***Animal Physiology***

***BSC 422/522***

***374 Science Building***

***Lecture Monday and Wednesday 1:00 – 2:15 pm***

***Lab Monday 9:00 – 11:50***

**Professor: Dr. David S. Mallory**

**Office: 350 Science Building**

**Phone: 696-2353**

**E-mail:** [**Mallory@Marshall.edu**](mailto:Mallory@Marshall.edu)

**Office Hours: Tues, Wed, Thurs , Fri– 8:00a – 10:00a & By Appointment**

**Textbook: Animal Physiology: From Genes to Organisms. Sherwood, Kandorf & Yancey.**

**Brooks/Cole**

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***Course Description:***

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| **BSC 422 –Animal Physiology. 4 credit hours.** |
| Physiological principles operating in the organ systems of vertebrate animals. 3 lec.-3 lab. (PR: BSC 105 with a grade of B or better or 121 with grade of C or better )  **BSC 522 Animal Physiology. 4 credit hours.**  Physiological principles operating in the organ systems of vertebrate animals. (PR: BSC 120, 121 or  equivalent; BSC 322) |

***Statement of goals:***

* Give students a thorough understanding of normal vertebrate physiology.
* Provide students with an opportunity to develop critical thinking skills.
* Allow students freedom to study concepts of physiology with emphasis placed on their areas of interest.
* Give students experience with laboratory exercises designed to provide first hand knowledge of physiological concepts**.**

***Statement of expected outcomes:***

* Students will understand the cellular to organismal concepts of animal physiology with emphasis being placed upon mechanisms of control and integration of function.
* Students will be able to read scientific papers, formulate hypotheses and test these hypotheses with appropriately designed experimental protocols.
* Students will be able to analyze scientific data and make conclusions from these analyses.
* Graduate Students will be competently prepared to organize a seminar-like presentation and orally present this informative talk to a group of peers using appropriate multimedia tools.

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email team@piazza.com.

Find our class page at: [https://piazza.com/marshall/spring2013/bsc422522/home](https://piazza.com/class)

***Mechanisms of Evaluating Student Performance***

There will be 3 preliminary exams, an undetermined number of quizzes and a Comprehensive Final. The quizzes given during lecture and lab will cover material from previous sessions and/or the session to be completed. These quizzes will count toward your final grade. I expect that most of you will benefit from these quizzes because they will likely help your score as they will require you to keep current with readings and assignments. QUIZZES MAY NOT BE MADE UP; IF YOU MISS ONE, YOU LOSE THOSE POINTS no exceptions!

Graduate students will be required to write a term paper (minimum of 10 pages) and do an oral presentation (15 minutes) based upon the paper. THIS CAN NOT BE THE SAME RESEARCH YOU ARE DOING FOR YOUR THESIS. I will need to approve, in writing, the topic you will research. Each of these assignments will be worth 100 points. Please bring to me a brief written description of your thesis work.

You will be required to write and submit a “minute paper” at the end of some lectures. The topic of each “paper” will vary. As part of this assignment, I will ask that you write at least one question concerning that day’s lecture on which you would like more information or clarification.

***NOTE:*** *All students in the class will evaluate the oral presentations. The final grade for the oral presentations will be calculated using the students’ and the instructors’ evaluations.*

**Scoring: Exams will count 100 points each. The COMPREHENSIVE FINAL EXAMINATION will count 200 points. Quizzes will count 10-25 points. The laboratory will count for 200 points. See above for paper and presentation scoring rules. Your final grade will be determined by dividing the total points you have earned by the total number of points available. For example, if there are 800 points possible and you score 640, your final grade will be 640 800 = 0.80 or 80%. I will round up if your score is X.5 - X.9 .**

**100 - 90 = A; 89 - 80 = B; 79 - 70 = C; 69 - 60 = D; 59 - 0 = F.**

**GRADES and what they mean**:

The following system of grades and quality points is used for this course:

***A***For achievement of distinction. Distinctive Exceptional work

***B*** For competent and acceptable work. Above average work. Indicates motivation and desire to perform above the norm.

***C*** For average performance. Work at the level expected of upper level biology students

***D***For patently substandard work. Work considerably below the average expected of an upper level college student, including missing assignments and scores on assignments below the class averages*.*

***F***Failure, given for unsatisfactory work.

**MISSED EXAMS WILL BE MADE UP ONLY IF PREVIOUS ARRANGEMENTS HAVE BEEN MADE *AND WILL BE IN AN ORAL FORMAT***

***Please do not text during class, it is distracting for students and the instructor. I have no problem with you using your devices to Google/Bing something about the lecture, but chatting is not beneficial to your processing of the information being presented. Thank you for adhering to this request.***

No laptops nor digital translators allowed during exams.

