

# **Syllabus for Human Physiology**

## **BIOL 2420**

### **Spring 2021**

Utah State University Uintah Basin Campus  
Vernal, Utah 84078

#### **COURSE DESCRIPTION:**

Functioning of the human body, with emphasis upon major organ systems. Medical and athletic examples used to illustrate important concepts. Three lectures, one lab. Prerequisites: Any one of the following: USU 1350, BIOL 1010, BIOL 1500, BIOL 1610, BIOL 2320, BIOL 2060, CHEM 1010, CHEM 1110, CHEM 1210, AP Biology or AP Chemistry with a score of 3 or higher.

#### **INSTRUCTOR**

Harold Kim Jones DPM, ChFC

Canvas: You can send me messages through Canvas, which I will check regularly. Please be sure to check Canvas regularly, in case I send out an announcement.

Feel free to contact me through Canvas with questions or comments, or to make an appointment to meet in person.

#### **MEETING TIMES**

Monday, Wednesday

in Vernal only

BEERC building

3:30 PM – 5:30PM

Lecture: 3:30 PM – 4:30PM approx.

Lab: 4:30PM – 5:30PM approx.

The exact duration of lectures and labs will vary somewhat depending on the material being covered and the activities involved.

#### **REQUIRED TEXTS**

**Auto Access eBook: Human Biology eBook, 15e by Widmaier** ISBN-9781260231519

This course requires all-inclusive digital materials that are provided to you at a significantly lower price than traditional printed materials. These materials are paid for through your student tuition/fee account and are

accessed through the Canvas course site. For more details, visit:  
<https://portal.verba.io/usu/login>

## **COURSE FEES**

The course fee for BIOL 2420 is \$35. This fee is used to cover laboratory expenses and materials.

## **COURSE OBJECTIVES**

The purpose of this course is to aid students in acquiring a basic understanding of, and new appreciation for, human physiology. Students will be introduced to some basic physiological processes and principles. These physiological processes and principles will be discussed in the context of the four core concepts discussed above: homeostasis; structure and function are related; information is transformed as it is transmitted; and energy can be transferred and transformed. Knowledge of physiology is a fundamental component of any health care profession, as well as many other disciplines in biology.

The following objectives will be emphasized in this course, and you will be asked about them in the course evaluation:

Upon successful completion of this course students will:

- Gain factual knowledge (physiological concepts and processes)
  - o Become familiar with terminology used in human physiology.
  - o Become familiar with various physiological processes and how they relate to the maintenance of homeostasis in the human body.
- Learn fundamental principles and generalizations
  - o Posses an understanding of the four core concepts discussed above and how they relate to various physiological processes.
  - o Become familiar with principles that are integral for an understanding of physiology, such as cell theory, diffusion, osmosis, pH, membrane transport, etc.
- Develop skills in laboratory work

The laboratory section of this course will allow you an opportunity to engage in hands-on activities, and to investigate topics in more detail.

## **STUDY AND PREPARATION**

This class involves a large amount of information, presented in a short amount of time. Grasping the “big picture”, and thus establishing a framework in which to place information, is very helpful. To this end, it is important to read the assigned material prior to attending lecture and lab. If you are familiar with the topics to be covered in lecture and lab, you will

be better able to assimilate the large amounts of information you will encounter. It will also save you time in lab, and allow you to make the most of your time, if you come prepared.

When learning new information, try utilizing a variety of techniques. Making tables of information and drawing your own diagrams, rather than just relying on those in the book, can be helpful. Try quizzing yourself without relying on your notes, so that you can get a sense of what holes in your knowledge may need to be filled. There are also questions at the end of every chapter in the textbook, which can provide you a means of assessing your mastery of the material. It can also be helpful to have other people quiz you; forming study groups with other students can be effective. Additionally, discussion of the material with other students can help clarify concepts.

There are a number of other resources that may help you with your studies:

**Canvas:** Go to [www.usu.edu/myusu/](http://www.usu.edu/myusu/), click on Canvas, and then log on according to instructions. The website will contain useful class information.

