

SUMMER 2014 BIO 212 Human Physiology Syllabus

INSTRUCTOR: Professor Dana Merriman, Department of Biology
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Office Hours: 12:00-1:00, Tuesdays and Wednesdays.
Appointments: email me for availability.

CLASS TIMES & PLACES: Lecture MTWR, 10:30-12:00 am, Halsey 270
Labs MW or TR, 1:00pm-3:00pm, Halsey 120*
*Unless otherwise noted on lab schedule below

**As a legal adult, absences from class meetings are at your discretion.
Absence during the accelerated summer schedule will hurt your grade.**

PREREQUISITES: **BIO 105** "Introductory Biology: Unity", grade of C or better; and **BIO 211** "HumanAnatomy", grade of C or better. Based on these pre-reqs, I must make assumptions about what you already know. You will be assigned "Connect" homework in the first week of class that reviews key concepts from these two courses helping to ensure you start Bio 212 in a strong position.

REQUIRED MATERIALS:

- **TEXTBOOK:** McGraw-Hill's *Fox Physiology* 13th edition textbook PLUS the Connect® homework program. You may purchase these separately or as a "ConnectPlus®" e-book package. Instructions for purchase are found in the News section of D2L. You have the option to sign up for a free 3-week trial so, if you drop this class, you are not out the money.
 - You will earn points toward your letter grade from work conducted through the Connect® program.
- **LAB MANUAL** on sale at University Books & More in Reeve Union on campus.

TUTOR availability will be announced on D2L's News section.

POWERPOINTS will be uploaded to D2L in Content.

PODCASTS will be recorded and posted to D2L, but your instructor cannot be responsible for any technical failures.

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**.
2. To understand physiological **SYSTEMS INTEGRATION**.
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. Always attend class and take notes.
2. Do the Connect homework, not only to earn points toward your letter grade but to maximize your learning of new material.
3. Read ahead, and re-read. Use the index and Table of Contents.
4. You can't forget what you learned in the first week. It's all important. Exams are cumulative.
5. 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; information builds on information and "cross-links" with other information.
6. Look for the homeostatic patterns in everything you learn. 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...
8. It helps to talk about the material out loud, so study groups are very beneficial.

ABOUT READING

The best way to use your textbook is to read the material BEFORE it is taught in lecture or lab, and then read it again afterward.

To ensure that students read BEFORE lecture or lab, you will receive Connect® assignments. Completing them BY THE STATED DEADLINES earns 10% of your letter grade. Connect® is "keep up, don't catch up". Once a Connect® deadline is past, you cannot earn the points.

ABOUT LECTURE

- Summer session lectures are long: 90 minutes. We will NOT be taking ANY breaks! Figure out what it takes for you to remain alert throughout. Arriving hydrated and not too hungry are important starts. Keeping your hand in motion by taking notes or even doodling will help also.

- Attend every lecture and remain engaged by taking notes. I will teach you useful shorthand 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”).
- Please do not chat, text, or surf the web during lecture as this disturbs other students.

ABOUT GRADING

Item	Date	Weight
Exam 1	Thu July 3	10%
Exam 2	Thu July 24	20%
Exam 3	Thu Aug 7	30%
Connect®	Throughout	10%
Lab	Throughout	30%

- Lecture exams will occur during three lecture periods of our summer term. The 30 minutes prior to each exam will be open Q&A, then each exam will last 60 minutes.
- Exams are never given early.
- Late exams require a properly documented excuse of illness, bereavement, military duty, or University athletics event. Late exams are made up on Friday August 8 only.
- Exams are NO notes, NO book, NO hat, NO electronics, NO neighbor.
- Exams are cumulative (all information builds on itself in physiology). Questions will emphasize material covered since the previous exam.
- Question format will vary, but some will be Multiple-Choice, All-That-Apply. To help you learn to take this type of examination, I will post old exams on D2L (but *not the answers*; working those out should be part of your study strategy).
- Final course grade posted on TitanWeb by end of day, Wednesday August 13. The grading scale is shown at right.

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

Schedule/Lecture Topics:

Calendar dates are not stated for lecture topics as it's hard to know exactly how long a unit will take. Examination cut-offs in the material are date-based, not content-based.

Many of the same 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.

