

FALL 2011 BIO 212 Human Physiology Course Syllabus

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Schedule - including office hours – will be posted separately on D2L Content.

PREREQUISITES: **BIO 105** "Introductory Biology: Unity", grade of C or better; and **BIO 211** "Human Anatomy", grade of C or better. Based on these prereqs, I make assumptions about what you already know. See D2L Content's file called "What you already know" to review.

REQUIRED MATERIALS:

TEXTBOOK: Fox's Human Physiology, 12th Ed 2011, McGraw-Hill. We will read the book pretty much cover to cover, although not as much detail as is provided in every chapter (e.g. Immunology). I will show images from it repeatedly in class (lecture and lab) and may require reading from it. Older editions or other author texts may not have the same figure numbering or pagination or topic coverage, so use these at your own risk. You are **URGED** by your major programs to **KEEP** this book for reference in future courses in their departments.

LAB MANUAL sold through the bookstore. It is not like any previous version of the Lab Manual for this course, so you will need to get a fresh copy.

ANY OTHER MATERIALS posted on D2L Content.

SI and TUTORS may be available for this course. Watch the Announcements list on D2L.

STUDENTS WITH DISABILITIES ARE WELCOME IN THIS COURSE. Please contact Dr. Vaughan the **FIRST DAY OF CLASS** so that we may arrange all possible accommodation ahead of time. In addition to showing Dr. Vaughan your program documentation, it is necessary to fill out an accommodation form for Dr. Vaughan to keep. This accommodation form is found on D2L Content.

EMAIL COMMUNICATION and D2L will be used frequently throughout the semester to communicate between Instructors and Students. Emails constitute legal, official University communication. Not checking your email 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.

LECTURE NOTES: Come to every lecture and take notes in your own words. I do not release my own notes to students but the Powerpoints (minus keywords) will be posted on D2L Content for your convenience. I reserve the right to alter my Powerpoints from the posted version at any time, if I feel it serves the learning interests of the class.

COURSE OBJECTIVES

1. To introduce students to the central physiological principle of **HOMEOSTASIS**.
2. To introduce students to physiology's **MOLECULAR to ORGAN SYSTEM** levels.
3. To introduce students to physiological **SYSTEMS INTEGRATION**.
4. To build physiology **VOCABULARY & QUANTITATIVE SKILLS**.
5. To prepare students for **FURTHER PHYSIOLOGY COURSEWORK** such as Exercise Physiology or Pathophysiology.

ABOUT READING

The Fox textbook is a great book, although no book is perfect. It probably helps every student to be taught the same concepts by multiple teachers: your classroom instructors and your book author. The concepts we cover will take you nearly cover to cover in the textbook this term. 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 major requirement for a particular major (e.g. Nursing, Athletic Training) are urged by their major programs to keep this book for reference during future courses in advanced aspects of human physiology.

ABOUT LECTURE

- Lecture is in a pit classroom.
 - If the feel of a smaller, more intimate class is better for your learning style, then sit in the front row.
 - Silence all electronic devices during lecture. A device that makes noise disturbs dozens of students, so it disturbs me, too.
 - Do not chat during lecture as this disturbs other students, so it disturbs me, too.
- I will take questions during lecture but also be sure to ask questions during lab, during office hours, 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”).

ABOUT EXAMS

There are three (3) lecture exams this term during regular class time in the regular class room, as follows:

- **Fri Oct 7**
- **Fri Nov 11**
- **Wed Dec 14**

Lecture exams are multiple choice, choose all-that-apply, answers on scantrons. On your scantron, you will mark “A” if you Agree with a numbered statement or “B” if you Disagree with a numbered statement. A sample exam will be posted on D2L Content so that you may familiarize yourselves with this format in plenty of time before the first exam. The answers will not be posted; working those out should be part of your study strategy.

Exams are NO notes, NO books, NO hats, NO electronics, NO neighbor.

