

## **BSCI 441: Mammalian Physiology Laboratory**

### **Fall, 2013**

In this course you will:

- **become familiar** with modern techniques in clinical and research methodologies
- **apply your knowledge** of homeostatic physiological mechanisms covered in BSCI 440
- **perform independent investigations** into special topics in physiology

By directly manipulating some of the homeostatic mechanisms that are fundamental to mammalian physiology, you are expected to gain significant experience in experimental design, hypothesis testing, data collection and analysis, rather than simply view a brief demonstration. So, work hard, and have fun!

**\*\*\*\*NOTE: This course involves terminal animal experiments.** We have made an effort to minimize the animal usage but they remain an important part of the course.

**Course staff for this semester includes the following:**

**Instructor:**

Dr. Hilary Bierman  
2235 BPS  
(301) 405-0947  
hilaryb@umd.edu

office hours:  
Tuesday 9:30am – 11:30pm  
*Or by appointment*

**Graduate Assistants:**

Kevin Donaldson  
kdonald@umd.edu  
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**Location:**

**Lab Lecture**

BPS 1243 – Friday 1:00 – 1:50 pm

**Laboratory**

Plant Sciences 1181 – M, Tu, and W 2:00pm – 5:50 pm

**Prerequisites:** Concurrent or previous enrollment in BSCI 440

**Text(s):**

The laboratory exercises for BSCI441 are available **only online** at your BSCI441 Canvas site. You must logon to the site and download the required materials before each lab session.

<http://www.elms.umd.edu>

The textbooks used in BSCI440 (Lecture) are appropriate resources for the lab course. These include the following:

Silverthorn, D.U. (2006) *Human Physiology: An Integrated Approach* (2<sup>nd</sup> or 3<sup>rd</sup> editions) Prentice Hall

Stanfield, C.L. (2008) *Principles of Human Physiology* (4<sup>th</sup> or 3<sup>rd</sup> editions) Pearson

Goodman & Gilman's *The Pharmacological Basis for Therapeutics* (almost any addition) McGraw-Hill

Berne, Levy, Koeppen & Stanton (2004) *Physiology* (5<sup>th</sup> edition or later) Mosby

**BSCI441 Attendance Policies:** Attendance in the lab is mandatory. Failure to do so has significant ramifications to your grades and, ultimately, to your success in the course. Below are the specifics on lab attendance.

- **You must be on time and prepared for lab.** The TA will not perform excessive background review at the start of lab. Arriving more than 15 minutes late to lab counts as missing lab.
- **You may miss one lab session for any reason, but you will be penalized** (see below). **Any student missing more than one lab without a valid, documented excuse will automatically fail the course.**
- **Unexcused absences will be penalized** by deducting 50% or more of the points for the laboratory assignment that was conducted during the missed lab period. Students more than 15 minutes late will be marked absent. Chronic tardiness will not be tolerated (and will result in loss of lab participation points). Additional time to complete assignments will not be granted to students who enter the lab late.

- **Absences due to illness:** For a single medical absence students may be excused with a self-signed note indicating the nature of the illness and the necessity of absence. These notes will be held accountable to the honor code. More than one session missed for medical reasons will require documentation from a medical professional. When possible, students will be scheduled into alternative lab sections or given an alternate assignment. **Please contact the lab instructor for permission to attend an alternate lab. For an absence to be considered excused Dr. Bierman (and preferable also your TA) must be notified within 24-48 hours after (or preferably before) the missed session. Acceptations to this rule require circumstances on the order of hospital admittance.**
- **University pre-approved absences** Some absences are known beforehand and meet the guidelines for University excused absences. These include, for example, intercollegiate athletic events and religious observances. In the event that students will miss lab due to such events, they may be scheduled into alternate labs if their schedule permits. To do so, however, **you must submit the “Pre-Approved Makeup Request” form, within the first two weeks of lab (See lab website “Lab Policy and Forms”).** Note: absences are excused on the DAY of the event, and do **not** include travel time.
- **Professional School Interviews** can be excused absences with “Pre-Approved Makeup Request” form. I understand that you might not have this information by the first two weeks of class. **The make-up form for interview absences must be turned in minimally one week prior to the scheduled absences.**
- **Lecture sessions are mandatory. Unexcused absences will result in a penalty. Arriving more than 10 minutes late = a missed lecture.**
- **If a make-up assignment is given it must be completed adequately and in a timely fashion.** If the assignment is late or incomplete points will be deducted from that student’s lab report grade .

