Syllabus Spring 2018 - 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:* HWWE 211; T and R: 11:20 am- 12:35 pm**
***Laboratory* HWWE 208: R (L01) 1:00 -4:00 pm or R (L02) 4:05-7:05 pm**

Week of		Topic of lecture	Lab (R)
Jan	9, 11	Review – cell Basic histo-techniques	Basic Histo-techniques
	16, 18	Epithelial tissue	Epithelial tissue
	23, 25	Connective tissue Muscle tissue	Connective Tissue Proper
Feb	30 / 1	Nerve tissue **R: Quiz 1** - Catch up day	Muscle tissue
	6, 8	Cartilage Bone	Nerve tissue & Cartilage
	13, 15	Blood **R: Quiz 2** - Circulatory system	Bone & Blood
	20, 22	Circulatory system cont' **R: Lab Test 1** (through blood) during lecture time	Circulatory system
March	27, 1	Integument **R: Lecture Test 1 (**through circulatory system)	Integument
	6, 8	Lymphoid system	Lymphoid system
	13, 15	Endocrine system	Endocrine system
	20, 22	***Spring Break – No class***	
	27, 29	Digestive system I **R: Quiz 3** – Catch up day	Digestive system I
April	3, 5	Digestive system II **R: Lecture Test 2**	Digestive system II
	10, 12	Respiratory system Urinary system	Respiratory & Urinary systems
	17, 19	**T: Quiz 4** – Q&A **R: Lab test part 1 (during lecture time - comprehensive)**	**Lab Test 2 part 2 (comprehensive)**

Tuesday April 24: Reading (or storm make-up) Day
Tuesday May 1 – 8:00-11:00 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 – Text and Atlas OR Histology, a text and Atlas by Leslie Gartner (both are from Mc Graw Hill and both are both harcopies and e-books)

Web Material: Lecture notes will be posted. **Please take notes by hand and draw during 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 atlases 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)-

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. **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 of 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 study from an atlas, a textbook/atlas combination, or/and a virtual microscope CD/e-atlas and you must 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, will **start at 11:15 am**.

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 35 mm slides (viewed in PowerPoint). **Quizzes and tests missed for non-excused absences will be graded zero and no make-up tests will be given**.

Grading:

Examination 1: 15%
Examination 2: 15%
Final comprehensive examination: 20%
Quiz (lowest grade dropped): each 5%; total:15%
Lab test 1:10 %
Lab test 2: 25%

A-: 90-93%	A: 94 -100 %	
B-: 80- 83 %	B: 84-86%	B+: 87 - 89 %
C-: 70-73 %	C: 74-76%	C+: 77- 79 %
D-: 60-63 %	D: 64-66%	D+: 67-69%
	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, including lab 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.**