

Course Description

The field of human biology is among the most exciting in modern science. The purpose of this course is to help you develop an understanding of fundamental processes that form the basis of biological life. Primarily for students majoring in health-related professions, this course is a prerequisite for students planning a career as a nurse, physician’s assistant, nurse practitioner, laboratory technician, radiologist, nuclear medicine technologist, inhalation therapist, medical office assistant, medical record keeper, dental hygienist, physical therapist, surgical assistant, and also students in premedical, pre-dental, physical education, sports medicine, nutrition, and pre-chiropractic programs. It is taught in a traditional lecture and laboratory format in combination with additional online content; lectures will utilize PowerPoint and a variety of multimedia presentations. Laboratory will be largely hands-on and team-based, utilizing a variety of resources including PowerPoint, multimedia, prepared microscope slides, models, and human and animal specimens. The course outcomes are designed to help you *understand and apply* (not just memorize) cell biology concepts, and to help you think in an analytical and critical way about contemporary cellular issues. Due to the rapid rate of new discoveries, it will not be possible to cover the entire field of cell biology during this (or any) course, so we will concentrate on essential areas of study.

SYLLABUS FOR BIOLOGY 22, HUMAN PHYSIOLOGY	
(57183)	
Spring 2019	Reedley College
Office Number: LFS Room 13	Instructor Name: Joseph Lin, M.S.
Course Number: 57183; 5 Units 4 Lecture hours, 3 Lab hours	E-Mail: joseph.lin@reedleycollege.edu
Lecture: Lecture Monday, Wednesday 01:30PM - 03:20PM – SOC 32 Lab: Lab Monday 05:30PM - 08:20PM – LFS 11	Telephone: 559-638-0300 Ext. 3407
Website: To access the course login to https://scccd.instructure.com/ using your SCCCD username and password.	Office Hours: Monday/Wednesday 3:30-4:30PM Tuesday/Thursday 12:00-1:00 PM Friday Online at 1:00-2:00 via LINE

Learning with Canvas

Additional course resources including all lecture notes and assignments are available and accessible through the Canvas Learning System. All course announcements, assignments, rubrics, etc. will be available so there should be no confusion on what is expected or how your performance will be evaluated. Check the Canvas site **daily** so that you are aware of any course changes. Accessing online class lecture notes in place of lecture attendance is unacceptable and will be suitably dealt with on an individual basis.

Prerequisites: BIOL 20 and CHEM 3A or CHEM 1A, taken in the last five years. Eligibility for ENGL 125, 126, or 153; or ESL 67 and 68 recommended

ADVISORY: Eligibility for English 125 and 126 or English 153 or ESL 67 and 68 and Math 103 recommended. Required Textbooks and Materials

Feedback Timeframes: To the best of my ability, email replies to coursework questions will be messaged within 24 hours of viewing. In addition, I will be accessible to students 24/7 Monday-Friday with the cell phone app LINE.

Objectives: To expose the student to the field of Biology and the general principles of scientific study as they relate to humans. Students completing the course will be able to:

- A. Assess the basic structure and function of each system in the human body.
- B. Assess the results of laboratory experiments and demonstrations.
- C. Illustrate the cell membrane, its electrical activity and the conduction of action potentials.
- D. Compare the autonomic system and the endocrine system.
- E. Analyze the cardiovascular system by performing an EKG and monitoring blood pressure.
- F. Evaluate lung and kidney function using computer simulations.