**Academic Dishonesty:** The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. ***It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism.*** For more information on the Code of Academic Integrity or the Student Honor Council, please visit:  
<http://www.studenthonorcouncil.umd.edu/whatis.html>

**Help in BSCI441:** You should feel free to make use of your lab TA, who is available to guide you through the lab material. You may also contact Dr. Bierman for any unresolved issues pertaining to lab. If you are concurrently taking BSCI440 you may also consult your course TA or professor.

**Students with Disabilities:** The course staff is committed to providing appropriate accommodation for students with recognized disabilities. If you have been evaluated by Disability Support Services (DSS) and qualify for specific services, please inform your professor and TA at the beginning of the semester. If you think that you may qualify for some accommodation but have not yet been evaluated, please contact DSS at 301-314-7682 to arrange a consultation.

**Group Work and Participation Evaluation:** All of the lab reports in this course are to be submitted by lab groups (not individually). As much of research science and medicine relies on teamwork it behooves you to develop/hone good teamworking skills. Though reports are turned in as a group, grades are assigned individually. Your performance on the exercises and the production of the report will be assessed by your fellow group-mates and by the TA, who has been paying attention to who is participating during lab. Each group member will provide the TA with an assessment of the other group members, based on 100%. For example, if the consensus is that one group member only did about 80% of his or her role, then that person's individual grade will be **(0.80) X (the grade earned on the portfolio)**. **In order to receive your grade on a report you must complete the online group participation evaluation associated with that report.**

*Please note: for a variety of reasons, the group may choose to assign a particular individual a "lighter" portion of the work. Assuming that individual does 100% of what they were asked to do, then their grade will be 100% of the report grade, regardless of the "lighter" load they were asked to complete.*

## **Assignments and Point Values:**

<b>Assignment</b>	<b>Due Date*</b>	<b>Point Value</b>
Take Home Quizzes: 4 @ 25 points each	9/13, 10/4, 10/18, 11/1	100
Assignment 1: Serial Dilutions	Wk of 9/16	15
Assignment 2: Determining Unknown Agent Flow Chart	Wk of 9/23	25
Data Report 1 – Human EMG	Wk of 9/23	100
Data Report 2 – Rat Ileum	Wk of 10/7	100
Assignment 3: Cardiovascular Drug Table	Wk of 10/14	25
Data Report 3 – Human CV	Wk of 10/21	100
Final Project Proposal	Wk of 11/4	25
Data Report 4 – Rat CV	Wk of 11/18	100
Final Project Presentation	Wk of 12/9	75
Final Project Report	12/13	100
Lecture Attendance & Participation**		25
Lab Attendance & Participation***		25
	<b>TOTAL</b>	<b>815 points</b>

\*Except for Quizzes all assignments are due in lab the week listed

\*\* Lecture Participation and Attendance Points: Points maybe deducted for lecture absence (spot attendance checks will be done) and for lack of participation in mini-presentations.

\*\*\* Assigned at the TA's discretion based on tardiness and lack of preparedness, participation, or respect. Lab attendance participation grades will be given out three times over the course of the semester, during weeks of 9/30, 11/4 and 12/9. There will be no surprises at the end of the semester!

## **Late Assignments:**

Dr. Bierman and the BSCI441 TAs have the right to refuse any late assignment. For instance, if the key to an assignment or quiz has been posted or answers discussed it is ineligible to be turned in late. If you need to be absent on a day an assignment or quiz is due, you should make every effort to turn in the assignment ahead of time. If this is not possible confer with Dr. Bierman or your TA ASAP. Late assignments will lose 10% of the maximal grade per day they are late.

### **Grade Assignment:**

	percent	points
A+	98	798.7
A	92.5	753.9
A-	90	733.5
B+	88	717.2
B	82.5	672.4
B-	80	652.0
C+	78	635.7
C	72.5	590.9
C-	70	570.5
D+	68	554.2
D	62.5	509.4
D-	60	489.0

**Our Philosophy:** The 441 Staff wants this to be an enjoyable, low stress, hassle free experience. You should have fun, learn, be creative, and participate! If you show up for all lectures and laboratory periods, come prepared, participate, and turn in good work, you will receive a final grade of "A". For example, the quizzes have a *take home, open book* format! So relax and explore!