

Biology 2420-70 Human Physiology

Fall 2021

MW 6:00-8:00

Sandy, UT site Rm 201

Professor

Robert McKnight

robert.mcknight@hsc.utah.edu

PLEASE READ!

According to the CDC, wearing a mask remains an effective means of preventing infection for both unvaccinated and vaccinated people. Regardless of what someone chooses (mask or no mask), the university seeks to foster a sense of community and asks everyone on campus to be respectful of individual decisions on mask wearing. While Utah law prohibits state universities from requiring COVID-19 vaccinations, all members of the University of Utah community are encouraged to receive a COVID-19 vaccine. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization, and death from coronavirus.

Vaccinations are available to everyone 12 years and older. Appointments are open in the U of U Health system for patients as well as additional vaccine providers throughout Utah. For up-to-date campus vaccination information go to: <https://alert.utah.edu/covid/vaccine/>

COVID-19 testing services are available. The website for information is: <https://alert.utah.edu/covid-19-testing/>. Voluntary asymptomatic testing will continue to be available weekly for all members of the campus community.

Given the nature of this course, attendance is required and adjustments cannot be granted to allow non-attendance. However, if you need to seek an ADA accommodation to request an exception to this attendance policy due to a disability, please contact the Center for Disability and Access (CDA). CDA will work with us to determine what, if any, ADA accommodations are reasonable and appropriate.

Course format during the Covid19 pandemic

- Due to the ongoing pandemic, the class will be a hybrid format. Only 50% of the class can be present in the classroom at one time. Each student has been randomly assigned to either the Monday Group or Wednesday Group. You can come to class on the day of your group. Class time is MW 6-8PM
- The topics that will be covered and their dates are shown here in the syllabus.
- Video recordings of each lecture will be posted on Canvas in "Media Gallery" before the date listed for each lecture.
- Copies of the lecture slides and chapter study questions will be posted in "Modules".
- Starting on the second day of the class, I review the main topics and go over the study questions for the previous lecture. In other words, we will go over Monday's lecture material on Wednesday and Wednesday's material on the following Monday.
- All class time sessions can be watched live online and will be recorded and posted to Media Gallery.
- There will be 4 exams, each over roughly 25% of the course. The final is not cumulative. **PLEASE NOTICE! The test dates and time are the same for everyone. Each student will take two exams in class and two exams online.** If you are in the **Monday Group**, you will take exam 1 and the final online in Canvas and exams 2 and 3 in class on the dates scheduled in the syllabus. The **Wednesday Group** will take exam1 and the final in class and exams 2 and 3 online on the dates listed in the syllabus.
- There will be 8 quizzes and the three lowest will be dropped. The exact format on how you take each quiz will be established by the first week of class. You will need a TurningPoint license to take the quizzes. If you are

taking the quiz online, you will respond to the questions by going to ttpolling.com and logging into your TurningPoint account.

Class materials

Text recommended but optional: Cindy L. Stanfield, Principles of Human Physiology, 6th ed. Benjamin Cummings
TurningPoint license. Use the registration information in Modules under Course Information.

The objective of this course is to learn how the human body works. To this end we will cover how the body maintains homeostasis, how it responds to stimuli, and how various diseases disrupt these processes. To reach these expected learning outcomes this course will:

- Describe how cells take in nutrients and generate and store energy
- Describe how cells communicate
- Describe the basics of hormonal control
- Describe how the brain perceives and sends information
- Describe how the senses of sight, hearing, smell and touch work
- Describe how the circulatory system delivers nutrients and oxygen to tissues
- Describe how the respiratory system takes in oxygen and removes carbon dioxide
- Describe how the renal system works to maintain fluid and salt balance

In order to treat all students equally, there is no opportunity to do an extra credit assignment at the end of the course in order to raise your grade. I am sorry, but I will not respond to any request for extra credit to improve one student's grade. Therefore, in order to do as well as you can, please consider the following suggestions and comments.

