BSC 422 Animal Physiology
Fall 2018

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Office hours: Tuesdays 9:00am to 12:00pm, or by appointment.

Course Description:

BSC 422 Animal Physiology, Credits: 4.

Learn and discuss physiological principles operating in cells, tissues, organs, and systems of animals, with a focus on vertebrate (including human). Prerequisite: Grade with C or better in: BSC322; CHM355; MTH140 or 132 or 229; or permission.

This course meets Fall 2018. The lecture will meet in S360 Wednesdays 9:00am to 11:50am. The laboratory will meet in S387 Mondays 9:00am to 11:50am. MUonline will be used as a tool to disseminate information and provide assessments.

Course Texts:

Lecture: Animal Physiology: From Genes to Organisms, 2nd Edition, *Lauralee Sherwood, Hillar Klandorf, Paul Yancey*, ISBN-13: 9780840068651, CENGAGE Learning

Laboratory: Materials will be handed out throughout the semester. You will need a lab notebook to record your lab procedures and observations.

Course Grading:

You will be scored on lecture exams and lab reports. Lecture exam 1 and 2 will be worth 100 points each. The FINAL will be *CUMULATIVE* and worth 100 points. Lab reports will be worth 100 points.

I use this scale to determine final grades: 100% - 90% = A; 89% - 80% = B; 79% - 70% = C; 69% - 60% = D; <59% = F. I round up if your score is X.5% to X.9%.

Statement of goals:

- Give students a thorough understanding of animal physiology across phyla.
- Provide students with an opportunity to develop critical thinking skills.
- Allow students freedom to study concepts of animal physiology with emphasis placed on their areas of interest.
- Give students experience with laboratory exercises designed to provide first-hand knowledge of how animal life works.

Statement of expected outcomes:

- describe physiological processes at the level of cells, organs, systems, and organism.

- apply physiological concepts to novel situations.
- compare physiological processes in animals with different life histories and needs.
- infer how an animal as a whole functions based on knowledge from different parts of the course.
- perform well-designed experiments.
- write concise scientific reports.
- form conclusions based on critical evaluation of information and data.

Study Tips:

1. coming to class prepared (slide printouts, textbook readings)
2. taking good notes and asking questions
3. reviewing materials at least bi-weekly
4. seeking help from the instructor or peers

Use these websites to find out which study habits work best for you: http://www.learning-stylesonline.com/overview/ https://www.samford.edu/departments/academic-success-center/how-to-study

Opening statements from your instructor

You are paying very good money to be here. **YOU are responsible for your own grade. I will be here more as a guide for your study of Animal Physiology than as an omnipotent dictator.

**Teaching and learning is bilateral cooperation. Your participation and feedback is absolutely needed to make this course a success and, therefore, is expected. With this regard, I expect that you will be prepared to answer and ask questions during the lecture. If you fall asleep during the lecture or lab so will I. I hope this will be as fun for you as it will be for me!

**Currently, I have two research interests. One is on mammalian reproduction and the other is on human cancer. In this course, I will use some examples derived from our research.

Policies for BSC422 Animal Physiology (Fall 2018)

Attendance

Attendance to all lecture and laboratory sessions is mandatory. Your performance in this class depends upon your participation in the improvised discussions that will arise during lecture and lab times. While you will need to put in ~3 hours outside of class for each hour in class, this will not take the place of active classroom participation. You will not be able to access the lab space for "after hours" study. Therefore, it is most important that you use our scheduled time to your benefit.

Plagiarism Policy/Academic Dishonesty

We will not tolerate representing someone else's work as your own. We expect that you cite all literature used in papers and lab reports and that you work independently on quizzes and tests unless directions have been issued that group work will be allowed. A grade of ZERO will be assigned to work deemed as not your own. Furthermore, we will report the incident to the Chairman of the

Department of Biological Sciences. You may be placed on academic probation, suspended or dismissed from the University following being found guilty of Academic Dishonesty. Please see the following web site for the official Marshall University statement; http://www.marshall.edu/academic-affairs/policies/#AcademicDishonesty

Social Justice

NO one will be discriminated against on the bases of race, sex, ethnicity, age, sexual orientation, social class, abilities or differing viewpoints. Each student will be viewed as a valuable and essential part of this class.

Students with Disabilities

Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304-696-2271 to provide documentation of their disability. Following this, the DSS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit http://www.marshall.edu/disabled or contact Disabled Student Services Office at Prichard Hall 11, phone 304-696-2271.

Learning Disabilities

Marshall University prides itself in its programs designed to aid those with documented learning disabilities. Any student participating in the HELP program will receive whatever arrangements are found necessary by the experts in the HELP program. We will do everything in our power to structure this class to facilitate learning by each member of the class, including providing alternative presentation techniques, alternative testing procedures and any other tool which may help.

Inclement weather

We will begin the class at the rescheduled time in the event of any delays. If the University is closed for weather related reasons, this class will be cancelled and we will adjust our schedule.

University-Wide Policies
Details on university-wide policies can be accessed at http://www.marshall.edu/academic-affairs/policies/

BSC 422, Fall 2018

Science Building 360/387, Dr. Guo-Zhang Zhu

Tentative Lecture and Lab Schedule (Subject to change if needed)

Date		Topic	Chapter
August	20	Opening class – syllabus – survey	
	22	Homeostasis and Integration	1
	27	Lab 1: Intro, Safety, Equipment tutorials	
	29	Cellular and Molecular Physiology	2
September	3	Labor Day: no Lab	
	5	Membrane Physiology	3
	10	Lab 2: Homeostasis I	
	12	Neuronal Physiology	4
	17	Lab 3: Homeostasis II (Expt. HH-5)	
	19	Nervous System	5
	24	Lab 4: Neurophysiology I (Expt. HN-2)	
	26	Sensory Physiology	6
October	1	**Lecture Exam # 1 (Chapters 1-6) (100 points)** Science 360, 9am to 11:00am	
	3	Endocrine System	7
	8	Lab 5: Nobel Prize I	
	10	Muscle Physiology	8
	15	Lab 6: Muscle (Expt. HM-2)	
	17	Circulatory System	9
	22	Lab 7: Cardiac (Expt. HH-1)	
	24	Defense System	10
	29	Lab 8: Nobel Prize II	
	31	Respiratory System	11
November	5	Lab 9: Respiratory (Expt. RP-3)	
	7	Excretory System	12
	12	**Lecture Exam # 2 (Chapters 7-12) (100 points)** Science 360, 9am to 11:00am	
	14	Reproduction System	16
	19	No class---Thanksgiving/Fall Break	
	21	No class---Thanksgiving/Fall Break	
	26	Lab 10: Reproduction	
	28	Fluid and Acid-Base balance	13
December	3	Digestive System	14
	5		
	10	**FINAL COMPREHENSIVE (all lectures) (100 points)** Science 360, 10:15am to 12:15pm	**Final**