***Human Physiology***

 ***BSC 228***

***105 Corbly Hall***

***Lecture Tuesday and Thursday 0800-0915 h***

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

**Office: 350 Science Building**

**Phone: 696-2353**

**E-mail:** **Mallory@Marshall.edu**

**Office Hours: Monday through Friday 1:00p – 3:00 p & By Appointment**

**Textbook: Human Physiology: From Cells to Systems. 8th edition. Sherwood 2013**

**Brooks/Cole Cengage.**

**Lab Text: Biopac manual.**

**Lecture Clicker: Here's the link to buy the NXT clickers** [**https://store.turningtechnologies.com/**](https://store.turningtechnologies.com/) **for the school code enter mar1**

**By enrolling in this course, you agree to the University Policies listed below. Please**

**read the full text of each policy be going to** [**www.marshall.edu/academic-affairs**](http://www.marshall.edu/academic-affairs) **and clicking on “Marshall University Policies.”**

**Or, you can access the policies directly by going to <http://www.marshall.edu/academic-affairs/?page_id=802>**

**BlackBoard will be used to disseminate information, display changes in schedule, provide additional content including web sites/youtube videos etc.** You should check your BlackBoard page daily.

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***Course Description:***

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| **Human Physiology. 4 hrs**. |
| Basic concepts of human physiology, including an introduction to physiological control mechanisms operating at cellular, tissue, organ, and systems levels. Provides the scientific background for understanding pathophysiology. Open to candidates in BSN program. Does not count toward a major in Biological Science. 3 lec.-3 lab. (PR: BSC 227 with grade of *C* or better) |

***Statement of goals:***

* Give students a thorough understanding of normal human physiology.
* Provide students with an opportunity to develop critical thinking skills.
* Allow students freedom to study concepts of physiology
* 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 human physiology with emphasis being placed upon mechanisms of control and integration of function.
* Students will be able to discuss scientific principles, formulate hypotheses and understand how scientists test these hypotheses with appropriately designed experimental protocols.
* In laboratory, students will be able to analyze scientific data and make conclusions from these

 analyses.

***Mechanisms of Evaluating Student Performance***

**We will be using the TurningTechnologies NXT responsecard for testing. You must obtain your own unit for this class. Here's the link to buy the NXT clickers** [**https://store.turningtechnologies.com/**](https://store.turningtechnologies.com/) **for the school code enter mar1**

There will be 1 Mid-Term exam (100 points) and a **Comprehensive Final (200 points)**. There will be 6 Mini-tests (25 points each) given during lecture. Total available lecture points = 450.

**Lecture will account for 75% of your final grade.**

There will be 7 major graded assignments plus weekly lab quizzes for a total of 125 points.

**Lab will account for 25% of your final grade.**

To calculate your score to date:

(((# of lecture pts earned)/(# of lecture pts available))x 0.75)+(((# of lab pts earned)/(# of lab pts available)) x 0.25) = grade in course at that time.

**Your final grade will be determined by**

 **100 – 89.5 = A; 89.4 – 79.5 = B; 79.4 – 69.5 = C; 69.4 – 59.5 = D; 59.4 - 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 entry level college students

***D***For patently substandard work. Work considerably below the average expected of an entry 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***

**NO CELL PHONES ALLOWED ANYTIME**

No laptops or 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.

- **I strongly recommend your regular Lecture 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) and therefore your grade may suffer by not being in the lecture.

**Inclement weather policy:**

Any delay/cancellation of classes will result in our lecture being cancelled.

Laboratories meeting any day from 1300 to 1550 will not be affected by delay and will meet as scheduled.

**Laboratories meeting W and F 0900-1150 WILL meet at 0900 for a 1 hour delay or 1000 for a 2 hour delay!**

<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 that 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 I deem not your own. Furthermore, I will report the incident to the Provost’s Office. 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>

**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 and students’ contributions will be viewed as valuable and essential parts 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.

***DATE Tentative TOPIC and ASSIGNMENT pages* August**

 **26T** Introduction. Course objectives. Q & A session.

 28**R** Homeostasis, Discussion/Review of the Cell. 1-18

**September *01M Labor Day Holiday. No Classes.***

 02**T** Review Cells, focus on Organelles 21-53

 04R **Mini-test…25 pts**… plus Cellular energy metabolism 34-41

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 09**T** Membrane structure and function 56-78

11R Membrane potential/neuronal physiology 78-

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 16**T** **Mini-test…25 pts** Neuronal/Synaptic function -120

 18**R** Muscles & Skeletal Muscle: Structure/Sliding Filament 259-277

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 23**T** Muscles & Skeletal Muscle: Structure/Sliding Filament 259-277