This course is challenging. If possible, you should plan your semester schedule to allow for ample study time and not load up on multiple rigorous courses.

All lectures will be recorded and posted. I will hold review/discussion sessions starting at 6PM on Mondays and Wednesdays. Students that attend and participate in the review/discussion sessions on average do better than those who do not.

This is not an introductory course. We will go into some detail on how the human body works. Course lecture slides are posted prior to each lecture on Canvas course website. It is a good idea to read the text or look over the slides before class so that you have some idea what each lecture covers.

Study questions/topics are posted for each chapter to help you focus your study efforts. The majority of the tests will be over but not limited to material that relates to the study questions. This discussion time provides an opportunity to practice responding to questions. Being able to respond in class is a good way to judge how effectively you are studying. Students typically do better on tests when they prepare and respond to questions during the discussion time rather than just wait for someone else to give the answer. Trying to answer a question is a good way to stay engaged. Many students prefer not to respond in class. Give it a try. Don't worry about not knowing the answer.

The dates for all quizzes and exams are listed in the syllabus. It is the objective of the course to keep these dates. However, it is possible that an unexpected event(s) may make it necessary to change a date. **Therefore, if you intend to be absent from class, you need to confirm all test dates and the lectures that each test will cover.**

Grading

95% of your grade will come from 3 midterms, 100 pts each and 1 final, 100 pts. The final is not cumulative

5% of your grade will come from quizzes. There will be 8 quizzes each worth 4 points. **I will throw out the 3 lowest at the end of the semester**, therefore there is a possible of 20 total points from quizzes. **If you miss a quiz, there is no way to make it up, it will count as one of your lowest quiz scores.**

It is possible to earn up to 12 additional extra credit points by responding to Clicker questions during class time using your TurningPoint account in class and through ttpolling.com when you are watching online. One, two or three questions will be presented during most class periods. You can discuss the chapter lecture questions with other students. The percentage of correct answers you have will be multiplied by 12 to determine the total amount of additional points you have earned. For example, if you answer 75% of the questions correctly, you will receive 9 extra points towards your final grade. Answering chapter lecture questions are not required. The objective is to give an incentive to study on a regular basis. Trying to cram the night before a test will no work.

In the event your final total score includes a fraction of a percent, standard rounding rules will apply. For example, if you have 84.4%, your final score will be 84. If you have 84.5%, your final score will be 85%. **Please do not ask that 84.4 should also be rounded up. To ensure you are not a fraction of a percent below the grade you want/need, be sure to attend class regularly and respond to as many in-class questions as possible.**

You can calculate your grade at any time in this class by determining the percentage of the points that you have earned in each exam and quiz taken plus any extra credit points earned and looking at the grading scale below.

<u>Grade</u>	<u>percent of points out of a possible 420 points</u>
A	90% and above
A-	85-89%
B+	80-84%
B	75-79%
B-	70-74%
C+	65-69%
C	60-64%
C-	55-59%
D	50-54%
E	less than 50%

The lectures are designed to condense the reading material and introduce new or updated information.

Class website and your email address: We will be using the Learning Management System (LMS) "Canvas," which is found at utah.instructure.com web address. The following items will be posted to the class website: the class this syllabus, lecture videos and lecture slides and study questions. Additionally, all of your scores on the exams and quizzes will be posted to the Canvas site. **It is your responsibility to periodically login to Canvas and verify that your scores are being correctly recorded.** Emails may be occasionally sent about important class events, such as reminders for exams or review sessions. You should check your University email and Canvas for announcements.

Course prerequisites: A basic understanding of general biology and introductory chemistry is expected. Therefore, the minimum recommended prerequisites are General Biology, (BIOL 1210) and General Chemistry I (CHEM 1210). However, you may enroll at your own risk with approval from the Biology Department without taking these courses or their equivalents.