Internet Access: extremely important (see Materials on Canvas and Connect below)

Textbooks: Text:

- **Human Physiology by Stewart Ira Fox, 14th Edition. ISBN: 978-0077836375 or**
- **Connect Human Physiology by Stuart Ira Fox Online (includes eBook: Required)**
- **Laboratory Manual Stewart Ira Fox ISBN-13: 978-0077427320 / ISBN-10: 0077427327**
- Scantron #882-E for lecture tests (x6)

Materials on Canvas: Several **critical** items are available on Canvas for this course. When you scroll down the front page of our Canvas shell you will see a series of buttons. Each week, I will upload a video that accompanies that week's topic and it is your responsibility to watch the recordings and take notes. Keep in mind some weeks, you will have additional videos that supplement your content learning. In class active learning and the "Connect Online" (link below) serve as your weekly checkpoints for progressing through the class. Both of which will count towards your total grade. You will use the

Internet: Connect Online is required:

57183 - <http://connect.mheducation.com/class/j-lin-spring-2019---1>

57184 - <http://connect.mheducation.com/class/j-lin-spring-2019---2-1>

Contains **homework**, available only at certain times of the course, which is required. If you bought a used book or did not buy the bundle through the bookstore there may be an additional cost to access Connect.

You are required to use your student ID code to register for Connect in case there are other students with your same name. This "homework" IS **REQUIRED** for the course but is available for increased understanding of the material and for extra credit that can be used to increase your total grade percentage. It is **YOUR RESPONSIBILITY** to check online to see when the "homework" is due and **COMPLETE** it on time. All the due dates are listed on the schedule at the bottom of the syllabus.

Examinations and Major Assignments

Description	Possible Points
4 Lecture Exams	400 points
13 Lab Reports	104 points
15 Lab Discussion	75 points
15 Learn Smart Assignments	150 points
8 Connect Quizzes	160 points
Case Study Presentation	100 points
Lecture Final	200 points
Lecture Summaries	20 points
Lab Worksheets	20 points
Total points	1,229

To calculate your grade, total all points earned and divide that number by the total points available (1,229). **Course grades are non-negotiable; Instructor reserves the right to curve individual tests and/or assignments. FINAL GRADES WILL NOT BE CURVED... ALSO, I DO NOT round up your grades to the next letter grade.**

The final course grade is based on:

Lecture Exams:

Four midterms and one comprehensive final will cover the topics listed in the schedule below. The questions are multiple-choice, true/false, or matching with some essay questions. The comprehensive portion of the final will only be 20% of that exam; the other 80% will cover the final topics in last unit. Study guides will be posted (or not) at my discretion and should ONLY be used as a study guide, not as an indication of the exact questions on the tests.

Lab Reports (LR):

Study questions are given at the close of most exercises in your lab manual. The schedule located on the bottom lists the questions that you are responsible to answer for lab reports. Lab reports are **due at the end of the lab unless specified**. Only a portion of the Lab Reports will be graded, but **there will be a 50% penalty if the “assigned” portion (see Schedule) is not complete.**

LearnSmart and Connect Quizzes:

What you already know about cell biology will be assessed prior to the lecture. Scores for these How much content and critical thinking you learn from lecture will be formatively assessed using McGraw-Hill Connect, accessed through Canvas. MH Connect scores will be based on performance, converted to a common scale, and posted in the Canvas gradebook. Quizzes will occur on dates specified on the course schedule. Quizzes are given through Connect website and will only be open for a set period. If you are late your quiz will still be collected automatically when the time is up. Material may include and combination of multiple-choice, true-false, matching, fill in the blank, and short answer questions. **Learn Smart assignments will have various due dates. (See the schedule portion)**

Case Study:

During the course, a Case Study booklet will be uploaded to Canvas with eight physiological case studies. Case method teaching brings together three components: an appropriate case, students who are prepared to engage with the case material in a oral assessment. I will assign each group one of the eight case studies and you will use the prompts below to create an oral presentation. More on this will be posted during the last month of the semester.

- Presentations will take place during the final lab sessions.
- Use a minimum of **three** sources, preferably using scientific or medical journals, to research the questions in the Case Study. The sources must be written within the last four years and must have a minimum of four pages of text. Your book may not be used as a reference.
- The presentation should be approximately 10 minutes in length and each member of the group must participate. Although a PowerPoint or other video presentation is preferred, you may use other methods; however, you will be graded on the professionalism of your presentation.

