

FALL 2013 BIO 212 Human Physiology Syllabus

INSTRUCTOR: Professor Dana Merriman, Department of Biology
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Office Hours: Weds 11:30-12:30 and 3-4; Thurs 9:00-3:00 BY APPOINTMENT.
Appointments are made on a sheet taped to my office door.

CLASS MEETING TIMES & PLACES: Lecture MWF, 10:20-11:20 am, Clow 101.
Labs are in Halsey 120.
Labs begin on Mon Sept 9.

STUDENTS ARE TRYING TO GET INTO THIS FULL COURSE. SINCE EVERY YEAR IN A CLASS THIS SIZE, A FEW STUDENTS BAIL AND WASTE THE SEATS, STUDENTS WHO DO NOT ATTEND THEIR FIRST LAB SESSION WILL BE DROPPED FROM THE COURSE. THIS WARNING WAS EMAILED TO ENROLLED STUDENTS ON JULY 29 AND AUGUST 29.

TUTORS & SI will be announced on the D2L site for this course.

PREREQUISITES: **BIO 105** "Introductory Biology: Unity", grade of C or better; and **BIO 211** "Human Anatomy", grade of C or better. See D2L Content's file called "What you already know" to review.

REQUIRED MATERIALS:

- **TEXTBOOK:** Custom Fox's Fundamentals of Physiology, 13th edition, McGraw-Hill. You are URGED by your major programs to KEEP it for reference in future courses in their departments.
- **LAB MANUAL** on sale at University Books & More in Reeve Union.

POWERPOINTS You are expected to take notes on the fly in lecture. Having your textbook with you during lecture will help since nearly all images displayed come from the book. Then, slides shown during lecture will be uploaded as pdf files to D2L Content each Friday –OR- when exam material cuts off, whichever comes first.

PODCASTS will be recorded and posted to D2L. They will show up as movie boxes at the bottom of the D2L page. Your instructor cannot be responsible for any technical failures to post. Podcasts will not be able to display what instructor writes on overheads, so do not rely solely on podcasts.

STUDENTS WITH DISABILITIES ARE WELCOME IN THIS COURSE. Please contact Dr. Merriman **the FIRST DAY OF CLASS** so that we may arrange all possible accommodation ahead of time. There is a course-specific form for you to fill out and hand in to Dr. Merriman that is posted on D2L Content for your convenience.

EMAIL COMMUNICATION and D2L will be used frequently throughout the semester to communicate between Instructors and Students. Emails and D2L constitute legal, official University communication. Not checking your email or D2L is not an excuse for performance problems in the class. Contact Academic Computing for assistance with email and D2L.

ACADEMIC HONESTY policies are clearly defined at this University and all students are expected to abide by them. Penalties for violations are severe in this course, in part because so many students enrolled in it are aiming for employment in the health care field where honesty and integrity are a matter of life and death. Cheating on an exam (including looking at someone else's paper) at a **MINIMUM** leads to zero on that exam, with no opportunity for a make-up or extra credit. A second offense is an F in the course and a report to Dean of Students.

COURSE OBJECTIVES

1. To understand the central physiological principle of **HOMEOSTASIS** and how it is carried out by cell plasma membranes ("Joe Cell") and by organ systems.
2. To understand physiological **SYSTEMS INTEGRATION** and how it is carried out by the "Triangle of Control".
3. To understand physiology on **MOLECULAR to ORGAN SYSTEM** levels.
4. To build physiology **VOCABULARY & QUANTITATIVE SKILLS**.
5. To prepare students for **FURTHER PHYSIOLOGY COURSEWORK** such as Exercise Physiology or Pathophysiology.

ABOUT DOING YOUR BEST

1. Physiology is *not* anatomy; memorization is of *far less use* in physiology; instead you must think about mechanisms in motion that you cannot see. Moreover, physiology content is like a spiderweb, not a line; information builds on information and "cross-links" with other information.
2. Always attend class and take notes.
3. Read ahead, and re-read. Use the index and Table of Contents of your required textbook.
4. You can't forget what you learned in the first week. It's all important.
5. Consider joining a study group where you talk about the material and do problems out of the text to rehearse the material.
6. Look for the homeostatic patterns in everything you learn. Always consider the body's response to "hyper" vs. "hypo" conditions. The body has a few tricks that it uses over and over again. By midway through the class, there is not so much new information as repackaged information.
7. Rewrite your notes each week into "study posters" where you consolidate all the information given on a particular topic no matter what date it was taught. Working on study posters each week with your study group would be excellent. Examples of study poster topics are: Joe Cell, Making ATP, Red Blood Cells, Body pH, Digestion, Moving a Muscle. You'll think of others...