**The USU Academic Resource Center:** Go to <http://www.usu.edu/arc/> to access this useful Online Learning Center. I would highly recommend that you check out the Idea Sheets and the Test Anxiety Management section located on the website. They provide many useful suggestions and strategies to help you succeed as a student.

## **STUDENTS WHO ARE BREASTFEEDING, PREGNANT, OR PLAN ON BECOMING PREGNANT**

If you are breastfeeding, pregnant, or plan on becoming pregnant, please talk to me and your doctor regarding safety issues in the lab.

## **COURSE POLICIES**

### **NONATTENDANCE POLICY:**

Students may be dropped for nonattendance. If a student does not attend a class during the first week of the term or by the second class meeting, whichever comes first, the instructor may submit a request to have the student dropped from the course. ***(This does not remove responsibility from the student to drop courses which he or she does not plan to attend.)*** Students who are dropped from courses will be notified by the Registrar's Office through their preferred e-mail account (see 2018 2019 General Catalog).

## LECTURE AND LAB:

LECTURE: This is a very challenging course; a great deal of information will be covered during each class. **It is expected that you will attend all lectures.** We may do in-class activities that you would be unable to make up later. If you do happen to miss a lecture, you will still be responsible for any information given during that lecture. I strongly recommend that you become acquainted with some of your classmates, so that you may ask them for notes and information about any lecture you might have to miss. Given the time constraints and volume of information in this course, I will not be able to bring you up to speed if you miss class.

LAB: **Lab attendance is mandatory.** The lab portion is an important part of this course. Therefore, **lab attendance is required.** For each lab, each student will receive 10 points (total) for participating in the lab and completing the lab worksheet. These points will be lost if a student fails to actively participate in lab activities and complete the lab reports. Lab worksheets are due at the end of lab. I will score them as complete or incomplete and hand them back to you at the end of the scheduled lab period. ***There will be no makeup labs, but there will be one (1) optional lab assignment if you need to miss one lab session.***

## LAB SAFETY:

Safety is important in this class; it's important to pay attention and be aware when performing lab activities. It's a good idea to develop good lab habits from the beginning. It's also important to come to lab prepared, so that you know what you need to do for a particular lab. Below is a list of rules for the lab. These may be supplemented as needed.

- 1) No food or drink in the lab (including water).
- 2) No gum, candy, mints or the equivalent.
- 3) Do not use your mobile devices during lab or touch them when you have gloves on.
- 4) Always use personal protection: plastic apron, gloves, and eye protection.
- 5) Do not wear personal protection outside of the lab.
- 6) Do not apply makeup or chapstick in the lab.
- 7) Dispose of materials appropriately. If you're not sure how to dispose of materials – ask! Do not just throw it into the regular trash or down the drain if you are uncertain.
- 8) Clean up and wash hands after lab.

### **INSTRUCTOR'S RESPONSIBILITIES:**

I will assist you in acquiring knowledge of human physiology by presenting information in interesting and comprehensible ways, and by encouraging your active participation in the learning experience. I will read the assigned readings and prepare exams that are fair and representative of the material covered in class. Students may contact me with questions through Canvas and in person.

### **STUDENT'S RESPONSIBILITIES:**

Students are expected to attend all lectures and labs, take notes, read the assigned materials, and participate in class discussions and activities.

**Please do not text on your cell phone or take calls during lecture or lab unless there is an emergency.** Also, please only use laptop computers and similar devices for activities related to this course, such as taking notes. Using devices for activities unrelated to the course during class is distracting to other students. This course will involve a great deal of preparation; in order to succeed, you must devote a good deal of time outside of class to the study of this material. If you are having difficulty, it is your responsibility to seek help. In the event that you cannot take an exam at the scheduled time, you must let me know **at least 48 hours prior to the test**. If you do miss a test, I will require documentation of circumstances beyond your control before a make-up test will be given. The content covered by a make-up test will be the same as the original test, but the format and scheduling of the make-up test are at the discretion of the instructor.

### **GRADING:**

There will be six exams (Exams 1 – 6). Points will vary depending on number of questions. The exams will cover material from the lectures, labs, and readings. Exams 1 – 6 and the final will be given in Canvas at the Vernal and Roosevelt testing centers, during regular testing center hours. You will have Thursday through Saturday in which to take the exam. Please see the testing schedule at the end of the syllabus. Please be aware that many testing centers have reduced hours (or are closed) on Saturday; it is your responsibility to check the hours of the testing center where you plan to take the exam. Please allow yourself plenty of time to complete the exam; please start the exam at least 2 hours before the testing center closes.

