2600 South Neal Street, Commerce, TX 75249-3011
Department of Biological and Environmental Science
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Course Number: BSC 497 – 01E, 3SH; CRN: 82893
Course Title: Comparative Vertebrate Physiology

Fall 2015

Instructor

Dr. Izhar Khan

Days	Time	Room
MWF	11:00 am – 11:50 AM	BA 338

Office Hours, Location, Phone & E-mail:
Monday – Thursday: 3:00 – 4:00 pm or by appointment

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UNIVERSITY STATEMENTS

Academic Integrity

By accepting this syllabus, you pledge to uphold the principles of Academic Integrity expressed by the Texas A&M University-Commerce Community. You agree to observe these principles yourself and to defend them against abuse by others. The first instance of cheating will result in an automatic zero on the exam and/or assignment. A second instance will result in a zero in the course. Cheating constitutes copying information from another student or non-allowable material as well as plagiarism. Plagiarism is a criminal activity. You must cite all sources of information. Copying of material, whether parts of sentences, whole sentences, paragraphs, or entire articles, will result in a score of zero for your essay and can result in further disciplinary action.

Conduct Policy

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Student's Guide Handbook, Policies and Procedures, Conduct)

Special Needs and Accommodations

Please advise the instructor of any special problems or needs at the beginning of the semester. 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. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library, Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Access to Student Work

Copies of your work in this course including copies of any submitted papers and your portfolios may be kept on file for institutional research, assessment and accreditation purposes. All work used for these purposes will be submitted anonymously.

University Policy on Weather Closings

Snow closings are generally announced on area television and radio stations. Unless otherwise advised by radio announcement or by official bulletins on the number listed above, students are expected to report for class as near normal time as possible on days when weather conditions are adverse. Decisions as to snow closing or delayed opening are not generally made before 5:00 AM of the working day. Students are expected to attend class if the University is not officially closed.

Textbook: *Animal Physiology,* 3rd Edition by Hill, R., Wyse, G. and Anderson, M., Sinauer Associates, Inc., 2012 (Recommended).
ISBN: 978-0-87893-559-8 (Casebound); 978-0-87893-898-8 (Looseleaf)

BROAD PURPOSE OF THE COURSE

This course is designed for majors with a well-rounded background in biology and provides students with an understanding of basic physiological principles as well as the functional organization of living systems. Emphasis will be placed on the functioning of organ systems in various vertebrate classes and their adaptation to the environment leading to an understanding of evolutionary relationships. We will evaluate i) the mechanisms by which animals perform their life-sustaining functions, ii) the evolution and adaptive significance of physiological traits, iii) the ways in which diverse phylogenetic groups of animals both resemble each other and differ, iv) the ways in which physiology and ecology interact, in the present and during evolutionary time, and v) the importance of all levels of organization—from genes to proteins, and tissues to organs—for the full understanding of physiological systems.

Student Learning Outcomes (SLOs): Students completing this course will be able to:

1. Compare and contrast the functioning of the major organ systems in various vertebrates.
2. Delineate how differences in their physiology allow vertebrates to adapt to their environment and how this relates to evolutionary development.
3. Use the scientific method in the study of physiology.
4. Explain how a reformed worldview informs our understanding of the concepts discussed.

More specific SLOs will be outlined and discussed with each topic covered.

TEACHING METHOD

Formal lectures will be supplemented with appropriate audiovisual materials, at home problems, laboratory exercises and discussions. PowerPoint of all lectures will be available for you in the Doc Sharing portion of eCollege or sent as e-mail attachment to the students in case of any issues with eCollege. I will post announcements on the home page of the course for reminders of important due dates in addition to announcing them in the class. Progress in the class can be monitored using the Gradebook.

There will be four exams covering approximately four chapters each. Some questions for quizzes and exams from a given chapter may be derived from the same Test Pool and repeated.

Attendance and Absences: You are expected to attend ALL scheduled lectures and take the exams as scheduled. You will be held responsible for all information covered in lecture.

Assignments and Quizzes: At home questions will be assigned beginning in the second week of the course. Quizzes will be approximately every third week and will be administered in the class (10 questions; 15 min). If you complete the at home questions in the week they are assigned you will receive full credit regardless of the number of correct responses. If they are done in the subsequent week it will be treated as a quiz. This will hopefully push you to keep up with the material. Both will be completed through eCollege or provided in the class. Be sure to check eCollege announcements for continual updates.