Lecture Summaries:

The purpose of a summary is to give you a condense review of the concepts learning in class. It should be about 1/5 of the original length of an article/lecture, a clear, objective picture of the original lecture. Most importantly, **the summary restates only the main points of a text or a lecture with examples or details**, such as pathways, flowcharts, or descriptions A lecture summary will encourage you to attend lecture, pay attention, and take notes. It will be graded after students post onto Canvas discussion board and orally present it during class time.

Extra Credit:

Extra credit will be assigned during lab times and may be through additional drawings or worksheets. Also, participation in lecture responses will also count for extra credit.

Grading

To calculate your grade, total all points earned and divide that number by the total points available. Course grades are non-negotiable; because extra credit points, exam curves, and low score replacement are offered the grading scale will not be adjusted; I DO NOT ROUND UP your grades to the next letter grade. **The final course grade is based on:**

Percent Range	Grade
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
Less than 60	F

Professional Behavior is ALWAYS expected

Please respect other student, the laboratory materials, and me. No food, cellular phones, pagers, or profanity at any time! I am aware that emergencies arise but place your electronics on silent or “manner” mode.

You will be given a Safety Rules sheet to sign in the lab, which delineates further safety procedures that you MUST follow. OTHER COURSES USE THE MODELS AND THE LAB. PLEASE BE RESPONSIBLE. Do not use pencils to point out

structures on the models. Please remember to clean up the lab after every exercise, as areas left dirty or messy at the end of the period will result in those student groups being **docked 5 points** for every offense.

No food or beverages allowed. Cell phone use will not be tolerated in this class; turn off your cell phones prior to class. Students are allowed to do audio recordings of lectures but not video. Web or internet posting of recorded lecture materials are not allowed. Laptops may be used in this class; laptop users should sit in the back row to avoid distracting others.

College Policies

The college has several policies that you will be expected to adhere to in my course. The **Policy on Students with Disabilities, the University Honor Code, the Policy on Cheating and Plagiarism, a statement on copyright,** and the **university computer requirement**, portions of which are below, can all be found in the University Catalog (Policies and Regulations) and Class Schedule.

ATTENDANCE AND DROP/ADD POLICY

Your success in this course requires that you be **on time and here** for each lecture and lab. Excuses for absences will be honored at my discretion. Most announcements will be placed on Canvas but find a “buddy” in class to inform you of any announcements that might be made during your absence. I will drop students (both enrolled and waitlisted) based on the following policy:

- Student does not attend the first lecture.
- Student does not attend the first lab.
- Student misses a cumulative 7 hours (lecture or lab) in the first two weeks.
- Student misses 8 hours (lecture or lab) up to drop date without providing an excuse.

HOWEVER, you are responsible for dropping yourself from the class if you wish to do so. Do not rely on my paperwork skills should you decide to no longer attend the course, and I will be forced to give you a grade (usually an “F”) if you stop attending after the 9 weeks drop date.

Cheating and Plagiarism: I DO NOT TOLERATE CHEATING. PERIOD. Most of you are entering the health care field and could harm or seriously injure other human beings if you do not know the basic information in this course. The University policy reads, "Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term 'cheating' not be limited to examination situations only, but that it includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Any student caught cheating or plagiarizing will be subject to the Reedley College disciplinary procedures (review the Reedley College catalog section on academic dishonesty). Electronics of any kind are not permitted during exams and will result in an automatic zero for that exam.

Students with diagnosed disabilities should contact the Disabled Students Programs and Services' (DSP&S). Please give me a copy of the letter you receive from DSP&S detailing class accommodations you may need. If you require accommodation for test-taking, please make sure I have the letter no less than three days before the test. If you have a need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.