Examinations: There will be 4 exams, each worth 100 points. Each exam will cover about 1/4 of the course material. The final exam is not comprehensive. Each exam will count towards your final grade; you cannot drop any of the exams. There will be no make-up exams, except in rare pre-approved situations and last-minute emergencies. If you have a pre-existing conflict with one of the exams, you must receive approval prior to the exam time to schedule a make-up exam.

Class drop (delete) and withdrawal policy: It is your responsibility to be aware of the deadlines associated with dropping or withdrawing from the course and exercise your right to drop or withdraw from the course by those deadlines, if you deem it necessary. The dates included in the syllabus are deemed to be correct however, you need to verify any date to ensure they are correct. Instructors do not have the ability to withdraw or drop students after these deadlines.

Incomplete policy: According to University of Utah regulations, an incomplete grade can only be given if all three of the following requirements are met: 1. You are passing the class (at least a C), 2. You have finished 80% of the class (the first three midterm exams), 3. Something beyond your control has prevented you from finishing the class, such as serious illness. Only very rarely do students meet these requirements. You can read about the University policy here: <http://registrar.utah.edu/handbook/incomplete.php>. Incomplete grades cannot be used to allow students to take a class a second time without paying tuition. An incomplete grade does not erase the scores from your current exams. It only allows you to take the final exam at a later date.

Academic integrity: You are expected to be honest in your academic studies. **Academic dishonesty of any type during the semester will result in a failing grade for the exam or quiz, and may result in a failing grade for the course.** Academic dishonesty includes the use of cheat-sheets, note cards, dictionaries, or books during an exam or quiz. Looking at another student's exam or transmitter during a quiz is cheating. Using a programmable calculator, smart phone, notebook computer, or tablet computer during a quiz or exam also qualifies as cheating. During exams and quizzes, you are only allowed a single non-programmable calculator and a pen. Blank scratch paper, if requested, is also permissible. During quizzes absolute silence must be maintained and your eyes should be on the screen the entire time. All instances of academic dishonesty are recorded in the University database, which is shared by all academic units on campus. If you are caught copying from another student, you will receive a zero for that test.

The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

University Safety Statement. The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Addressing Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic

information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

<u>Date</u>	<u>day</u>	<u>Lecture Topic</u>	<u>Chapter</u>
8/23	M	Introduction to physiology and biomolecules	1,2
8/25	W	Cell structure and function	2
8/27		Last day to add w/out a permission code and last day to wait list	
8/30	M	Metabolism	3
9/1	W	Metabolism (continued) QUIZ	
9/3		Last day to add, drop, audit and elect CR/NCclasses	
9/6		Labor Day holiday	
9/8	W	Cell membranes part 1	4
9/13	M	Cell membranes part 2 QUIZ	
9/15	W	Chemical messengers	5
9/20	M	Endocrine system	6
9/22	W	Exam 1 over chapters 1-5	
9/27	M	Neurons and electrical impulses	7
9/29	W	Synaptic transmission and neural integration QUIZ	8
10/4	M	CNS QUIZ	9
10/6	W	Sensory systems, Part 1	10
10/10-17		Fall break	
10/18	M	Exam 2 over material covered from 9/20 to 10/6	
10/20	W	Part 2 vision	
10/22		Last day to withdraw from classes	
10/25	M	Part 3 Hearing, taste and smell	
10/27	W	Autonomic nervous system and motor neurons QUIZ	11
11/1	M	Muscle physiology QUIZ	12
11/3	W	Cardiovascular system	13
11/8	M	Blood vessels and blood pressure	14
11/10	W	Blood	
11/15	M	Exam 3 over material from 10/20 through 11/8	15
11/17	W	Respiratory system QUIZ	16
11/22	M	Gas exchange QUIZ	17
11/24	W	Renal function	18
11/25-28		Thanksgiving break	
11/29	M	Fluid and electrolyte balance	19
12/1	W	GI tract	20
12/6	M	Review	
12/8	W	Final exam over material from 11/10 to 12/1	