As mentioned above, there will also be a comprehensive final exam. The final exam will be given in Canvas at the Vernal and Roosevelt testing centers on **April 25** during regular testing center hours. The final exam will cover new material. I reserve the right to grade the exams to your best interest. No more than 10 points however.

Each student will also be given 10 points per lab for participating in the lab and completing the lab worksheet (see LECTURE AND LAB above). I will also give quizzes/assignments/etc throughout the semester. Your final grade in this course will be determined by the percentage of total available points you have earned. The tables below are shown to describe how your final grade will be determined. Keep in mind that the total number of points possible at the end of the semester may differ from the total shown on the table, but the final grade will be calculated according to the table.

Total Available Points	Grade
93-100%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
60-66%	D
59% or less	F

## UNIVERSITY POLICIES & PROCEDURES

### ACADEMIC INTEGRITY – “THE HONOR SYSTEM”

Each student has the right and duty to pursue his or her academic experience free of dishonesty. To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:

*"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."*

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

## ACADEMIC DISHONESTY

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University's Student Code. Acts of academic dishonesty include but are not limited to:

**Cheating:** using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:

- Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually;"
- Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
- Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
- Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
- Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
- Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.

**Falsification:** altering or fabricating any information or citation in an academic exercise or activity.

**Plagiarism:** representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

## **SEXUAL HARASSMENT/TITLE IX**

Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and USU Policy 339 (<https://www.usu.edu/policies/339/>) address sexual harassment in the workplace and academic setting.

The university responds promptly upon learning of any form of possible discrimination or sexual misconduct. Any individual may contact USU's Affirmative Action/Equal Opportunity (AA/EO) Office for available options and resources or clarification, leading to an informal resolution of the matter. Further information and forms for reporting an incident to USU can be found here: <http://aaeo.usu.edu>

## **WITHDRAWAL POLICY AND "I" GRADE POLICY**

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

## **STUDENTS WITH DISABILITIES**

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn # 101, (435) 797-2444, [drc@usu.edu](mailto:drc@usu.edu)). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

## **DIVERSITY STATEMENT**

Regardless of intent, careless or ill-informed remarks can be offensive and hurtful to others and detract from the learning climate. If you feel uncomfortable in a classroom due to offensive language or actions by an instructor or student(s) regarding ethnicity, gender, or sexual orientation, contact:



- Division of Student Affairs: <https://studentaffairs.usu.edu>, (435) 797-1712, [studentservices@usu.edu](mailto:studentservices@usu.edu), TSC 220
- Student Legal Services: <https://ususa.usu.edu/student-association/studentadvocacy/legal-services>, (435) 797-2912, TSC 326,
- Access and Diversity: <http://accesscenter.usu.edu>, (435) 797-1728, [access@usu.edu](mailto:access@usu.edu); TSC 315
- Multicultural Programs: <http://accesscenter.usu.edu/multiculture>, (435) 7971728, TSC 315
- LGBTQA Programs: <http://accesscenter.usu.edu/lgbtqa>, (435) 797-1728, TSC 3145
- Provost's Office Diversity Resources: <https://www.usu.edu/provost/diversity>, (435) 797-8176

You can learn about your student rights by visiting:  
The Code of Policies and Procedures for Students at Utah State  
University: <https://studentconduct.usu.edu/studentcode>

## **GRIEVANCE PROCESS**

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: Article VII.

## **EMERGENCY PROCEDURES**

In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

## ***COVID-19 Classroom Protocols***

In order to continue to provide various forms of face-to-face instruction at USU, and to limit the spread of COVID-19 during the pandemic, students are asked to follow certain classroom protocols during the fall 2020 semester. These protocols are based on CDC, state, and local health department guidelines and requirements are in place not only for your safety but also the safety of the entire campus community.