Exams: Consist of multiple choice questions (70-80%) and short answer questions (20-30%). The multiple choice questions are drawn from the same test pool as the assignments and quiz pools so be sure to complete those first. The term exams will be taken in class.

Makeup Policy: The student is responsible for requesting a makeup when they are unable to attend the regularly scheduled examination and must schedule the makeup within 2 days of the absence. Makeup exams will be scheduled only in the event of an EXCUSED absence (as defined in the Student's Guidebook). If the test is not made-up, the student will receive a zero for that exam.

GRADING SCALE

The final course letter grade will be assigned based upon the following break-down:

90 - 100% = A
80 - 89% = B
70 - 79% = C
60 - 69% = D
00 - 59% = F

GRADING POLICY

4 Lecture Exams – 100 points each = 400 points
Quizzes and assignments = 100 points
Research Paper Discussion/Presentation = 15 points (extra credit which I encourage)

SCHEDULE*

Week 1: Aug 31-Sep 4	Meet and Greet; Discuss Syllabus and Schedule Introduction (Ch 1) Digestive System (Ch 6)
Week 2: Sep **7**-11	**Labor Day Break** Digestive System (Ch 6) Whole Animal Metabolism (Ch 7)
Week 3: Sep 14-18	Whole Animal Metabolism (Ch 7) Whole Animal Metabolism (Ch 7) Aerobic/Anaerobic Metabolism (Ch 8) **Quiz #1 (Fri, Sep 18th; Ch 1, 6 & 7)**
Week 4: Sep 21-25	Aerobic/Anaerobic Metabolism (Ch 8) Aerobic/Anaerobic Metabolism (Ch 8) **Exam #1 (Fri, Sep 15th; Ch 6-8)**
Week 5: Sep 28-Oct 2	Energetics of Aerobic Activity (Ch 9) Energetics of Aerobic Activity (Ch 9) Thermal Relations (Ch 10)
Week 6: Oct 5-Oct 9	Thermal Relations: Poikilothermy (Ch 10) Thermal Relations: Homeothermy (Ch 10) Thermal Relations: Homeothermy (Ch 10) **Quiz #2 (Fri, Oct 9th; Ch 9 & 10)**
Week 7: Oct 12-16	Neurons: Introduction, Resting Potential (Ch 12) Neurons: Action Potential, propagation (Ch 12) Neurons: Synapses (Ch 13)
Week 8: Oct 19-23	Sensory Processes (Ch 14) Sensory Processes (Ch 14) **Exam #2 (Fri, Oct 23rd; Ch 10, 12 & 13)**
Week 9: Oct 26-30	Nervous System (Ch 15) Nervous System (Ch 15)

	Endocrine & Neuroendocrine Physiology (Ch 16)
Week 10: Nov 2-6	Endocrine & Neuroendocrine Physiology (Ch 16) Endocrine & Neuroendocrine Physiology (Ch 16) Reproduction (Ch 17) **Quiz #3 (Fri, Nov 6th; Ch 14 & 15)**
Week 11: Nov 9-13	Reproduction (Ch 17) Control of Movement (Ch 19) Muscle (Ch 20)
Week 12: Nov 16-20	Respiration: Breathing (Ch 23) Respiration: Breathing (Ch 23) **Exam #3 (Fri, Nov 20th; Ch 15-17, 19, 20)**
Week 13: Nov 23-27	Respiration: Breathing (Ch 23) Circulation (Ch 25) Circulation (Ch 25) **Thanksgiving Break**
Week 14: Nov 30-Dec 4	Water and Salt Physiology: Introduction and Mechanisms (Ch 27) Water and Salt Physiology of Animals in Their Environment (Ch 28) **Quiz #4 (Fri, Dec 4th; Ch 23 & 25)**
Week 15: Dec 7-11	Water and Salt Physiology of Animals in Their Environment (Ch 28) Kidneys and Excretion (Ch 29) **Quiz #5 (Fri, Dec 5th; Ch 27 & 28)**
Week 16: Dec 16	**Exam # 4: Wed, 10:30 AM – 12:30 PM** **Chapters 23, 25, 27-29**

***ALL DATES AND ASSIGNMENTS ARE TENTATIVE AND SUBJECT TO CHANGE**