

Syllabus for Human Physiology
BIOL 2420
Fall 2017

Utah State University Uintah Basin Campus
Vernal, Utah 84078

INSTRUCTOR

Lea Ann Jolley

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.

I will hold office hours by appointment. Feel free to contact me through Canvas with questions or comments, or to make an appointment to meet in person.

MEETING TIMES

Monday in Vernal only

Room 122 of the BEERC building

5:45PM – 9:30PM

Lecture: 5:45PM – 8:30PM approx.

Lab: 8:30PM – 9:30PM approx.

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

REQUIRED TEXTS

Human Biology 14th edition by Mader and Windelspecht (2016) McGraw-Hill. ISBN 978-1-259-24574-9

COURSE FEES

The course fee for BIOL 2420 is \$70. This fee is used to cover laboratory expenses and materials.

Core Concepts in Human Physiology

1) Homeostasis is defined as the measurable, dynamic constancy of the body's internal environment. Example: the concentration of glucose in the blood is maintained within a narrow range (70-140 milligrams per decaliter). What you will learn in this class: how multiple cells, tissues, and organs work to maintain homeostasis.

2) Structure and function are related. Example: enzymes, which perform many important functions in the body, have to have a specific shape in order to work. In other words, the function of enzymes is dependent on their shape. What you will learn in this class: how structural differences at multiple levels of organization (molecules, cells, tissues, and organs) affect function.

3) Information is transformed as it is transmitted. Example: the information about how to form a particular protein is held in the sequence of nucleotides in a DNA molecule. This information is transformed from DNA to RNA and then to an amino acid sequence in order to synthesize a protein. What you will learn in this class: how genetic, neural, and hormonal information is transmitted.

4) Energy can be transferred and transformed. Example: the energy that is stored in a molecule of ATP (chemical energy) can be transferred to a protein, Na⁺/K⁺ ATPase. This transfer of energy alters the shape of the protein (mechanical energy) and drives the movement of ions (sodium (Na⁺) and potassium (K⁺)) against their concentration gradients. What you will learn in this class: how energy in many forms (e.g. chemical bonds and ion gradients) is used to maintain homeostasis.

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 useful 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/, 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

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.** 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.***

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 by appointment.

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 during lecture or lab unless there is an emergency. 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 five exams (Exams 1 – 5) worth 100 points each, and a comprehensive final exam worth 200 points. The exams will cover material from the lectures, labs, and readings. Exams 1 – 5 will be given in Canvas at the Vernal and Roosevelt testing centers, during regular testing center hours. You will have Friday and Saturday of the test week in which to take the exam (see testing schedule at the end of the syllabus). Please allow yourself plenty of time to complete the exam; please start the exam at least 2 hours before the testing center closes. I will drop the lowest exam score for Exams 1 – 5 when calculating your final grade. **THE FINAL EXAM WILL NOT BE DROPPED.**

As mentioned above, there will also be a comprehensive final exam worth 200 points total. The final exam will be given in Canvas at the Vernal and Roosevelt testing centers on December 11th during regular testing center hours. 100 points of the final exam will cover new material, with the remaining 100 points covering comprehensive material. Once again, **THE FINAL EXAM WILL NOT BE DROPPED.**

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.

Exams 1-5 (100 points each; lowest will be dropped)	400 points
New material on Final Exam	100 points
Comprehensive material on Final Exam	100 points
Lab Attendance and Participation	130 points
Quizzes, Assignments, etc (? points each)	Approx. 40 points
Total points possible	Approx. 770 points

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+
63-66%	D
60-62%	D-
59% or less	F

UNIVERSITY POLICIES

ACADEMIC INTEGRITY – “THE HONOR SYSTEM”

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

The Honor Pledge: 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.

For the benefit of the students who may not be aware of specific standards of the University with regards to academic honesty, the following paragraph discussing infractions of academic integrity is quoted from the Student Policy Handbook (<http://www.usu.edu/policies/pdf/Acad-Integrity.pdf>)

Infractions

Acts of academic dishonesty include, but are not limited to:

1. Cheating. (1) *Using or attempting to use or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity, including working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done “individually”;* (2) *depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;* (3) *substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;* (4) *acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;* (5) *continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;* (6) *submitting substantially the same work for credit in more than one class, except with prior approval of the instructor;* or (7) *engaging in any form of research fraud.*

2. Falsification. *Altering or fabricating any information or citation in an academic exercise or activity.*

3. 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.*

Penalties

A. *An instructor has full autonomy to evaluate a student’s academic performance in a course. If a student violates the Honor System, the instructor may sanction the student as part of the course evaluation. Such sanctions may include: (1) verbally warning the student; (2) giving the student a written reprimand; (3) requiring the student to rewrite a paper/assignment or to retake a test/examination; (4) adjusting the student’s grade—for either an assignment/test or the course; or (5) giving the student a failing grade for the course. A sanction by the instructor is not a disciplinary penalty. If the instructor believes that, in addition to any*

sanction, the student should be disciplined and a penalty imposed, the instructor shall refer the student for disciplinary proceedings.

