TEXAS A&M UNIVERSITY – CORPUS CHRISTI
SYLLABUS
MARB 6310 PHYSIOLOGICAL ADAPTATIONS IN ANIMALS
FALL 2009
Rebekah J. Thomas, Ph.D.

Prerequisite: BIOL 3430
Office: HRI 118
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Semester Credit Hours: 3
Office Hours: T 3-5 pm, OTBA
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Course website: http://lsci.tamucc.edu/RThomas/BIOL5310Home

Course description: Physiological Adaptations of Animals will provide practical knowledge of physiological systems as they operate in the “real world.” The readings for this course highlight some of the published research on how the physiology of animals produces adaptations to a variety of environments. The literature used will also compare different groups of animals and their adaptations to similar environments, and will highlight some of the evolutionarily conserved adaptations.

Course purpose: This is a graduate level animal physiology course that explains, analyzes, and critiques current research in physiology and physiological ecology.

Student learning outcomes: Students will read, comprehend, and critically evaluate published journal articles. Students will discuss published works critically with their peers, and will determine where future research efforts should be focused. Students will lead the discussion of published works by introducing the topic, setting up the question addressed by the publication, and asking meaningful questions of their peers to promote group discussion of the publication. Students will enhance grant-writing skills by writing a proposal after developing a hypothesis and research design to answer an unsolved physiological question. Students will write their proposal in a standard federal grant format, specifically the NSF. Students will identify appropriate physiological questions that need to be researched. Students will learn the benefits of physiological research to humans, to all other animals, to communities, and to ecosystems.

Required materials, etc.: There is no textbook for this course. However, you will have journal articles that you are responsible for reading BEFORE class each Wednesday. A schedule of which articles should be read for each class is at the end of this syllabus and on the website. Links to the actual articles can also be found on the course website. They are listed by the date they will be discussed. Other than the articles, you may want to have a small notebook to put down thoughts, comments and questions as you read.

Grant proposal: Students will be required to write an NSF-style grant proposal according to an actual NSF grant solicitation provided to the students on the course website. Students will access and read the grant solicitation, then will design a hypothesis and research objectives to test the hypothesis, and then write a grant proposal according to the format requested in the program solicitation. The hypothesis must focus on a specific physiological question; this means that the project must be primarily physiological in nature, regardless of the research tools used. Students must include a budget and budget narrative and all other elements required by the solicitation. Students are free to discuss with me their hypotheses and objectives at any time during the semester. It is highly recommended that students begin working on this proposal as soon as possible. Preliminary grant topics must be submitted to me in writing no later than
September 30th and students will submit their proposals to me in class on October 28th. I will critically evaluate the proposal according to whether or not students followed the program solicitation, according to its scientific merit, and according to the ability to effectively communicate both the problem and the approach to addressing the problem. I will then give the proposal back, along with my feedback, allowing students to address problems or issues identified. Students will then re-write their grant proposal and submit to me a final version on December 16th (final exam day).

**Evaluation:** Final course grades will be determined by the following:

- Discussion participation (quality, not just quantity): 10%
- Leadership: 25%
- First draft grant proposal: 30%
- Final draft grant proposal: 35%
- Total: 100%

The grading scale used to determine final grades is: 90-100% = A, 80-89.9% = B, 70-79.9% = C, 60-69.9% = D, <60% = F. As this class meets only once per week, missing a class is not an option. If, however, you have official University business and know of an absence in advance, please tell me at least 14 days before the expected absence so that we can work out plans for making up the missed class. This course will only be as good as you make it. Being prepared and ready to discuss the readings each week is a must. There will be no tolerance for silence. Each member of the class must intellectually and verbally participate each week to earn a passing grade for the discussion participation. The Leadership portion of the grade will be determined by: preparedness; ability to answer questions; ability to stimulate discussion among peers; and, ability to state the question/problem addressed in the publication. There will also be no tolerance for not allowing classmates to join in the discussion. I also expect all members of the class to respect the statements and opinions of others, which means to speak respectfully, act respectfully, and listen respectfully. I reserve the right to implement quizzes or exams at any time and without notice.

**Disability and Veterans’ Services:**

Texas A&M University-Corpus Christi is committed to providing persons with disabilities an equal opportunity to access campus facilities, resources and programs. The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. Support and accommodations are also available for returning veterans who experience cognitive and/or physical access issues in the classroom or on campus. Our Office of Disability Services arranges such support and academic accommodations. To make a request, or for more information, call (361) 825-5816 or visit Driftwood 101. It is important to contact the Office of Disability Services in a timely fashion as it will take time for them to review requests and prepare accommodations and accommodation letters.

**Grade Appeals:**

As stated in the Texas A&M University-Corpus Christi University Rules and Procedures (Section B [Academic Program], Part 13 [Students]: 13.02.99.C2 [Student Grade Appeals] and 13.02.99C2.01 [Student Grade Appeal Procedures]), a student who believes that he or she has not been held to appropriate academic standards as outlined in the class
syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is on the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, consult the University Rules and Procedures specified above (accessible through the University Rules and Procedures website at http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Reading schedule and deadlines:**


9/30: Preliminary grant topic is due


First draft grant proposal is due

*These articles are embedded in a large file containing several other articles.


11/25: NO CLASS, work on grant proposal!


12/16: **Final draft grant proposal due**: please let me know by 9/2 if you have another class with a final exam on 12/16 between 1:45 and 4:15 pm