Syllabus Spring 2020 - Biology 320: Histology

***Instructor*: Dr. Isaure de Buron** ***Office hours*: by appointment (please email)**
Office*: Off campus (Ft Johnson)** ***Phone: 953-3615 ***E-mail*: deburoni@cofc.edu**
***Lectures:* Rita 102; T and R: 8:00-9:15 am**
***Laboratory* Rita 153: T (L01) 12:00-3:00 pm or T (L02) 3:30-6:30 pm**

Week of		Topic of lecture	Lab (T)
Jan	9	Basic Histo-techniques	
	14, 16	Epithelial tissue	Basic Histo-techniques
	21, 23	Connective tissue	Epithelial tissue
	28, 30	Nerve tissue **R: Quiz 1** Muscle tissue	Connective tissue
Feb	4, 6	Catch up day **R: Mock Quiz lab** Cartilage	Muscle & Nerve tissues
	11, 13	Bone **R: Quiz 2** Blood	Cartilage
	18, 20	Circulatory system	Bone & Blood
	25, 27	Integument **R: Lab Test 1 during lecture time**	Circulatory system
March	3, 5	**T: Mid term Lecture test** Lymphoid system	Integument
	10, 12	Lymphoid system cont' Endocrine system	Lymphoid system
	17, 19	***Spring Break – No class***	
	24, 26	Endocrine system cont' Digestive system I	Endocrine system
/April	31, 2	Digestive system I cont' **R: Quiz 3** Digestive system II	Digestive system I
	7, 9	Digestive system II cont' Respiratory system	Digestive system II
	14, 16	Urinary System **R: Quiz 4** Catch up day	Respiratory & Urinary systems
	21	**T: Lab test part 1 (during lecture time - comprehensive)**	**Lab Test 2 part 2 (comprehensive)**

Thursday April 23: Reading Day
Saturday April 25 – 12:00-3:00 am - Final Lecture Examination (comprehensive)

NOTE: This is a tentative schedule and it is subject to change.

Textbook - Recommended: Junqueira's Basic Histology by Mescher (Mc Graw Hill) – Text and Atlas
OR Concise Histology by Gartner & Hiatt (Saunders Elsevier)

Web Material: All PowerPoint lecture outline/partial notes will be posted on OAKS. **However, these notes are not meant to substitute for lecture attendance.** Additional material, including line drawings, micrograph highlighting, and more extensive information on topics outlined in the notes will be supplied in the lectures. **Some books and atlases have supplementary material on line (self quizzes, extra micrographs…). Use all opportunities to utilize this material and increase your knowledge.**

Laboratory: Requested: any **recent color atlas** such as:
- Atlas of descriptive histology by Ross, Pawlina, and Barnash (Sinauer Pub.)
- Color Atlas of Histology by Gartner and Hiatt (Lippincott Williams & Wilkins Pub)
- Wheater's Functional Histology (Churchill Livingstone)

(note that one of the recommended textbook also serves as an atlas)

Students must bring to the laboratory their atlas. Students should also bring to the laboratory plain white paper for drawing. Some students find useful to bring color pencils (pink, purple, blue, black). **No make-up labs will be given**. **Students are responsible for all materials presented during labs missed. Missing three labs will result in a "WA" grade.**

Course objectives: This course is designed for students who are planning to major in biology and are interested in the medical, veterinary, or other health related fields. The course includes lectures and laboratories that involve the intensive use of microscopes. The course emphasizes the identification of animal tissues with an emphasis on human and other mammal tissues and an understanding of their function in the major human anatomical systems.

Learning outcomes: Upon completion of this Histology course, successful students will demonstrate:
- an understanding of the basic principles of microscopy and histotechniques;
- a working knowledge on the operation of the compound microscope;
- an understanding of the morphological characteristics of the four fundamental tissues in vertebrates;
- an understanding of the microanatomy of the principal organs in the vertebrate body;
- an ability to observe critically and identify fundamental tissues and organs on histological sections and micrographs.

What you should know before you get started (taken in part from studentconsult.com):

- **Histology is not only about visually identifying various cell and tissue types, but also being able to describe the differences, and understand why certain cells have the appearance they do, which is directly related to their function.** For example, respiratory epithelial cells lining the bronchi in the lungs have cilia that are constantly in motion to help clear the airways of mucous and debris. The cells of the uterine tube also have cilia. However, these serve to propel the oocyte along the tube towards the uterus. The cilia in both tissues look the same and function similarly, but have a different role in the body.

