

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 the Biol 20 (Human Anatomy) and Biol 22 (Human Physiology). 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 5, HUMAN BIOLOGY (71612)	
Summer 2016	Reedley College
Office Number: LFS Room 13	Instructor Name: Joseph Lin, M.S.
Units: 4 units, 3 lecture hours, 2 lab hours	E-Mail: joseph.lin@reedleycollege.edu
Lectures: M-Th, 9:00-11:00 pm Labs: 11:10-12:20 pm	Telephone: 559-638-0300 Ext. 3407
Location: Lectures: LFS 17 Labs: LFS 17	Office Hours: M-Th 12:20-1:20 and upon request
Website: To access the course login to https://sccd.instructure.com/courses/5237 using your SCCCD username and password.	

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. The Canvas Learning System is accessed at <https://sccd.instructure.com/courses/5237>.

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Prerequisites: None, eligibility for ENGL 125, 126, or 153; or ESL 67 and 68 recommended. This is an introductory course using the principles approach to general biology which satisfies the general science requirements focused on students entering health or science careers. It is a prerequisite for all advanced science courses (Human Anatomy, 20; Human Physiology, 22; Human Anatomy and Physiology, 24; Microbiology, 31).

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

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 have a basic understanding of the cellular and chemical basis of life, genetics, evolution and ecology. Human structure and function will be the major focus of the class. Students will also be able to analyze and critically evaluate scientific literature, will have an introductory knowledge of laboratory procedures, and will have an awareness and appreciation for some of the career choices the field of biology has to offer.

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

Textbooks: Mader, Sylvia S. and Michael Windelspecht, *Human Biology*, 14th edition. 2015.

Mader, Sylvia S., *Human Biology Lab Manual*, 14th edition, 2015.

****Make sure you get the bundle from the bookstore which contains CONNECT access****

Scantron #882-E for lecture tests (x6)

Package of index note cards

Optional (but recommended) materials:

Rubber gloves, protective clothing (for dissection labs)

Biology drawing paper; one 2H and one 4h pencil (or similar for drawings)

Metric ruler (15 cm, clear plastic)

Materials on Canvas: Several **critical** items are available on Canvas for this course. Within “Syllabus” you will find this syllabus and a one-page schedule. Within “**Biol 5 Course Material**” you will find announcements, **lecture outlines, class group notes, study lists, interactive powerpoints**, and (possibly) Lecture Exam Reviews. (study guides).

Internet: Connect Online is Required! found at

http://connect.mheducation.com/connect/login/index.htm?&BRANDING_VARIANT_KEY=en_us_default_default&node=connect_app_16_170 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 T 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 TURN IT IN ON TIME.** I WILL NOT CHANGE THE DUE DATES or give individual student’s work special consideration. **At the end of the course I will take your overall percentage for all of the homework and apply it to the total credit points.**

Examinations and Major Assignments

Description	Possible Points
4 Lecture Exams (100 points each)	400
1 Case Study Presentation	100
8 Connect Quizzes (10 points each)	80
10 Connect LearnSmart (5 points each)	50
1 Summary Presentation	15
15 Drawings (5 points each)	75
12 Lab Review Sheets (10 points each)	120
1 Lecture Final	<u>200</u>
Total points	1,040
Extra Credit (see VII below)	

To calculate your grade, total all points earned and divide that number by the total points available (1,040). **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. The stations will have several questions (2 to 4, depending on the particular exam) and you will be allowed 30 seconds per question; the exam dates are listed on the schedule below. You will be asked to identify structures or answer questions based on laboratory exercises; you will pick the answer from a given list and fill in the ovals on your scantron.

Lab Review (LR):

Study questions are given at the close of most exercises in your lab manual. The following Schedule lists the questions that you are responsible to answer for homework (see column on the right). Homework is **due when class begins the same day of the following week (Monday assigned due the following Monday)**. Five points are available for each correct homework assignment. Only a portion of the Lab Reports will be graded, but **there will be a 50% penalty if the entire assignment (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 of time. 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 be due the Sunday of each week it is assigned at 11:59PM.**

Case Study:

During the course, a Case Study booklet will be uploaded to Blackboard with eight physiological case studies. You will be sitting in the lab in eight groups of three people each; I will assign each group one of the eight case studies and you will use the prompts below to create an oral presentation.

- 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.

Drawing:

During the course, you will be required to sketch various models, slides, or visuals. You will be sitting in the lab in your groups to identify structures and landmarks of what you are sketching. I will assign the topic of each drawing and it will be **due at the end of each lab period**. It must be colored and labeled or you will not receive points.

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 (1,560). 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:**

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

Professional Behavior is expected at ALL TIMES

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.

