

BSC 625 Advanced Physiology
Spring 2018

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Office hours: Thursdays: 8:00am to 11:00am, or by appointment.

Course Description:

BSC 625 Advanced Physiology, Credits: 4.

Learn and discuss physiological principles operating in cells, tissues, organs, and systems of animals, with a focus on vertebrate (including human). Apply and integrate other scientific disciplines in physiology. Prerequisite: Grade with C or better in: BSC228, BSC302, BSC320, BSC322, BSC324; CHM355; MTH140 or 132 or 229; or permission.

This course meets Tuesdays and Thursdays 11:00am-12:15pm spring 2018 in Science Building room 360. MUonline will be used as a tool to disseminate information and provide assessments.

Course Texts:

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

Course Grading:

You will be scored on class attendance, class discussion, presentation and final essay. Class attendance will be worth 30 points (one point per class). Class absence without a university approved excuse will not earn credit. Class discussion (asking and answering questions, etc.) will be worth 60 points (two points per class). Presentation (and/or co-lecture with the instructor) on specific topics will be worth 90 points. Final essay on an approved topic will be worth 90 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
- Stimulate students to comprehend physiology in an interdisciplinary manner
- Allow students freedom to study concepts of animal physiology with emphasis placed on their areas of interest.
- Provide students with an opportunity to develop critical thinking and presentation skills

Statement of expected outcomes:

- describe physiological processes at the level of cells, organs, systems, and organism.
- apply interdisciplinary knowledge to interpret physiology.
- 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.
- form conclusions and hypothesis based on critical evaluation of information and data.
- Master literature review and synthesize scientific reports.
- write concise and informative scientific review.

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 Advanced Physiology than as an omnipotent dictator.**

****Teaching and learning is a two-way street. 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 so will I. I hope this will be as fun for you as it will be for me!**

Policies for BSC625 Advanced Physiology (Spring 2018)

Attendance

Attendance to all lecture sessions is mandatory. Your performance in this class depends upon your participation in the improvised discussions that will arise during lecture times. While you will need to put in ~4 hours outside of class for each hour in class, this will not take the place of active classroom participation.

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/>

Tentative Lecture Schedule (Subject to change if needed)

Date		Topic	Note
January	9	Introduction to course; Assignment of areas of interest	
	11	Concept review	
	16	Concept review	
	18	Concept review	
	23	Concept review	
	25	Concept review	
	30	Chemistry in Physiology	
February	1	Chemistry in Physiology	
	6	Chemistry in Physiology	
	8	Chemistry in Physiology	
	13	Genetics in Physiology	
	15	Genetics in Physiology	
	20	Genetics in Physiology	
	23	Genetics in Physiology	
	27	Genetics in Physiology	
March	1	Genetics in Physiology	
	6	Cell Biology in Physiology	
	8	Cell Biology in Physiology	
	13	Cell Biology in Physiology	
	15	Cell Biology in Physiology	
	20	No class---Spring Break	
	22	No class---Spring Break	
	27	Cell Biology in Physiology	
	29	Cell Biology in Physiology	
April	3	Microbiology in Physiology	
	5	Microbiology in Physiology	
	10	Ecology in Physiology	
	12	Evolution in Physiology	
	17	Mathematics in Physiology	
	19	Physics in Physiology	
	24	Engineering in Physiology	
	26	Music in Physiology	
May	1	FINAL Essay due 2:45pm	Final