
516 Shoemaker (all laboratory sessions)

Instructor:

Dr. Carol A. Britson
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Office Hours: 1-2:30 pm TT, or by appointment

Lecture Text (required):

Junqueira, L.C. and J. Carneiro. 2005. Basic Histology Text and Atlas, 11th Ed. McGraw-Hill Co., Inc. ISBN-10: 0-07-144091-7 (If you have a copy of an earlier edition, that is OK.)

Laboratory Text (required):

Eroschenko, V. 2005. diFiore's Atlas of Histology with Functional Correlations, 10th Ed. Lippincott Williams & Wilkins. ISBN-10: 0-7817-5021-0. 7 (If you have a copy of an earlier edition, that is OK.)

Additional lecture and laboratory supplements will be available in MS Word and PDF (portable document files) format on the BlackBoard Course Management system (password protected). Your computer must have Adobe Reader software installed to read PDF files. If you do not have Adobe Reader, go to <<http://www.adobe.com/products/acrobat/readermain.html>> for the free download.

Course Description:

Structure of principal tissue types and organ systems. (3 Lecture, 2 Lab hours) Prerequisite requirements for this course are BISC 160, 161, 162, 163 and 330 and CHEM 105 and 106. Prerequisites may also be satisfied by equivalent coursework as approved by the department and by consent of instructor. This course is also a prerequisite for BISC 518, Microtechnique.

Course Objectives:

By the end of the course, students are expected to develop proficiency in the following areas of histology:

- 1) Identification, description, and correlation of structure with function in epithelial, connective, muscle and nervous tissues including specific types within each category of tissue.
- 2) Identification, description, and correlation of structure with function of tissues with organs of the major systems of the vertebrate body (primarily of the Class Mammalia).
- 3) Basic and advanced microscope skills including care and use of the microscope, measurement and quantitative analysis of microscopic structures, and recreation of 3-dimensional structure from serial sections.

Course Policies:

Attendance: You are expected to attend all lectures, and you will be held responsible for all announcements made during the lectures. Attendance will be taken at all laboratory sessions. Students are not to attend other lab sections without prior approval.

Students who are absent on the first day of class will be dropped from the class by the Dean of the College of Liberal Arts.

Grading: You will be evaluated on your performance in both the lecture and laboratory portions of this course. Your final grade will be determined by (1) standard percentage scale where 90-100% is an "A", 80 - 89% is a "B", etc., and (2) obvious breaks in the distribution of total points. There will be NO extra credit points. **Biology majors and minors need to earn a grade of C or better in this course to fulfill degree requirements.** The distribution of graded material is shown below:

Category	Item	Point Value
Lecture Exams	4 exams, 100 points each	400
Laboratory Material	weekly quizzes (lowest dropped), 5 points each	50
	2 lab practicals, 100 points each	200
Lecture & Lab	Class participation	50
Total course points		700

Make-up exams (lecture): Make-up lecture exams will be given at the discretion of the instructor under the following circumstances: major illness with physician documentation, family emergency with documentation and contact person, or a University-sponsored function with written documentation from the sponsoring department. Advance notification for a missed exam is essential except under extreme circumstances, in which case the instructor MUST be notified by 5pm the day of the exam. During the examination period, exams will NOT be passed out to student(s) UNDER ANY CIRCUMSTANCES after 20 minutes have elapsed from the start of the exam (i.e., DON'T OVERSLEEP!).

Make-up exams (laboratory): Acceptable absence excuses as outlined above must be submitted to the laboratory instructor. Makeup exams are rigorous and scores will not be adjusted. Make-up lab exams are scheduled at the convenience of the instructor.

Student conduct: (1) Academic dishonesty of any kind will NOT be tolerated. (2) All cell phones and pagers must be turned off during class. If you are on call for employment related purposes, you must provide documentation from your employer. (3) Do not call me at home. My email and voicemail keep date and time records of any messages.

Inclement Weather: In the event that the University cancels classes due to inclement weather, we will adjust the schedule accordingly. For lecture we will shift our topic or event (e.g., exam) to the next class period. For laboratory, students from cancelled classes will attend other lab sections during the week.

