Course Syllabus

BIOL 3714: Integrated Vertebrate Anatomy and Physiology II
Prerequisite BIOL 1113 and 1123, and CHEM 1113

Goals: This course will emphasize both the variations and the similarities in the structures and physiological functions vertebrates use to cope with their environments. It will focus on living vertebrates and will cover the nervous and endocrine systems and their interactions with other systems and behavior and reproduction; the physiology and anatomy of reproduction, oxygen and carbon dioxide metabolism in respiratory and circulatory systems; ion regulation and urinary systems. Histology of each system will be included.

My own goal is to help you appreciate the loving elegance of design which God built into all of his creatures, and to enable you to glimpse the joy of our creator in the beautifully designed details.

How to succeed: I expect students to study at least 2 hours outside of class for each hour in class. My suggestions for studying this material are:

1. To read material before lecture and before lab to discern the major topics.
2. To read assigned carefully material after lecture and make notes. This greatly increases your learning as I will not necessarily lecture the chapters to you but will seek to emphasize the important material and supplement it with additional materials. You are responsible to know text, lab and lecture material.
3. Rewrite lecture notes within a few hours of each lecture and combine them with the notes from assigned reading and homework, and with material learned in lab. Redrawing structures and diagrams greatly increases learning for most. Keep material organized and easy to study.
4. To speak out in class or after class if the material is not clear.
5. To begin the research paper early so you are not rushed.
6. To be an independent learner, go above and beyond stated expectations.

Remember: What you learn from a course is directly proportional to the effort you invest. I do not offer individual extra credit assignments, so there will be no way to rescue your grade at the last minute.

Instructor: Mrs. Karen Rispin
Office: Glaske 0144
Office Phone: 233-3957,
email: KarenRispin@letu.edu - I check my email often and am happy to hear from you.

Office Hours: **MWF** 9:20 – 10:15 a.m., **TR** 12:00 a.m. – 2:30 pm

Class time and location: **MWF** 1:30 – 2:25 am Glaske C106

Texts:

Kardong, Kenneth. 2002. Vertebrates: Comparative Anatomy Function, Evolution, Third Edition. McGraw Hill ISBN 0072909560

Hill, Richard W., Gordon A. Wyse and Margaret Anderson. 2004. Animal Physiology. Sinauer Associates, Inc. ISBN 0878933158

Young, B. and J.W. Heath. 2000. Wheater's Functional Histology 4th Edition. Churchill Livingstone ISBN:0443056129

Kardong, Kenneth and Edward Zalisko. 2002. Comparative Vertebrate Anatomy: Lab Dissection Guide 3/e. McGraw Hill. ISBN 0072909579

Symbiosis custom laboratory text with PhysioEx CD for computer simulations Benjamin Cummings. ISBN 0536891729

Grading:

The Final Exam will be comprehensive.
A = 91 – 100 %; B = 81- 90%; C = 71- 80 %; D = 60 - 70%; F = below 60
Lecture quizzes and critical thinking assignments = 100 pts
Research Paper = 100 pts
Unit Exams = 100 pts each
1 Final Exam = 100 pts
Lab exams = 100 pts each
Lab quizzes, Lab reports, note book and PhysioEx = 150 pts
There will be no extra credit given. At the end of the semester, if you have a grade just under a letter threshold (say an 80%) I will **not** raise it to the next higher letter grade. Keep track so that you realize you are near a letter threshold soon enough to raise your grade yourself.

Lecture Exams will be a combination of multiple choice, short answer and essay. Some short answer will include labeling of anatomical diagrams.

Laboratory: The lab is a central part of this course and is designed to integrate tightly with lecture.
You will keep a lab notebook for the dissections dated clearly and including drawings and memory aids for yourself. These will be collected at the end of the lab. For labs indicated on your lab schedule, there will be a lab report due during the next lab session. These are clearly indicated on your lab schedule. You will follow the format in the "lab report format" handout attached. There are labs clearly indicated on the schedule which include a computer simulation physiology section you will do out of class. You will hand in the resultant data during the next lab session. The lab exams will be short answer and you will move from one station to another.

Research Paper:
You will compare and contrast a chosen genus from each of two different vertebrate classes. Before you begin, bring me the names of the genera you have chosen for approval. You will compare and contrast the nervous and endocrine systems and their interactions with other systems; behavior and reproduction; the physiology and anatomy of oxygen and carbon dioxide metabolism in respiratory and circulatory systems; ion regulation and urinary systems. Please include histology. A grading rubric and a "Scientific Writing" handout are posted on the course blackboard site. You will follow the format in the Scientific Writing handout.

Critical thinking assignment: At the end of each week a critical thinking paragraph is due on material covered in the reading for that week. Further instructions are posted on course blackboard site

Attendance is to your advantage and is required. I will often give quizzes in class and lab. I require verification for health related and family emergency related absences. You will receive a 0 on any quizzes you miss without an excused absence. Labs missed without an excused absence can not be made up. For all absences including university related activities with excused absences, all work missed must be made up within a week unless otherwise arranged in advance.

Academic Honesty: See page 7 and 8 in the Student Handbook for a clear explanation of academic honesty definition and policies. Academic dishonestly of any kind may result in notification of your advisor and the student affairs office and may include penalties up to and including expulsion from the university. I will follow the guidelines indicated on the handout. Ideas other than those from your own original research which are not clearly and correctly attributed to a source are plagiarized.

Disability policy: Students enrolled in an institution of higher education are required to self-identify if they would like to request academic support services on the basis of a disability. LeTourneau University encourages a student with a disability to self-identify after admission and to provide required documentation to the Dean of Student Services. Through self-identification and the utilization of appropriate academic services, it is assumed that academic progress must be made. Students needing facility adjustments must notify the Dean of Student Services at 903.233.3130.

Our goal at LeTourneau University is to enable students to progress in: Grounding values, Broadening knowledge, Deepening skills, Collaborating service and Discovering purpose.
Grounding Values: With the critical thinking assignments and philosophical groundwork, this course will encourage students to consider for themselves what the structure and function of vertebrates has to tell them about the origin and nature of life itself.
Broadening knowledge: BIOL 3714 is data rich; any student who passes this course will have broadened their knowledge of vertebrate animal life. My goal is that your joy in vertebrate life grows along with your knowledge.
Deepening skills: The lab is designed to deepen your skills in dissecting, laboratory techniques, data collecting and recording. The writing assignments will deepen your skills in research, scientific writing and critical thinking. Studying successfully will deepen your skills in preparing for rigorous tests necessary for so many of the science related professions.
Collaborating service: The content of this course does not lend itself to public service projects though the collaborative assignments should encourage the skills needed to work with a team, and the course itself is a building block in many public service and environmentally beneficial careers.
Discovering purpose: For those of you considering careers related to biology, zoology or health science, this course should increase your understanding of the joys and challenges of those disciplines.