Teaching Philosophy and Course Expectations

Learning new concepts occurs most effectively when it is built on what students *already know*, when students actually *work* and *think* like a real scientist, and when they become self-aware of *how* they learn, not just *what* they learn (Donovan, 2005). Learning is a deliberate and conscious decision, one that involves breaking established neural patterns and creating new ones. This can be a frustrating and emotionally draining process for those unused to authentic learning. To best facilitate your growth, my expectations are for you to:

- Think critically. This course will develop your critical thinking abilities. People that analyze, infer, evaluate, and make reasoned judgments perform better in college, make better daily decisions, and have greater professional success. Developing critical thinking skill should be a goal of every student in this course.
- Apply yourself. Success in this course will require a lot of your time and energy. If you have high learning expectations, that is what you will achieve. Expect to invest significant effort (several hours of study time for each hour of class). Depending on your science background, you may need to spend study time. Attend class regularly, be on time, and budget the time and energy needed to accommodate the workload.
- Ask questions. Cell biology is fascinating, and new discoveries are made every day. Ask questions. If you aren't clear on something, there are likely others who are equally unclear on the topic. I expect interactive dialogue during all course meetings.
- Be informed. People sometimes use scientific information to manipulate others' behaviors and decision-making in ways not always to your benefit. If you don't understand the scientific basis of an issue, you can't make an informed decision about it. Be curious; try and find out all you can about a topic before you make a choice that may profoundly affect your life.
- Be respectful. We will discuss controversial issues in this course. Everyone will respect others' right to express their opinions even if you disagree. Respectful discourse is simple good manners and is a minimal expectation of every student.
- Take responsibility. The level of effort you put in is directly related to your academic and eventual professional success. Whether you choose to do excellent or shoddy work is up to you. I will not disrespect you by giving a grade you did not earn. If you mess up, take responsibility, grow from it, and move on. The best learning comes from making mistakes. This course is designed to help you evaluate and revise poor learning habits.
- Communicate clearly. Effective written and oral communication is a sign of an intelligent mind. Clarity, proper format, spelling, and grammar are expected of every student. Don't expect me to evaluate what I can't read or understand.
- Use common sense. Don't cheat on assignments or exams, and don't plagiarize others' work – either will result in a zero and the possibility of disciplinary action by the university). Don't bother turning in late assignments, since I won't accept *anything* late unless you have written documentation from an appropriate source or have made prior arrangements with me. If you have a problem that prohibits you from turning something in on time, let me know ahead of time. In all instances, good communication with me will prevent the vast majority of problems.

Students with Disabilities/Special Accommodations: Any student in need of an accommodation due to a disability is encouraged to provide the instructor with their notification of authorized services form from DSP&S and consult with the instructor immediately so that arrangements can be made.

TENTATIVE SCHEDULE

Please bring your textbook to lecture and your textbook and lab manual to every lab. Required assignments or tests are in bold. Additions or changes will be announced in class and posted on Canvas. Quizzes *** will be open for one day with only “24 hours” to have it finished.

