Vertebrate Histology BIOL 4400 (CRN 80585)
Fall Semester, 2012
Instructor - Dr. J. Mitchell Lockhart
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Office Hours: As posted or by appointment
Course hours: Lecture/Laboratory 9:00-12:15 Tuesday/Thursday, Biology Building Room 2071
Textbook - th edition) (**Required**)
Laboratory Textbook - None, labs will be available online.
Prerequisites: BIOL 2230 and BIOL 2270, and 8 semester hours of senior biology courses.
Course Objectives: As stated in your handbook, the study of vertebrate histology with emphasis on the four primary tissues (epithelium, connective, muscle, and nerve). Laboratory work consists primarily of detailed microscopic study and drawings of tissues from prepared slides.
Attendance: **MANDATORY**
course has a considerable amount of new concepts and terminology and it serves your best interest to attend class regularly. Any student disrupting the classroom and affecting the learning experience of others will be asked to leave. Along these lines, **NO** cell-phones, beepers, and/or associated earpieces are allowed either in the **lecture room or laboratory**

Laboratory Portfolio (300 points)

Course Outcomes:

Course:

By the end of BIOL 4400, students who successfully complete the course should have:

1. Gained factual knowledge, to include anatomy/histology terminology, methods, and principles, about Vertebrate Histology. (DO 2,3,5; VSUGEO 5)
2. Learned fundamental principles, generalizations, or theories of Vertebrate Histology. (DO 2,3,5; VSUGEO 5)
3. Learned to apply course material (to improve thinking, problem-solving, and decisions) in Vertebrate Histology. (DO 2,3,5; VSUGEO 5)
4. Developed specific skills, competencies and points of view needed by professional in the fields most closely related to Vertebrate Histology. (DO 2,3,5; VSUGEO 5)
5. Acquired an interest in learning more by asking questions and seeking answers about Vertebrate Histology. (DO 2,3,5; VSUGEO 5)

Department:

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral formats used in peer-reviewed journals and at scientific meetings.

2. Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships among the major taxa of life, and provide illustrative examples.

3.

4. Students will express themselves clearly, logically. and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various disciplines; and to listen effectively and to understand different modes of communication.

5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices. They will understand the basic concepts and principles underlying scientific methodology and be able to collect, analyze, and interpret data. They will learn a body of scientific knowledge and be able to judge the merits of arguments about scientific issues. They will be able to perform basic algebraic manipulations and to use fundamental algebraic concepts to solve word problems and equations. They will be able to use basic knowledge of statistics to interpret and to analyze data. They will be able to evaluate arguments based on quantitative data.

6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences. They will develop understanding of the relationships among the visual and performing arts, literature and langu.ET0 g7Tf19.61 537.55 .1 0 0 1 7(e)-4(r)-3(elatio3an)e a

This is the order which we will go through topics:

1. Histology and Its Methods of Study
2. The Cytoplasm
3. The Cell Nucleus
4. Epithelial Tissue
5. Connective Tissue
6. Adipose Tissue
7. Cartilage
8. Bone
9. Nerve Tissue and The Nervous System
10. Muscle Tissue
11. The Circulatory System
12. Blood
13. Hemopoiesis
14. The Immune System and Lymphoid Organs
15. Digestive Tract
16. Organs Associated with the Digestive Tract
17. The Respiratory System
18. Skin
19. The Urinary System
20. Endocrine Glands
21. The Male Reproductive System
22. The Female Reproductive System
23. The Eye and Ear: Special Sense Organs

Probable Exam Dates:

Exam 1 ς September 6
Exam 2 ς October 4
Exam 3 ς November 1
Exam 4 ς November 30
Final Exam - Friday, December 7, 10:15 AM ς 12:15 PM

This is the order which we will go through labs

1. Cell Structure I
2. Cell Structure II
3. Epithelium and Glands
4. Connective Tissue I
5. Connective Tissue II
6. Connective Tissue III
7. Nervous Tissue
8. Muscle
9. Cardiovascular and Lymphatic Systems
10. Hematopoietic System I: Peripheral Blood
11. Hematopoietic System II: Bone Marrow
12. Immune System I
13. Immune System II
14. Oral and Nasal Cavities
15. Digestive System I
16. Digestive System II
17. Salivary Glands and Pancreas
18. Liver and Gall Bladder
19. Respiratory System
20. Integumentary System
21. Urinary System
22. Endocrine System I
23. Endocrine System II
24. Male Reproductive System I
25. Male Reproductive System II
26. Female Reproductive System I
27. Female Reproductive System II
28. Female Reproductive System III
29. The Eye
30. The Ear