

Biology 20 (Biol 20) Human Anatomy

<i>Semester: Spring 2024</i> <i>Reedley Community College</i>	
Lecture Instructor: Dr. Chris Emerling Email: christopher.emerling@reedleycollege.edu	<i>Class No. 50017, 50018</i> Lecture: Online Asynchronous Lab: 50017, Tues 12:30–3:20pm, LFS 17 50018, Thurs 12:30–3:20pm, LFS 17
Office Hours, Life Sciences (LFS) 13: MW 3:20–4:10 pm, TTh 11–11:50 am Online Office hours: Fri 10–10:50 am Zoom ID: 990 6009 7271 Phone: extension 3134	<i>Class Dates: 1/8/24–5/17/24</i>

Catalog Description:

This is a course providing a basic understanding and working knowledge of the human body with emphasis on the structure of each major system. The interrelationship between human systems and the relationships between the structure and functions of each system will be studied at several levels: cellular, tissue, organ, system, and organismal.

Prerequisites:

Biology 1 or 5 or 11A. ADVISORIES: English 1A or 1AH and Mathematics 11 or 45. (A, CSU-GE, UC, I) (C-ID BIOL 110)

Course Objectives:

In the process of completing this course, students will:

1. Develop important critical thinking skills as they evaluate lecture topics and the results of laboratory demonstrations and experiments.
2. Develop important manual dexterity skills associated with dissections, free-hand drawings, completion of anatomical color plates, and the operation of microscopes, computers, and other laboratory equipment.
3. Learn how to use scientific methods.
4. Identify the basic structure and function of each human system at the macroscopic and microscopic levels.

Student Learning Outcomes:

Upon completion of this course, students will be able to:

1. Describe functions of the cells and tissues
2. Describe the functions of the body systems
3. Identify the major body systems macroscopically
4. Identify the major body tissue and cell types microscopically
5. Use a microscope to identify tissues and cells

TENTATIVE SCHEDULE

Week	Lecture	Readings	Lab
Week 1: 1/8–1/12	Intro to Course Unit 1: Intro to Anatomy, Sensory & Nervous Systems	Ch. 1.1 Overview of Anatomy and Physiology, 1.2 Structural Organization of the Human Body, 1.6 Anatomical Terminology Ch. 4.1 Types of Tissues, 4.2 Epithelial Tissue, 4.3 Connective Tissue Supports and Protects, 4.4 Muscle Tissue and Motion, 4.5 Nervous Tissue Mediates Perception and Response, 14.1 Sensory Perception, 12.1 Basic Structure and Function of the Nervous System, 12.2 Nervous Tissue, 12.3 The Function of Nervous Tissue, 12.4 The Action Potential, 12.5 Communication Between Neurons	Lab 1: Body position, Microscopy review, Integumentary System
Week 2: 1/15–1/19 No class Monday (MLK day)	Unit 1: Intro to Muscular, Skeletal, & Integumentary Systems Unit 1: Intro to Digestive System	Ch. 10.1 Overview of Muscle Tissues, 6.1 The Functions of the Skeletal System, 5.3 Functions of the integumentary System Ch. 23.1 Overview of the Digestive System	Lab 2: Pig dissection
Week 3: 1/22–1/26	Unit 1: Intro to Cardiovascular, Respiratory & Urinary Systems Unit 1: Intro to Immune, Lymphatic, Endocrine & Reproductive Systems	Ch.18.1 An Overview of Blood, 22.1 Organs and Structures of the Respiratory Systems Ch. 17.1 An Overview of the Endocrine System, 17.2 Hormones	Lab 3: Skeleton
Week 4: 1/29–2/2	Readings & Review		Lab 4: Bone markings
Week 5: 2/5–2/9	Unit 2 (Limb Anatomy): Integument, Fascia	Ch. 5.1 Layers of the Skin, 5.2 Accessory Structures of the Skin	Unit 1 Lecture Exam & Lab Practical 1

