SYLLABUS: MICROSCOPIC ANATOMY (GRADUATE HISTOLOGY) - ANA 7030

FALL 2015

COURSE OBJECTIVES

Goal: The goal of the Microscopic Anatomy (Graduate Histology) Course is to engage the graduate student in learning the key concepts related to recognizing the normal appearance of human cells, tissues, and organs, as well as relating the structure and histological organization of the cells, tissues, and organs to their functional role in the human body.

Overall Course Objectives: At the end of the Microscopic Anatomy (Graduate Histology) Course, the students will be able to:

- Describe the microanatomy (morphology) of cells, tissues, and organs of the human body at the light microscopic level.
- Describe significant fine structural features of cells or tissues as viewed with transmission electron microscopy, scanning electron microscopy, freeze-fracture electron microscopy, immunocytochemistry, or other selected research techniques.
- Correlate the specialized or unique histological structural features at the light and electron microscopic levels with their normal function in the human body.

Specific Course Objectives: At the end of the Microscopic Anatomy (Graduate Histology) Course, the students will be able to:

1. Define the morphology and function of cellular organelles and their components.
2. Define the morphology and function of the components of epithelial tissue and glands.
3. Define the morphology and function of connective tissue proper and cartilage.
4. Define the morphological organization and formation of bone.
5. Define the morphology and function of blood components.
6. Define the morphology and function of hemopoietic cells and the components of bone marrow.
7. Define the morphology and function of the components of nervous tissue.
8. Distinguish among the types of muscle and define the morphology and function of the components of muscle tissue.
9. Define the morphology and function of blood vessels (vascular system).
10. Define the morphology and function of the components of the integument.
11. Define the morphology and function of the components of the oral cavity.
12. Define the morphology and function of endocrine glands.
13. Define the morphology and function of the components of the eye.
14. Define the morphology and function of the components of the inner ear.
15. Define the morphology and function of the components of the lymphatic system.
16. Define the morphology and function of the components of the respiratory system.
17. Define the morphology and function of the components of the heart.
18. Define the morphology and function of the components of the upper alimentary canal: the esophagus and stomach.
19. Define the morphology and function of the components of the lower alimentary canal: the intestines and anal canal.
20. Define the morphology and function of the organs associated with the digestive system: the liver, gallbladder, and pancreas.
21. Define the morphology and function of the components of the urinary system.
22. Define the morphology and function of the components of the male reproductive system.
23. Define the morphology and function of the components of the female reproductive system.

NOTE: For the purposes of the Microscopic Anatomy (Graduate Histology) Course, the word “describe” includes the ability to recognize cells, tissues, and organs in histological sections at the light and electron microscopic levels.

Syllabus: Microscopic Anatomy (Graduate Histology) 2015
Detailed Learning Objectives: accompany each lecture

**FORMAT OF CLASS**

This course will consist of formal lectures and labs and is organized into 4 units. The lectures (LEC) are held in conjunction with the Year 1 medical students in the Jaffar Auditorium. All lectures are streamed and recorded and are later available on Blackboard. There are two different lab formats. Instructor-led labs are discussions led by a faculty member and you will attend these in conjunction with the medical students in the Mazurek classrooms. Graduate students should attend instructor-led lab sessions directed by Dr. Nantwi in the appropriate Mazurek classroom. Self-study labs are the second type of lab. For these labs, you should complete the lab guide that is in the “Medical Histology Lab Guide” using virtual microscopy on your own. The time in the schedule is just a suggested time for doing this, but you can do this anytime you wish. You may complete the exercise alone or in conjunction with classmates. However, each of you is responsible for submitting a completed lab guide. Due dates for completed lab guides are given in the schedule. They should be given to Dr. Nantwi in Scott 8326 or can be left in his departmental mailbox. Review sessions are held in conjunction with the medical students to review the lab guides, unit material, or virtual microscopy. These are streamed and recorded like regular lectures. Special discussion sessions for graduate students have been scheduled, but these may change based on unforeseen schedule conflicts.

Separate exams for graduate students will be held on the days indicated below. Discussion sessions will usually take place in Scott Hall Room 8370 (Anatomy Conference Room) or in Scott Hall Room 8366 (Anatomy Library), if necessary. You will be notified of any schedule or room changes. Exams will be given in Scott Hall Room 8370 (Anatomy Conference Room). Any necessary schedule or room changes will be announced.

**MICROSCOPIC ANATOMY (GRADUATE HISTOLOGY) - ANA 7030**

**FALL 2015**

**EXAMS AND GRADING**

<table>
<thead>
<tr>
<th>Exam Number</th>
<th>Date</th>
<th>Time</th>
<th>Microscope Glass Slide Identification</th>
<th>Practical (Projected Images)</th>
<th>Written (Essay Questions)</th>
<th>Total of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Thu., Aug. 27, 2015</td>
<td>9 AM-12 PM</td>
<td>0</td>
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<td>40%</td>
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<td>Fri., Sept. 25, 2015</td>
<td>9 AM-12 PM</td>
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<tr>
<td>III</td>
<td>Fri., Oct. 23, 2015</td>
<td>9 AM-12 PM</td>
<td>10% (10)</td>
<td>50%</td>
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<td>20%</td>
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<tr>
<td>IV (Final)</td>
<td>Fri., Nov. 13, 2015</td>
<td>9 AM-1 PM</td>
<td>20% (20)</td>
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<td>20%</td>
<td>30%</td>
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Other 10% of Final Grade is determined by Lab Guide exercises.

Grades:
A > 90%
B > 80%
C > 70%
F < 70%

Levels of + or – grades are ±3% above or below the assigned grades.

**MATERIAL**

The main textbook is:

Syllabus: Microscopic Anatomy (Graduate Histology) 2015

A recommended atlas is:


Available as E-Book free online on “Clinical Key-Elsevier” through Shiffman Library: https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20090600258
Direct link is available on Blackboard.

It is not necessary to purchase either book, but they might be helpful as reference text. Talk to me if you are interested, because it might be possible to get a publisher’s discount. Detailed lecture notes and lab guides may be picked up in my office on or after Friday, July 31st.

A microscope slide set and a copy of the Laboratory Guide will be given to you later during the course.

INFORMATION

For more information, contact:

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