- Homeostasis & Feedback Loops (Ch 1)
- Biochemistry & Metabolism (Ch 2)
- Membrane Transport (Ch 3, Ch 6)
 - Anatomy review: Fig 3.2
- Neurophysiology (Ch 7-8-9)
 - Anatomy review: Figs 7.1, 7.2, 7.3, 7.5, 7.6, 7.7, 7.8, 7.10, 7.24, 8.1, 8.4, 8.5, 8.15, 8.19, 8.20, 8.24b, 8.25, 8.27, 8.28, 9.1, 9.2, 9.5, 9.6
- Sensory Physiology (Ch 10)
 - Anatomy review: Figs 10.7, 10.9, 10.12, 10.18, 10.19, 10.27, 10.30, 10.31, 10.32
- Endocrinology (Ch 11, Ch 19)
 - Anatomy review: Figs 11.1, 11.12, 11.18, 11.21, 11.27, 11.29
 - Exocrine anatomy review: Figs 1.22, 18.6, 18.25, 20.51
- Muscle Physiology (Ch 12)
 - Anatomy review: Figs 12.1, 12.2, 12.3, 12.5, 12.15, 12.27, 12.32, 12.33, 12.35
- Cardiovascular Physiology (Ch 13-14)
 - Anatomy review: Figs 13.1, 13.3, 13.10, 13.11, 13.20, 13.26, 13.27, 13.29, 13.36, 13.37, 13.38, 14.7
- Immunology (Ch 15)
 - Anatomy review: Fig. 13.38
- Respiratory Physiology (Ch 16)
 - Anatomy review: Figs 16.1, 16.2, 16.4, 16.5, 16.13, 16.20
- Osmoregulatory Physiology (Ch 17)
 - Anatomy review: Figs 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.8, 17.26
- Gastrointestinal Physiology (Ch 18)
 - Anatomy review: Figs 3.6, 18.2, 18.3, 18.5, 18.6, 18.9, 18.10, 18.11, 18.16, 18.21, 18.25
- Reproductive Physiology (Ch 20)
 - Male anatomy review: Figs 20.11, 20.19, 20.20
 - Female anatomy review: Figs 20.33, 20.24, 20.25, 20.51

ABOUT LAB

- During summer session, you will attend two 2-hour labs per week.
- You'll need your own personal copy of the lab manual on sale at the campus bookstore.
- For most labs, the first 15 minutes or so will be a lab quiz over the previous lab. Your lowest lab quiz score will be dropped.
- Dr. Cooper teaches labs this summer. At your first meeting, he will provide his contact information and office hours.
- Note that some days we might not have lab, but we WILL have lecture!
- Ask your Dr. Cooper for permission to switch to a different lab section.
- See Lab Manual for further details about lab policies.

Lab Schedule:

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

June 16-17	Course orientation, attendance required	HS 120
June 18-19	Quantitative Skills Lab Connect® assigned for next lab	HS 120
June 23-24	Q1 over prior lab Erythrocyte Physiology® Connect® assigned for next lab	HS 120
June 25-26	Q2 over prior lab Pulse and Pressure Connect® assigned for next lab	HS 120
June 30-Jul 1	Q3 over prior lab Bioelectricity of the Brain Connect® assigned for next lab	HS 120
July 2-3	Q4 over prior lab Brain Imaging Connect® assigned for next lab	TBA
July 7-8	NO LAB	
July 9-10	Q5 over prior lab Bioelectricity of Skeletal Muscle Connect® assigned for next lab	HS 120
July 14-15	Q6 over prior lab Bioelectricity of Cardiac Muscle Connect® assigned for next lab	HS 120
July 16-17	Q7 over prior lab Leukocyte Physiology & Blood Typing Connect® assigned for next lab	HS 120
July 21-22	Q8 over prior lab Ventilation Connect® assigned for next lab	HS 120
July 23-24	Q9 over prior lab Urinalysis Connect® assigned for next lab	HS 120
July 28-29	Q10 over prior lab Capstone: Diabetes	TBA
July 30-31	Q11 over prior lab SOSs for lab and lecture	HS 120
Aug 4-5	Pre-Final Q&A sessions with Dr. M	TBA
Aug 6-7	NO LAB	