ABOUT READING

Even without specific reading assignments, you are expected to read the Fox textbook nearly cover to cover this term, except for the chapter on Immunology which will be covered rather superficially. Knowing what to read, and when, is based on:

- a. Lecture and lab topics in the order presented; see Table of Contents and Index for specific pages and illustrations.
- b. Diagrams from the text displayed in lecture or lab
- c. Any specific assignment mentioned in lecture or lab
- d. Your own individual learning needs (e.g. going back to review information that gave you problems on an exam)

Students taking this course as a requirement for a particular major (e.g. Nursing, Athletic Training, Physical Education, Radiologic Science) are urged by those Departments to keep this book for reference during future courses in advanced aspects of human physiology.

ABOUT LECTURE

- All electronics are to be silenced upon entry to the auditorium.
- Read ahead in the required textbook so that tomorrow's lecture is not the first time you are learning a concept.
- Keeping your hand in motion by taking notes will keep your attention engaged. Even doodling will help.
- I will teach you useful shorthand, including professional physiology symbols, to help improve your note-taking.
- I will take questions during lecture but also be sure to ask questions during lab or on the D2L Discussion board. Do not wait until right before an exam to ask a question; learning takes time to "sink in" (the formal term for this is "memory consolidation").
- Students who wish to talk, text, listen to earbuds, or surf the internet on their laptops must sit in the far back rows of the auditorium.

ABOUT EXAMS

- Anyone whose electronic device goes off during an exam will fail that exam.
- Lecture exams will occur during three evenly-spaced lecture periods of our term. Each exam will last 60 minutes. The dates are:
 - **Exam 1: Fri Oct 18 (worth 10% of course grade)**
 - Covers lecture material presented Sept 4 – Oct 14, inclusive.
 - **Exam 2: Fri Nov 15 (worth 20% of course grade)**
 - Covers lecture material presented Sept 4 – Nov 11, inclusive.
 - **Exam 3: Weds Dec 11 (worth 40% of course grade)**
 - Covers lecture material presented Sept 4 – Digestion unit, inclusive.
- Due to the size of the class, exams must be computer-graded scantron sheets.
- Your reading skills must be excellent in order to perform well on scantron exams. If you struggle with reading, especially under pressure, please see the UW Oshkosh Center for Academic Resources for expert assistance.
- Scantron exam questions will be "Multiple Choice, all that apply". That means that one, some, none, or all answer options are "true". If you are unfamiliar with this format, please see the Old Exam posted on D2L Content to come up to speed.
- Exams are NEVER given early.
- **If you miss Exam 1 or 2**, you must take a makeup in the lecture classroom at 10:20 am on Fri Dec 13. Same format and topic coverage as the exam you missed. If you miss both Exam 1 and 2, you can make up *only* one of them.
- **There is NO makeup for a missed Exam 3 final.** If you believe you qualify for an Incomplete grade based on a missed Exam 3 final, do the paperwork and get it to Dr. Merriman no later than noon, Tues Dec 17.
- Exams are NO notes, NO book, NO hat, NO electronics, NO neighbor.

ABOUT LAB

- Your lab grade is **worth 30%** of your course grade.
- Your lab instructor is Ms. Jeter, jeters@uwosh.edu, Halsey 256 (right down the hall from Dr. Merriman's office). She will provide contact information and office hours during lab.
- You'll need your own personal copy of the lab manual on sale at University Books & More.
- Quizzes will be given in lab over the previous lab. The lowest quiz score will be dropped.
- You may NOT attend a different lab section without expression permission from Ms. Jeter.

ABOUT FINAL COURSE GRADES

- **Exam 1: Fri Oct 18 (worth 10% of course grade)**
 - Covers lecture material presented Sept 4 – **Oct 14, inclusive**
- **Exam 2: Fri Nov 15 (worth 20% of course grade)**
 - Covers lecture material presented Sept 4 – **Nov 11, inclusive**
- **Exam 3: Weds Dec 11 (worth 40% of course grade)**
 - Covers lecture material presented Sept 4 – **conclusion of Digestion unit**
 - Note: I will TEACH reproductive physiology but you will NOT be examined on it.
- **Lab Quiz Average after lowest is dropped: (worth 30% of course grade)**
 - Final lab grades computed by 5 pm on Tuesday Dec 17.
- **Final course grades will post on TitanWeb by 5 pm on Wednesday Dec 18.**

Grades for each exam will be posted on D2L in a timely fashion. Regardless of point value, all assignment grades will be converted to percentages. Then they will be added together in a weighted fashion as follows: Exam 1 = 10%; Exam 2 = 20%; Exam 3 = 40%; Lab = 30%. D2L will display your "final" grade based on exams in real-time as exams are completed (your lab grade will not be added to D2L until late in the semester after all quizzes are completed and the lowest score dropped).