Cheating and Plagiarism: I DO NOT TOLERATE CHEATING. PERIOD. Most of you are entering into 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 more or less 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.
 - Monday, July 4th is a Independence Day holiday; no classes held and campus is closed.
 - Last day to drop the class and not receive a W is June 26, 2015
 - Last day to drop the class and a W must be assigned is July 10, 2015
 - The final is Thursday, July 28 and is comprehensive.

TENTATIVE SCHEDULE

Please bring your textbook to lecture and your textbook and lab manual to every lab. This is very important!

LR means lab review sheets (Required)

Week	Dates	Lecture (Book Chapter)	Lab (Manual Chapter)
1	Monday 6/20	Introduction, and Exploring Life and Science (1)	Laboratory Safety Lab 3: Light Microscopy <u>LR 1 pg 33</u>
1	Tuesday 6/21	Chemistry of Life (2)	Lab 3: (Continued) <ul style="list-style-type: none"> • Drawing 1: Cheek and Muscle cells
1	Wednesday 6/22	Cell Structure and Function (3)	Lab 4: Chemical Composition of Cells <u>LR 2 pg 48</u> <ul style="list-style-type: none"> • Drawing 2: Cell Model Structure
1	Thursday 6/23	Organization and Regulation of Body System Organ Systems (4) Quiz #1	Lab 5: Cell Structure and Function <u>LR 3 pg 60</u> <ul style="list-style-type: none"> • Drawing 3: Squamous Epithelial Cell
2	Monday 6/27	Exam 1 (1-4)	Lab 6: Body Tissues <ul style="list-style-type: none"> • Drawing 4: Cuboidal and Columnar Epithelial Cell
2	Tuesday 6/28	Cardiovascular: Heart and Blood Vessel (5)	Lab 6: Body Tissues <ul style="list-style-type: none"> • Drawing 5: Connective Tissues
2	Wednesday 6/29	Cardiovascular System: Blood (6)	Lab 7: Organization of Body <u>LR 4 pg 90</u> <ul style="list-style-type: none"> • Drawing 6: Quadrants of body & Positioning
2	Thursday 6/30	Lymphatic System and Immunity (7) Quiz #2	Lab 8: Cardiovascular System <u>LR 5 pg 104</u> <ul style="list-style-type: none"> • Drawing 7: Heart Structure (Internal and External)
3	Monday 7/4	Holiday	
3	Tuesday 7/5	Digestive System (9) Quiz #3	Lab 9: Chemical Aspects of Digestion <u>LR 6 pg 114</u> Drawing 8: Digestive Tract
3	Wednesday 7/6	Lecture Exam 2 (5-8)	Respiratory (10) <ul style="list-style-type: none"> • Drawing 9: Lungs and Trachea
3	Thursday 7/7	Urinary System (11) Quiz #4	Skeletal System (12) <ul style="list-style-type: none"> • Drawing 10: 1 Axial / 1 Appendicular Bones
4	Monday 7/11	Muscular System (13)	Lab 11: Homeostasis
4	Tuesday 7/12	Nervous System (14) Quiz #5	Lab 12: Musculoskeletal System <u>LR 7 pg 165-166</u>

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			<ul style="list-style-type: none"> • Drawing 11: 1 Axial / 1 Appendicular Muscles
4	Wednesday 7/13	Exam 3 (9-11)	Lab 13: Nervous System and Senses <u>LR 8 pg 181</u> <ul style="list-style-type: none"> • Drawing 12: Eye/Ear
4	Thursday 7/14	Senses (15)	Lab 13: Nervous System and Senses (Continued)
5	Monday 7/18	Endocrine System (16) Quiz #6	Endocrine Worksheet (extra credit)
5	Tuesday 7/19	Reproductive System (17)	Lab 14: Reproductive and Development <u>LR 9 pg 198</u> Drawing 13: Reproductive system
5	Wednesday 7/20	Development and Aging (18) DNA Biology and Technology (22)	Lab 15: DNA and Biotechnology <u>LR 10 pg 245-246</u> <ul style="list-style-type: none"> • Drawing 14: DNA/RNA Molecule
5	Thursday 7/21	Cell Division (19) Quiz #7	Lab 16: Mitosis and Meiosis <u>LR 11 pg 215</u> <ul style="list-style-type: none"> • Drawing 15: Mitosis/Meiosis
6	Monday 7/25	Patterns of Genetic Inheritance (20)	Lab 16: Patterns of Genetic Inheritance <u>LR 12 pg 230</u>
6	Tuesday 7/26	Exam 4 (12-15)	<u>Case Studies</u>
6	Wednesday 7/27	Human Populations (25) Quiz #8	<u>Case Studies</u>
6	Thursday 7/28	Final Exam	