If for any reason you cannot take either Exam 1 or 2 at 10:20 am on the scheduled date, just send me a TitanMail email to that effect and I will sign you up for the **comprehensive make-up exam**. It is held **only once, on Fri Dec 16** at 10:20 am in the lecture hall. This is an option you may use only once. All other missed exams will earn you a zero.

If exam scores do not yield a "C" average (*i.e.* the average falls between 72-77.9%; see table below), I reserve the right to adjust the curve so that a "C" average results. I will make any such adjustment public on the D2L Gradebook.

ABOUT FINAL COURSE GRADES

Grades for each exam will be posted on D2L and converted to percentages. Any curve needed to achieve a "C" average will be applied. Scores will be summed in a weighted fashion to calculate your final course grade as follows: Exam 1 = 10%; Exam 2 = 20%; Exam 3 = 40%; Lab = 30%.

I use the +/- letter grade format shown below. If in my opinion a student has shown significant, sustained improvement from Exam 1 to 2 to 3, I reserve the right to award a higher grade than the points earned indicate.

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

ABOUT DOING YOUR BEST

1. Always attend class and take notes.
2. Read ahead, and re-read. Use the textbook's index and Table of Contents.
3. You can't forget what you learned in the first week. It's all important.
4. Join a study group (or work with a tutor) where you talk about the material and do problems out of the text to rehearse the material. The more time you spend with the material, the better you will learn it.
5. Look for the homeostatic patterns in everything you learn.
6. Recognize that 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; one concept builds on another and "cross-links" with other concepts.
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...

Lecture Topic Order

- Calendar dates are not defined as it's hard to know exactly how long a unit will take.
- Examinations are date-based, not content-based.
- These topics will be taught in lab as well. We will do our best to have lab and lecture topic synchronized but this cannot be guaranteed.

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| 1. Organizing Principles of Physiology (Ch 1) | 8. Cardiovascular Physiology (Ch 10) |
| 2. Basic Biochemistry (Ch 2) | 9. Respiratory Physiology (Ch 12) |
| 3. Membrane Transport (Ch 3 + others) | 10. Osmoregulatory Physiology (Ch 13) |
| 4. Neurophysiology (Ch 4-5-6) | 11. Gastrointestinal Physiology (Ch 14) |
| 5. Sensory Physiology (Ch 7) | 12. Immunology (Ch 11) |
| 6. Endocrinology (Ch 8) | 13. Reproductive Physiology (Ch 15) |
| 7. Muscle Physiology (Ch 9) | 14. Capstone on Integration: Diabetes |

ABOUT LAB:

See your copy of the LAB MANUAL FOR FALL 2011 for the Lab Syllabus, Lab Schedule, Lab Safety Rules, and so on.

As in past years, most Labs will have a weekly quiz on the previous lab.

Your Lab Instructor will set his/her own policy for missed quizzes or labs and will inform you of his/her own office hours. This will all be explained to you the first meeting of your Lab.

Should you become particularly interested in certain fields of physiology, you may want to check out:

BIO 306 Neurobiology, 3 credits, spring semester, instructor Vaughan.

BIO 316 Developmental Biology, 3 credits, spring semester, instructor Holton.

BIO 310 Biology of Gender, 3 credits, spring semester, instructor Vaughan.

BIO 323 Introduction to Molecular & Cell Biology, 3 credits, fall and spring semesters, instructors vary.

BIO 339 Environmental Toxicology, 2 credits, spring semester, instructor Mueller-Spitz.

BIO 341 Immunology, 3 credits, fall semester, instructor McDermott.

KIN 331 Motor Learning, 3 credits, fall semester, instructor Mrotek.

KIN 350 Physiology of Exercise, 3 credits, fall and spring semesters, instructors Biwer or Schmidt

PSY 367 Psychopharmacology, 3 credits, spring semester, instructor Koch

PSY 383 Biological Psychology, 3 credits, fall and spring semesters, instructor Koch