- Learning how every type of cell in the body works and how these cells form the different tissues and specific organs **seems an extremely daunting task. But if you keep in mind that there are only four basic tissues, it is simply a matter of learning how these tissues are combined to form organs**, which is related to their function.

- **Histology is about microscope slides and micrographs and requires a lot of repetition**. You will be required to visually identify various cell types, tissues types or organs from a series of slides or micrographs. **There is no magic: this takes time and practice**. The more time you spend looking at images in histology atlases the better the learning will be and the better you will be prepared for the tests. Therefore, you must purchase an atlas, a textbook/atlas combination, or/and a virtual microscope CD and that you bring one of them in the laboratory. Also, a series of DVDs is on reserve at the library and serve as virtual laboratory**. Please do not wait the day before a test to use them (this is an advice given to you by me AND by former students in the class).**

- Some students try to memorize the color patterns based on the type of stain used or a slide number or whether a slide has a broken corner. **Do not do this**. This is waste of your time and brains. I have a special box of slides and test images that you will have never seen before. In any case, **it will be much easier and enjoyable for you to learn how to recognize tissues and organs than memorizing useless artifacts**.

Testing: Examinations will be a combination of multiple choice questions, fill-in the blanks, short answers, drawings, and labeling as well as identification of tissues from photographic images.

Quizzes comprise ~ 5-10 questions and are given during the **10 first minutes of class**. A lecture will be given after quizzes are taken.

Lecture tests comprise ~ 40 questions. **No quiz or test will be allowed to be taken later than 10 minutes after it is distributed to the class**. The lowest quiz grade (including a zero) will be dropped. **The final examination will be cumulative and will start at noon**. **No late arrivals will be accepted.** The laboratory tests will include identification of cell structures, tissues, and organs, both from microscope slides and micrographs projected on screen. **Quizzes and tests missed for non-excused absences will be graded zero and no make-up tests will be given**.

Grading:

Mid term test:	20 %	A-: 90-93 %	A: 94 -100 %	
Final comprehensive examination:	25 %	B-: 80- 83 %	B: 84-86 %	B+: 87-89 %
Total Quiz (lowest grade dropped):	20 %	C-: 70-73 %	C: 74-76 %	C+: 77-79 %
Lab test 1:	10 %	D-: 60-63 %	D: 64-66 %	D+: 67-69 %
Lab test 2:	25 %	F: < 60 %		

Attendance: **PowerPoint lecture notes available on the web are not meant to substitute for attending.** Attendance in lectures and laboratories is expected. **Missing 3 laboratories will result in a WA grade**. **Students are responsible for all material and announcements made in class and laboratory.** These announcements may include changes in the course syllabus, material to review for examinations, and examination dates.

Policies: You are expected to do all work in accordance with the principles of **the Honor Code**. **Cell phones, pagers, and any other electronic devices must be turned OFF when in class and taking quizzes and tests. No hats may be worn when taking quizzes and tests**. **Written proof verifying an acceptable reason for an excused absence will be required** before being excused from attending a laboratory session or taking a quiz or a test. **Quizzes and tests missed for non-excused absences will be graded zero.**

Honor Code and Academic Integrity:

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.
Incidents where the instructor determines the student's actions are related more to misunderstanding and confusion will be handled by the instructor. The instructor designs an intervention or assigns a grade reduction to help prevent the student from repeating the error. The response is recorded on a form and signed both by the instructor and the student. It is forwarded to the Office of the Dean of Students and placed in the student's file.
Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.
Students can find the complete Honor Code and all related processes in the *Student Handbook* at http://deanofstudents.cofc.edu/honor-system/studenthandbook/index.php

Disability/Access Statements:

The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed.

Mental & Physical Wellbeing:

At the college, we take every students' mental and physical wellbeing seriously. If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at http://counseling.cofc.edu or 843.953.5640) or the Students 4 Support (certified volunteers through texting "4support" to 839863 or visit http://counseling.cofc.edu/cct/index.php). You can also visit both on campus on the 3rd floor of Robert Scott Small. These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.