**Attendance Policy:**

-Attendance to **all laboratory** sessions is **mandatory**. It is impossible to set up labs outside of the normal time because of high usage of the room (BSC 228 uses this lab room too). Therefore, if you miss a laboratory session, you will forfeit the points associated with that exercise.

-While attendance to the lecture is not mandatory, **I strongly recommend your regular attendance**. You will likely NOT do as well on tests if you have missed the classroom discussions. You will NOT be allowed to makeup any missed quizzes (announced or unannounced: see front page) and therefore your grade may suffer by not being in the lecture.

**Inclement weather policy:**

Lecture will NOT be affected by a delay, however, the lab is scheduled to begin at 9am. If there is a 1-hour delay we will begin on time. IF there is a 2-hour delay, we WILL begin the lab session at 10am. IF the University is closed for weather related reasons, we will adjust our schedule. <http://www.marshall.edu/www/policy/policy_07.html>

**Plagiarism Policy/Academic Dishonesty**

**I will not tolerate representing someone else’s work as your own. I expect that you will cite all literature used in papers and lab reports and the you work independently on quizzes and tests unless express 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, I 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/Academic%20Dishonesty%20Policy.pdf**](http://www.marshall.edu/academic-affairs/Academic%20Dishonesty%20Policy.pdf)

**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.

**Dead Week**

The last five class days of the fall and spring semesters are designated as “dead week.” During this period, instructors can assign major papers and/or projects which count as 15% or more of the final course grade ONLY if the assignment is stated in the course syllabus. Instructors can introduce new material and give make up exams during the Dead Week.

Graduate Student Presentation/Paper Topic……. This document is due March 26 in class.

Please write a title of the work you will be presenting to the class (Date TBD) and the paper you will be turning in on **April 24**.

In the space below, please provide an abstract of the class project.

In the space below, please provide a brief description of your thesis work (IF you are doing a thesis)

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Student signature Date Dr. Mallory signature Date

***Tentative Lecture Schedule***

***January***

**13 M** Introduction. Course objectives.

**15 W** Intro to reproduction, Male reproductive system 757-783

**FRIDAY JANUARY 17 IS THE LAST DAY TO ADD A CLASS TO YOUR SCHEDULE**

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**20 M NO CLASSES. MLK Remembrance**

**22 W** Female reproductive system 783-798

***Grad students must submit a one-page summary of their thesis research at the beginning of class Wednesday***

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**27 M** Fertilization, implantation, parturition and lactation 799-815

**29 W** Endocrinology 268-284

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**FEB** **03 M** Endocrinology 284-322

**05 W Preliminary Test # 1**

**FRIDAY FEBRUARY 7 IS THE DEADLINE FOR APPLYING FOR MAY GRADUATION, SEE YOUR COLLEGE OFFICE**

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**10 M** Membrane Physiology 70-109

**12 W** Neuronal Physiology, membrane potentials-synapses 111-143

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**17 M** Nervous System 148-195ish

**19 W** Sensory Physiology 208-267

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**24 M** Skeletal muscle structure and mechanics 335-363

**26 W** Muscle part 2 364-380

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**March 03 M** Circulatoryfluids 385-400

**05 W** Circulatory pumps 400-422

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**10 M** Circulatory pathways 422-453

**12 W Preliminary exam # 2**

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**17 M Spring Break**

**21 F Spring Break**

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**24 M** Immune system 458-492

**26 W** Respiratory systems I **(Presentation contract due)** 493-502

**FRIDAY MARCH 28 IS THE LAST DAY TO DROP AN INDIVIDUAL CLASS**

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**31 M** Respiratory systems II 502-556

**April** **02 W** Respiratory systems completion 556

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**07 M** Excretory systems (primary focus on mammalian kidney) 557-610

**09 W** Kidney and Fluid/Acid/Base balance 600-650

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**14 M** Digestive system--General information 654-681

**16 W** Digestive system … accessory organs etc 682-710

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22 M Energy Balance/Thermodynamics 715-

24 W Student presentations

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29 M Student presentations

**May** 01 F **Preliminary Test #3 (this test will include student presentations)**

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***FINAL EXAMINATION*................May 09, ……12:45 – 14:45**