To compute your final course grade, I'll use the scheme shown below which incorporates the +/- letter grade format that the entire University has adopted.

Letter Grade	%	Grade Points per Unit (cr.)
A	92.0-100	4.00
A-	90.0-91.9	3.67
B+	88-89.9	3.33
B	82.0-87.9	3.00
B-	80.0-81.9	2.67
C+	78.0-79.9	2.33
C	72.0-77.9	2.00
C-	70.0-71.9	1.67
D+	68.0-69.9	1.33
D	62.0-67.9	1.00
D-	60.0-61.9	0.67
F (Failure)	<60.0	0.00

Key BIO 212 dates for your calendar:

- Wed Sept 4: Lectures begin to be held, but NO LABS this week (partial week).
- Mon Sept 9: Labs begin to be held.
- Mon Oct 14: Exam 1 material ends.
- Fri Oct 18: Exam 1.
- Mon Nov 11: Exam 2 material ends.
- Fri Nov 15: Exam 2.
- Mon Nov 25: Lecture is held, but NO LABS this week (partial week, Thanksgiving break).
- Exam 3 material ends whenever the Digestion Unit ends.
- Mon Dec 9: Open Q&A in lecture; NO LABS this week.
- Wed Dec 11: Exam 3.
- Fri Dec 13: Make-ups for missed Exam 1 or Exam 2.

Lecture Topic Schedule:

Calendar dates are not stated for lecture topics as it's hard to know exactly how long a unit will take.

Many of the same topics will be taught in lab as well. We will do our best to have lab and lecture topic synchronized.

Lecture exams will cover lecture material, but lab material may HELP.

Lab quizzes will cover lab material, but lecture material may HELP.

- Homeostasis & Feedback Loops (Ch 1)
- Biochemistry & Metabolism (Ch 2)
- Membrane Transport (Ch 3, Ch 6)
- Neurophysiology (Ch 7-8-9)
- Sensory Physiology (Ch 10)
- Endocrinology (Ch 11, Ch 19)
- Muscle Physiology (Ch 12)
- Cardiovascular Physiology (Ch 13-14)
- Respiratory Physiology (Ch 16)
- Immunology (Ch 15)
- Osmoregulatory Physiology (Ch 17)
- Digestion Physiology (Ch 18) **EXAM 3 MATERIAL ENDS WITH THIS UNIT.**
- Reproductive Physiology (Ch 20).
 - I will *teach* this fascinating, useful, vital material, but I will *not* examine you on it.

Lab Topic/Quiz Schedule:

Just because there is “NO LAB” doesn’t mean there is “NO LECTURE”!!!

BIO 212 lab exercises give you:

- Hands-on experience with the kinds of instruments and devices used in clinical laboratory situations.
- Rehearsal of vital quantitative, critical thinking skills.
- Re-exposure, from a different view, of topics covered in lecture.

Use the Index of your Fox textbook to read about lab topics PRIOR to lab.
Read the lab exercise PRIOR to lab (or you may find it difficult to finish lab in 2 hours).

Sept 4-6	NO LAB , Partial week
Sept 9-13	<i>Required</i> review of BIO 105 concepts; ATTEND OR BE DROPPED
Sept 16-20	Q1, then Lab orientation + Quantitative Skill rehearsal
Sept 23-27	Q2, then Erythrocytes
Sept 30-Oct 4	Q3, then Pulse and Pressure
Oct 7-11	Q4, then Bioelectricity of the Brain
Oct 14-18	Q5, then Brain Imaging
Oct 21-25	Q6, then Bioelectricity of Skeletal Muscle
Oct 28-Nov 1	Q7, then Bioelectricity of Cardiac Muscle
Nov 4-8	Q8, then Ventilation
Nov 11-15	Q9, then Leukocytes & Blood Typing
Nov 18-22	Q10, then Urinalysis
Nov 25-29	NO LAB , Partial week due to Thanksgiving
Dec 2-6	Q11, then dismiss
Dec 9-13	NO LAB during last week of classes