Biology 3200: Human Physiology

Fall Semester, 2019

Lecturer: Dr. David Njus

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Office Hours: Tuesdays & Thursdays, 3:00 – 4:30 pm
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Lecture: Tuesdays & Thursdays, 1:00 - 2:15 pm, 0100 General Lectures

Course description:

This course will cover the functioning of the main physiological systems: endocrine, nervous, musculoskeletal, circulatory, respiratory, digestive, urinary, reproductive, immune and integumentary. The course is about the principles of physiology, so you must understand how and why these systems function as they do, and not just memorize facts. Physiology integrates what you have learned about biology at the molecular and cellular levels to explain the functioning and survival of the organism as a whole.

Course objectives:

The objectives of the course are for students to be able to explain how the major organ systems work. You will be able to integrate physical and chemical processes from molecular to organ levels. You will be able to analyze how physiological systems are regulated to maintain normal function. Finally, you will be able to explain what happens when physiological systems fail.

Prerequisites:

Students taking this course should have completed the prerequisite courses: BIO 2600 with a grade of C- or better or BIO 2870 with a grade of C- or better.

Required Materials:

Textbook: *Human Physiology: An Integrated Approach,* Eighth Edition by Dee Unglaub Silverthorn.

iClicker: You will need an iClicker keypad or the Reef polling app for your smartphone or laptop. The keypad may be purchased from the bookstore or you may use one that you already have for another course. You should register your keypad on Canvas, not on the iClicker website. The iClicker Reef app is available at

https://iclicker.com/students. The keypad will be used for "clicker questions," which are intended to test your understanding of the material and especially to help you identify your misconceptions. Misconceptions in science cause confusion and make it harder to learn subsequent material, so it is important that you identify and correct them right away.

Course Web Site: Class announcements, lecture materials and exam results will be posted on the course web site. You may access this site through the WSU Canvas System.

Exams and Grading: Grades will be based on a 1000-point scale as follows:

Exam 1	230
Exam 2	230
Exam 3	230
Final exam	230
Homework assignments	80
Clicker points (extra credit)	40
Total	1000 points

Grades will be calculated on the following scale:

A	92.5-100	(925-1000 points)
A-	90.0-92.4	(900-924)
B+	87.5-89.9	(875-899)
B	82.5-87.4	(825-874)
B-	80.0-82.4	(800-824)
C+	77.5-79.9	(775-799)
C	72.5-77.4	(725-774)
C-	70.0-72.4	(700-724)
D+	67.5-69.9	(675-699)
D	62.5-67.4	(625-674)
D-	60.0-62.4	(600-624)
F	0-59.9	(0-599)

Exams: There will be three midterm exams and a final exam. Each of the exams will consist of 46 multiple choice questions and be worth 230 points. Missed exams will be scored as zero, unless arrangements are made in advance or a valid excuse is documented. In this case, the missing exam score will be made up by doubling the score on the final exam. The final exam will be worth 230 points and cannot be dropped. There will be no make-up exams.

FINAL EXAM SCHEDULE:
Note that the final exam is scheduled during the final exam period as designated in the Schedule of Classes for this term. No other time will be available, and **no exceptions** will be made for conflicts.

Homework: There will be 8 homework assignments all intended to give you a chance to think about how specific physiological systems work. These will each be worth 10 points and will be due as follows:

1. September 10
2. September 17
3. October 3
4. October 10
5. October 29
6. November 5
7. November 19
8. November 26

Clicker Questions: You will use iClickers to answer "clicker questions" during each lecture. The point of the clicker questions is to help you identify and correct misconceptions and misunderstandings you may have before the exam. A total of 40 points will be awarded for answering clicker questions; it does not matter whether your answer is right or wrong. We will begin using the clickers right away, but clicker points will be awarded (2 points per lecture) beginning on September 12 after everyone has had a chance to get used to the system.

General Policies:

1) Anyone caught cheating or plagiarizing will automatically receive a failing grade for the exam, assignment, or paper, with no opportunity to drop or replace that score. A second episode of cheating will result in a grade of F for the course and may also result in initiation of university disciplinary action. For discussions of cheating and plagiarism, see the "Student Code of Conduct," which can be found at https://doso.wayne.edu/conduct/pdf/student-code-of-conduct.pdf.

2) Any special considerations (disabilities, religious holiday conflicts, etc.) must be brought to the attention of the instructor by September 10, 2019 or as soon as possible. If you have a disability that may interfere with your ability to successfully complete the requirements for this course, you are invited to contact Student Disability Services (1600 Undergraduate Library; 313-577-1851) to discuss appropriate accommodations on a confidential basis.

3) Conflicts regarding the grading of any exam or assignment must be brought to the attention of Dr. Njus in a concise and typed appeal within one week of the date the exam or assignment key is posted. Appeals may be sent as an email.

4) Wednesday, September 11, 2019 is the last day you can drop the class and get your tuition refunded. Sunday, November 10, 2019 is the deadline for withdrawing from the course. Please note that "**incomplete**" grades will not be issued to students in poor standing who are seeking an alternative to a late drop.

5) Professional behavior is expected in lecture, which includes respecting your classmates by arriving on time, turning off cell phones and not talking, eating or drinking during class. All students must show respect in language and attitude towards the instructors and their fellow students. You are encouraged to discuss differences of opinion with each other, respectfully. Disrespectful students will be asked to leave the lecture and will lose their opportunity to turn in any missed assignments.

6) University closures will be publicized through:

- the University Newsline (313-577-5345),
- WSU Homepage (www.wayne.edu),
- WDET-FM (Public Radio 101.9) and
- other local radio and television stations.

If an exam is scheduled on a day and time when the University is officially closed, the exam will be held during the next scheduled lecture or as indicated on the class Canvas site.

Lecture Schedule

Date	**Topic**	**Reading**	
29-Aug	Introduction to Physiology	Chapter 1	
3-Sept	Communication, Homeostasis	Chapter 6	
5-Sept	Endocrine System	Chapter 7	
10-Sept	Neurons	Chapter 8	Homework due
12-Sept	Neurons	Chapter 8	
17-Sept	Central Nervous System	Chapter 9	Homework due
19-Sept	Sensory Physiology	Chapter 10	
24-Sept	**Exam 1**		
26-Sept	Efferent Division	Chapter 11	
1-Oct	Muscles	Chapter 12	
3-Oct	Control of Body Movement	Chapter 13	Homework due
8-Oct	Cardiovascular Physiology	Chapter 14	
10-Oct	Cardiovascular Physiology	Chapter 14	Homework due
15-Oct	Blood Flow and Pressure	Chapter 15	
17-Oct	**Exam 2**		
22-Oct	Blood	Chapter 16	
24-Oct	Mechanics of Breathing	Chapter 17	
29-Oct	Gas Exchange and Transport	Chapter 18	Homework due
31-Oct	The Kidneys	Chapter 19	
5-Nov	The Kidneys	Chapter 19	Homework due
7-Nov	Fluid & Electrolyte Balance	Chapter 20	
12-Nov	**Exam 3**		
14-Nov	The Digestive System	Chapter 21	
19-Nov	Metabolism & Energy Balance	Chapter 22	Homework due
21-Nov	Endocrine Control of Growth	Chapter 23	
26-Nov	The Immune System	Chapter 24	Homework due
28-Nov	*Thanksgiving Holiday*		
3-Dec	Reproduction & Development	Chapter 26	
5-Dec	Reproduction & Development	Chapter 26	
12-Dec	**Final Exam from 12:30 pm-2:30 pm**		