Laboratory Information

Daily Laboratory Protocol, Techniques and Rules:

- 1) Laboratory readings MUST be finished prior to starting the laboratory!
- 2) Weekly quizzes will be given at the beginning of each during each laboratory session. They will be short (5, 1pt questions) and will cover the assigned readings.
- 3) Active participation is expected during all laboratory sessions. Participation will involve asking questions, answering my questions, assisting other students, and being observant of items 4-8.
- 4) We have over 3100 slides. Please, no hoarding of slides during the laboratory session and pass the "good ones" around to other students.
- 5) We have over 3100 slides and need to stay on top of slide organization. Each week 1-2 students will assist in returning slides to their assigned boxes.
- 6) Students will use the same microscope during each laboratory session for the duration of the course (I will record the UM property number of the scope but you should as well). This will help track any equipment malfunction and will cut down on transmission of germs (e.g., begin each laboratory session by wiping the eye cup with an alcohol pad).
- 7) Report slide damage that may occur during the course of the laboratory. Slides break, it happens, but I do need to keep track of the collection.
- 8) Proper technique for use of immersion oil and lens wipes (e.g., Kim Wipes™) must be followed at all times.

Additional Resources (these will also be linked on BlackBoard):

Histology web sites

<http://library.med.utah.edu/WebPath/HISTHTML/HISTO.html>
http://www.mc.vanderbilt.edu/histology/labmanual2002/labsection2/Blood_hematopoiesis03.htm
<http://swehsc.pharmacy.arizona.edu/exppath/micro/histology.html>
<http://www.histology-world.com/>
<http://library.med.utah.edu/WebPath/HISTHTML/HISTOTCH/HISTOTCH.html>
<http://www.nsh.org/organizations.php3?action=printContentItem&orgid=111&typeID=1158&itemID=14718>
<http://www.siumed.edu/~dking2/>
http://www.meddean.luc.edu/LUMEN/MedEd/Histo/frames/histo_frames.html
<http://www.med.uiuc.edu/histo/large/atlas/>
<http://www.kumc.edu/instruction/medicine/anatomy/histoweb/>

Microscopes

<http://www.olympusmicro.com/primer/java/index.html>
<http://biomedx.com/microscopes/systems/terminology.html>

Medical Dictionary Web Sites

<http://www.medic8.com/MedicalDictionary.htm>
<http://www.nlm.nih.gov/medlineplus/encyclopedia.html>

Semester Schedule:

Topics, sources of text-based information, exam dates, and due dates for all lecture and laboratory material are on the following page.

Week of:	Lecture	Readings (Junqueira & Carneiro)	Laboratory	Readings (Eroschenko); associated readings from Junqueira & Carneiro will be listed on BlackBoard
1/16/2007	Histology Intro	Chapter 1 (read chapters 2&3 for review)	No labs	
1/22/2007	Epithelial Tissue	Chapter 4	Holiday	Introduction, Chapter 1
	Epithelial Tissue	Chapter 4		
1/28/2007	Connective Tissue	Chapter 5	Epithelial Tissue, Quiz	Chapter 2
	Adipose Tissue	Chapter 6		
2/4/2007	Cartilage	Chapter 7	Connective Tissue, Quiz	Chapter 3
	Exam 1			
2/11/2007	Bone	Chapter 8	Cartilage and Bone, Quiz	Chapter 4
	Nerve Tissue & The Nervous System	Chapter 9		
2/18/2007	Nerve Tissue & The Nervous System	Chapter 9	Blood, Quiz	Chapter 5
	Muscle Tissue	Chapter 10		
2/25/2007	The Circulatory System	Chapter 11	Muscle Tissue, Quiz	Chapter 6
	The Circulatory System	Chapter 11		
3/3/2007	Blood Cells	Chapter 12	Lab Practical	
	Exam 2			
3/10/2007	Spring Break			
3/17/2007	Hematopoiesis	Chapter 13	Nervouse Tissue, Quiz	Chapter 7
	Lymphoid Organs	Chapter 14		
3/24/2007	Digestive Tract	Chapter 15	Circulatory Organs, Quiz	Chapter 8
	Organs Associated W/Digestive Tract	Chapter 16		
3/31/2007	The Respiratory System	Chapter 17	Lymphoid & Integumentary Organs, Quiz	Chapters 9, 10 (selections)
	The Respiratory System	Chapter 17		
4/7/2007	Skin	Chapter 18	Digestive Organs, Quiz	Chapters 11-14 (selections)

	Exam 3			
4/14/2007	The Urinary System	Chapter 19	Respiratory & Urinary Organs, Quiz	Chapter 15, 16 (selections)
	Endocrine Glands	Chapter 20		
4/21/2007	Endocrine Glands	Chapter 20	Endocrine & Reproductive Organs, Quiz	Chapter 17-19 (selections)
	Male Reproductive System	Chapter 21		
4/28/2007	Female Reproductive System	Chapter 22	Lab Practical	
	Photo and Audioreceptors	Chapter 23		
5/5/2007	Final (Exam 4)			