- Face coverings are required in all classrooms and teaching laboratories. Students will not be permitted to remain in class without a face covering, as per University Policy 20T.3. Students that do not adhere to the face covering policy will be referred to the Office of Vice President for Student Affairs for a

possible violation of the Student Code of Conduct. There may be individual medical circumstances that prevent some students from using face coverings. If you require this exemption, contact the Disability Resource Center prior to the start of classes to investigate alternative instruction. These circumstances will be rare, but if they do exist, we ask that everyone be respectful.

- Follow faculty instructions regarding social distancing and entering/exiting classrooms.
- Stay home when you are sick, however mild your symptoms.
- Wash your hands frequently with soap and water.

**TENTATIVE Course Schedule  
Human Physiology BIOL 2420  
Spring 2021**

Week	Date	Lecture		Lab
		Topic	Readings in text	
1	January 20	-Class Introduction	Chapter 1 (1.1)	Lab 1: Measurement and Conversion
	January 25	Core Concepts in Human Physiology -The Chemistry of Life	Chapter 2 (2.1-2.2)	Complete and turn in lab
2	January 27	-Macromolecules and Cellular Respiration	Chapter 2 (2.2-2.4) Chapter 16	Lab 2: Chemistry
	February 1	Diffusion, Osmosis, transport	Chapter 4	Complete lab 2 and turn in.
	<b>**Exam 1**</b> February 5	Testing centers Chapters 1,2	All day	All day
	February 3	Diffusion, Osmosis, transport	Chapter 4	Lab 3: Diffusion and Osmosis
4	February 8	Cell structure	Chapter 3	Complete lab 3 and turn in

	February 10	Protein synthesis, enzymes	Chapter 3	Lab 4: Microscopes, cells, and tissues
	February 12 **Exam 2**	Chapters 3, 4	Testing center	
5	February 17	Consciousness, emotions, Learning, memory	Chapter 8	
	February 22	Sensory systems	Chapter 7	Lab 12: Senses and Perception
	February 26 **Exam 3**	Chapters 7,8	Testing center	
6	February 24	-Cardiovascular System	Chapters 12	Lab 5: Electrocardiography
	March 1	Cardiovascular system		Finish lab 5 and turn in
7	March 3	Respiratory system	Chapter 10	Lab 6: Breathing rate and spirometry
	March 5 ***EXAM 4***	Chapters 10,12	Testing center	
8	March 8	-Lymphatic and Immune Systems	Chapter 18	Lab 7: Blood typing & Blood cell counts
	March 10	Lymphatic and immune	Chapter 18	Finish lab 7 and turn in
10	March 15	-Digestive System	Chapter 15	Lab 8: Digestive Enzymes
	March 17	Digestive System	Chapter 15	
	March 19 **EXAM 5**	Chapter 15,18	Chapters 15,18	
11	March 22	-Skeletal and Muscular Systems	Chapter 9	Lab 10: Muscle contraction
	March 24	Skeletal and Muscular	Chapter 10	
12	March 29	-Central Nervous System	Chapter 6	Lab 11: Action Potentials, Synapses, and Reflexes

	March 31	Peripheral nervous system		Finish labs and turn in
	April 2 <b>**EXAM 6**</b>	Chapters 6, 9, 10,		
13	April 5	Urinary System	Chapter 14	Lab 9: Urinary
14	April 7	-Endocrine System	Chapter 11	To be announced
	April 12	Endocrine system		
15	April 14	-Reproductive System	Chapter 17	
	April 19	Reproductive system		
16	April 29	<b>FINAL EXAM will be available in Canvas on April 25 during regular testing center hours.</b>	<b>Tentatively at Testing center</b>	Chapters 11,14,17

### Testing Schedule

Exams 1 - 6 will be given in Canvas in the Vernal, Price, (if needed) and the Roosevelt testing center, during the hours that these testing centers are open. Please be aware that you must start the exam no later than 2 hours before the testing center closes. The Final Exam will be given in Canvas at the testing centers on April 25<sup>th</sup>. All of the exams are closed book, no notes, no friends, etc.

<b>Testing Schedule for Exams 1-5</b>	
<b>Exam</b>	<b>Dates available in Canvas</b>
1	January 17
2	January 31
3	February 7
4	February 21
5	March 13
6	March 27
Final	April 25