PLAGIARISM

Plagiarism includes knowingly "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 the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling. More can be found at <http://www.usu.edu/policies/pdf/Acad-Integrity.pdf>

GRIEVANCE PROCESS (STUDENT CODE)

Students who feel they have been unfairly treated [in matters other than (i) discipline or (ii) admission, residency, employment, traffic, and parking - which are addressed by procedures separate and independent from the Student Code] may file a grievance through the channels and procedures described in the Student Code:

http://studentlife.tsc.usu.edu/stuserv/pdf/student_code.pdf (Article VII. Grievances, pages 25-30).

SEXUAL HARASSMENT

Sexual harassment is defined by the Affirmative Action/Equal Employment Opportunity Commission as any "unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature."

If you feel you are a victim of sexual harassment, you may talk to or file a complaint with the Affirmative Action/Equal Employment Opportunity Office located in Old Main, Room 161, or call the AA/EEO Office at 797-1266.

STUDENTS WITH DISABILITIES

The Americans with Disabilities Act states: "Reasonable accommodation will be provided for all persons with disabilities in order to ensure equal participation within the program." If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille. For more information go to <http://www.usu.edu/drc/>

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. If an incomplete grade is to be given, an official incomplete grade form must be completed by both student and instructor. More information can be found at <http://www.usu.edu/policies/pdf/Incomplete-Grade.pdf>

TENTATIVE Course Schedule
Human Physiology BIOL 2420
Fall 2017

Week	Date	Lecture		Lab
		Topic	Readings in text	
1	August 28 th	-Class Introduction -Core Concepts in Human Physiology -The Chemistry of Life	Chapter 1 (1.1) Chapter 2 (2.1-2.2)	Lab 1: Measurement and Conversion
2	Sept. 4 th	LABOR DAY - NO CLASS	NO CLASS	NO CLASS
3	Sept. 11 th (Exam 1 is open Sept 15 th and 16 th)	-Macromolecules and Cellular Respiration -Transcription and Translation	Chapter 2 (2.2-2.7) Chapter 3 (3.6) And pgs 482-487	Lab 2: Chemistry
4	Sept. 18 th	-Cell Structure and Function; Plasma Membrane and Membrane Transport	Chapter 3	Lab 3: Diffusion and Osmosis
5	Sept. 25 th (Exam 2 is open Sept 29 th and 30 th)	-Tissues, Organs, Organ Systems, and Homeostasis	Chapter 4	Lab 4: Microscopes, cells and tissues
6	Oct. 2 nd	-Cardiovascular System	Chapters 5 and 6	Lab 5: Electrocardiography
7	Oct. 9 th (Exam 3 is open Oct 13 th and 14 th)	-Respiratory System	Chapter 10	Lab 6: Breathing rate and spirometry
8	Oct. 16 th	-Lymphatic and Immune Systems	Chapter 7	Lab 7: Blood typing & Blood cell counts
9	Oct. 23 rd (Exam 4 is open Oct 27 th and 28 th)	-Digestive System	Chapter 9	Lab 8: Nutrition and Digestive Enzymes
10	Oct. 30 th	-Urinary System	Chapter 11	Lab 9: Urinalysis
11	Nov. 6 th	-Skeletal and Muscular Systems	Chapter 12 Chapter 13	Lab 10: Muscle contraction
12	Nov. 13 th (Exam 5 is open Nov 17 th and 18 th)	-Central and Peripheral Nervous System	Chapter 14	To be announced
13	Nov. 20 th	-Sensory Nervous System	Chapter 15	To be announced
14	Nov. 27 th	-Endocrine System	Chapter 16	To be announced
15	Dec. 4 th	-Reproductive System	Chapter 17	Optional Lab: Mitosis
16	Dec. 11 th	FINAL EXAM will be available in Canvas on December 11th during regular testing center hours		

Testing Schedule

Exams 1 - 5 will be given in Canvas in the Vernal testing center 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 December 11th. All of the exams are closed book, no notes, no friends, etc.

Testing Schedule for Exams 1-5	
Exam	Dates available in Canvas
1	Sept 15 th and 16 th
2	Sept 29 th and 30 th
3	Oct 13 th and 14 th
4	Oct 27 th and 28 th
5	Nov 17 th and 18 th