25R Control of skeletal muscle functions & Smooth andCardiac muscle 278-304

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 30T General concepts of Nervous System/CNS 134-184

**October** 02R **Mini-test… 25 pts**… Peripheral Nervous System (PNS)/Special Senses 185-238

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07T PNS Efferent Division/ Autonomic & Somatic Nervous systems 239-258

 09R Chemical signaling (Endocrinology …sort of..) 121 -131

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 14**T** Cardiac/Circulatory 305-342

 16R **Mini-test…25 pts…** Circulatory -342

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 21T Blood Pressure 343-387

 **23R MID TERM EXAMINATION 100 points**

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 28**T** Immune system General discussion 415-455

 30RRespiratory System 457-500

 ***31F Last Day to Drop Individual Classes***

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November 04T Respiratory System 457-500

 06R **Mini-test**…25pts… Urinary System 502-549

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 11T Urinary System 502-549

 13R Fluid and Acid-Base balance 550-580

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 18T Digestive System 581-634

 20R **Mini-test…25 pts…** Peripheral Endocrine Glands 685-734

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 25T NO CLASS; THANKSGIVING BREAK

 27R NO CLASS; THANKSGIVING BREAK

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**December**

 02T Reproduction 735-792

 04R Reproduction 735-792

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***FINAL EXAMINATION*. 200 points......December 11………..0800-1000 h....**

**BSC 228 Lab Schedule, Fall 2014**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Week** | **Topic**  | **Materials** | **Due Date** |
| **1** | **25-Aug** | **Introduction/ Laboratory Safety/Statistics in Physiology** | **Handout #1** |   |
|  | **1-Sept** | **No Lab**  |  |   |
| **2** | **8-Sept** | **How to Write a Lab Report and Biopac Tutorial** | **Handout #2, Biopac Tutorial** |  |
| **3** | **15-Sept** | **Physiological Chemistry** | **Handout # 3** | **Rough draft Lab Report 1 DUE (Rough draft MUST be turned in or you cannot turn in a final draft)** |
| **4** | **22-Sept** | **Osmosis and Diffusion** | **Handout #4** |  |
| **5** | **29-Sept** | **Electroencephalography**  | **Biopac 3 & 4**  | **Rough drafts returned Osmosis & Chemistry question sheets DUE** |
| **6** | **6-Oct** | **Sensory Physiology** | **Handout #5** | **Final draft of Lab Report 1 DUE** |
| **7** | **13-Oct** | **Reaction Time / Skeletal Muscle**  | **Biopac 1, 2, & 11** | **Lab Report 1 returned** |
| **8** | **20-Oct** | **Endocrine System: TLC Steroids, Endocrine in Class Exercise** | **Handout #7** | **Endocrine lab sheet DUE at end of lab**  |
| **9** | **27-Oct** | **Cardiac Physiology** | **Biopac 5 & 6** | **Lab Report 2 DUE** **(Labs 5,6,7)** |
| **10** | **3-Nov** | **ECG and Pulse, and Blood Pressure** | **Biopac 7& 16** | **Lab Report 2 returned** |
| **11** | **10-Nov** | **Respiratory System** | **Biopac 12 & 13** |  |
| **12** | **17-Nov** | **Digestion** | **Handout #8** | **Lab Report 3 DUE** **(Labs 9, 10,11)** |
|  | **24-Nov** | **No Labs, Fall Break** |  |  |
| **13** | **1-Dec** | **Experimental Design** |  | **Digestion question sheet DUE. Exp Design DUE at end of lab.** |

**Lab Point Breakdown**

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| --- | --- |
| **Description** | **Points** |
| **Lab Report on Statistics (Lab #1)** | **20** |
| **Question sheets on Osmosis and Physiological Chemistry (Labs # 3 and 4)** | **10** |
| **Lab Report on EEG, Sensory, Skeletal Muscle, Reaction Time (Labs # 5-7)** | **20** |
| **Question sheet and in lab exercise on Endocrine Function (Lab # 8)** | **10** |
| **Lab Report on Cardiac, ECG, Respiratory (Labs 9-11)** | **20** |
| **Question sheet on Digestion (Lab 12)** | **10** |
| **Experimental Design (Lab 13)** | **10** |
| **Weekly quizzes on lab material and lab preparation** | ** 25** |

ALL LAB REPORTS AND EXERCISES MUST BE PLACED IN ASSIGNMENT TRAY AT THE BEGINNING OF LAB. **A rough draft MUST be turned in to receive credit for final draft. The rough draft must also be turned in with the final draft. Failure to do so will result in a grade of zero for the final draft.**