Week	Dates	Lecture (Book Chapter)	Lab (Manual Chapter)
1	1/14-1/18	Syllabus Study of Body Function (1) Chemical Composition of Body (2) Chapter 1 (Due 1/27)	Lab 1: Introduction to Anatomy & Physiology and Microscopes Lab Report: Homeostasis Worksheet (Due) ➤ Vernier Systems Intro & Heart Rate
2	1/21-1/25	MLK Holiday (1/21) Cell structure and Genetic Control (3) Chapter 2 (Due 2/3)	Lab 2: Examination of Tissue and Organs Lab Report: 1.2 Q:1-10 (Due) Quiz #1 Macros (1/25)
3	1/28-2/1	Enzymes and Energy (4) Chapter 3 (Due 2/10)	Lab 3: Diffusion, Tonicity, and Osmosis Lab Report: 2.6 PG 83 Q: 1-9 (Due)
4	2/4-2/8	Cell Respiration and Metabolism (5) Chapter 4 (Due 2/17)	Lab 4 “Endocrine” Physio-Ex Worksheet (Due) Lab Report 4.1 Q 1-20 (Due)
5	2/11-2/15	Lincoln Day Holiday (2/15) Exam #1 (1-5) Cells and Extracellular Environment (6) Endocrine (11) Chapter 5 (Due 2/24)	Lab 4: Endocrine Glands Physio-Ex “Endocrine”
6	2/18-2/22	Neurons and Synapses (7) Chapter 6 and 11 (Due 3/3)	Lab 5: Reflex Arc & Hearing Lab Report: 3.3 Q: All (Due) ➤ Vernier Systems Reflexes (EEG) Quiz #2 Transport (2/22)
7	2/25-3/1	The Central Nervous System (8) Autonomic Nervous System (9) Chapter 7 and 8 (Due 3/10)	Lab 6: Cutaneous Receptors and Referred Pain Lab Report: 3.4 Q:1-17 (Due)
8	3/4-3/8	Sensory Physiology (10) Chapter 10 (Due 3/17)	Lab 7: Physio-Ex “Nervous” Physio-Ex Worksheet (Due end of lab) Quiz #3 Neurons (3/17)
9	3/11-3/15	Exam #2 (6,11) Muscle (12) Chapter 12 (Due 3/24)	Eyeball Dissection No Lab Report Due
10	3/18-3/22	Blood, Heart, and Circulation (13) Chapter 13 (Due 3/31)	Lab 8: Reedley College Gym Muscle lab ➤ Vernier Systems EMG & Muscle Fatigue
11	3/25-3/29	CO, BF, and BP (14) Chapter 14 (Due 4/7)	Lab 9: Electrocardiogram ECG & Activity 7.5 Lab Report 7.2 Q: 1-17 (Due) ➤ Vernier Systems ECG Quiz #4 Muscle (3/29)
12	4/1-4/5	Respiratory (16) Chapter 16 (Due 4/14)	Lab 10: Effects of Exercise on Daphnia Necklace kit Lab Report 7.3 Q:1-12 (Due)

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13	4/8-4/12	Exam #3 (7,8,9,10) Veterans Day (Observed)- No classes (11/12/2018) Physiology of Kidney (17) Chapter 17 (Due 4/21)	Lab 11: Measurement of Pulmonary Function Lab Report 8.1 Q: 1-8 (Due) Lab Report 8.4 Q: 1-11 (Due) Quiz #5 Cardio (4/12) ➤ Vernier Systems Lung Volumes / Respiratory Response
14	4/15-4/19	Spring Break	Quiz #6 Respiratory (4/19)
15	4/22-4/26	Immune System (15)	Kidney Dissection Lab 12 Renal Regulation Lab Report 9.1 Q: 1-12 (Due) Quiz #7 Renal (4/26)
16	4/29-5/3	Exam #4 (12,13,14) Digestive System (18) Chapter 15 (Due 4/28)	Renal Regulation and Urinalysis Blood lab: Lab Report 6.3 Q: 1-11 (Due)
17	5/6-5/10	“Connect Assignments DUE” Chapter 18 (Due 5/5)	Quiz #8 GI (5/10) Lab 13: Digestion of Carb, Protein, and Fat Lab Report: 10.2 Q:1-13 (Due) Blood lab: Lab Report 6.3 Q: 1-11 (Due)
18	5/13-5/17	Metabolism (19)	Case Study Presentation
Finals	5/20	Final Exam: (Focus: 15,16,17,18 + Cumulative)	

Important dates

- Jan 21 M – MLK holiday no classes held
- Jan 25 F – Last day to drop a Spring 2019 full term class for a full refund
- Feb 1 F – Last day to drop a Spring 2019 full term class to avoid a “W” in person
- Feb 15 F – Last day to change Spring 2019 class to from a Pass/No-Pass grading basis & Lincoln day no classes
- Feb 18 M – Washington day no classes held
- March 15 F – Last day to drop a Spring 2019 full term class
- April 15-18 M-Th – Spring recess no classes held