	Unit 2: Muscles, Nerves	Ch. 10.2 Skeletal Muscle, 10.3 Muscle Fiber Contraction and Relaxation, 10.4 Nervous System Control of Muscle Tension, 13.3 The Peripheral Nervous System	
Week 6: 2/12–2/16	Unit 2: Arteries, Veins & Lymphatic Vessels	Ch. 20.1 Structure and Function of blood Vessels, 18.3 Erythrocytes, 18.4 Leukocytes and Platelets, 21.1 Anatomy of the Lymphatic and Immune Systems	Lab 5: Articulations & Muscles Pt. 1
No class Friday (Lincoln Day)	Unit 2: Skeleton, Synovial Joints	Ch. 6.3 Bone Structure, 6.4 Bone Formation and Development, 6.5 Fractures: Bone Repair, 9.4 Synovial joints, 9.6 Anatomy of Selected Synovial Joints, 18.2 Production of the Formed Elements	
Week 7: 2/19–2/23	Readings & Review		Lab 6: Muscles Pt. 2
No class Monday (Washington Day)			
Week 8: 2/26–3/1	Unit 3 (Head Anatomy): Eyes Unit 3: Ears	Ch. 7.2 The Skull	Lab 7: Muscles Pt. 3
Week 9: 3/4– 3/8	Unit 3: Brain, Cranial Nerves Unit 3: Spinal cord, Neuroendocrine organs	Ch. 13.2 The Central Nervous System, 13.3 Circulation and the Central Nervous System, 17.3 The Pituitary Gland and the Hypothalamus, 17.7 The Pineal Gland Ch. 7.3 The Vertebral Column, 15.1 Divisions of the Autonomic Nervous System	Unit 2 Lecture Exam & Lab Practical 2
Week 10: 3/11–3/15	Unit 3: Nasal and Oral cavities, Pharynx Readings & Review	Ch. 23.3 The Mouth, Pharynx, and Esophagus	Lab 8: Nervous System & Special Senses

Week 11: 3/18–3/22	Unit 4 (Thoracic Anatomy): Esophagus, Trachea, Larynx Unit 4: Lungs	Ch. 7.4 The Thoracic Cage, 10.8 Smooth Muscle Tissue Ch. 22.2 The Lungs, 22.3 The Process of Breathing, 22.4 Gas Exchange, 22.5 Transport of Gases	Lab 9: Respiratory System & Heart
SPRING BREAK: 3/25–3/29	NO CLASS		
Week 12: 4/1–4/5	Unit 4: Heart Unit 4: Lymphatic ducts, Breasts, Thymus, Thyroid, Parathyroid	Ch. 10.7 Cardiac Muscle Tissue, 19.1 Heart Anatomy, 19.2 Cardiac Muscle and Electrical Activity, 19.3 Cardiac Cycle, Ch. 17.4 The Thyroid Gland, 17.5 The Parathyroid Glands	Lab 10: Cardiovascular & Lymphatic Systems
Week 13: 4/8–4/12	Readings & Review Unit 5 (Abdominal Anatomy): Stomach, Liver, Gall Bladder, Pancreas	Ch. 23.4 The Stomach, 23.6 Accessory Organs in Digestion: The Liver, Pancreas, and Gallbladder, 17.9 The Endocrine Pancreas	Unit 3 & 4 Lecture Exam & Lab Exam 3
Week 14: 4/15–4/19	Unit 5: Small Intestine, Large Intestine, Mesenteries Unit 5: Kidneys, Ureters, Adrenal glands	Ch. 23.5 The Small and Large Intestines Ch. 25.2 Gross Anatomy of the Kidney, 25.4 Microscopic Anatomy of the Kidney, 25.5 Physiology of Urine Formation, 25.6 Tubular Reabsorption, 17.6 The Adrenal Glands	Lab 11: Digestive & Urinary Systems
Week 15: 4/22–4/26	Unit 5: Spleen, Digestive lymphatic tissue Unit 5 (Pelvic Anatomy): Bladder, Lower GI tract	Ch. 25.2 Gross Anatomy of Urine Transport	Lab 13: Endocrine & Reproductive Systems
Week 16: 4/29–5/3	Unit 5: Male Reproductive Anatomy	Ch. 27.1 Anatomy and Physiology of the Testicular Reproductive System	Lab 14: Histology Review

	Unit 5: Female Reproductive Anatomy	Ch. 27.1 Anatomy and Physiology of the Ovarian Reproductive System, 17.7 Gonadal and Placental Hormones	
Week 17: 5/6–5/10	Readings & Review		Lab Exam 4
Week 18: 5/13–5/17	Finals Week		Unit 5 Lecture Exam

Required Course Materials

- Textbook: Anatomy & Physiology, OpenStax, available for **free** at the following website: <https://openstax.org/details/books/anatomy-and-physiology-2e>
- The lab manual and associated materials are also free and will be posted on Canvas

Technology Requirements

- All students must have access to a device with internet access to that allows students to retrieve and complete assignments and obtain learning materials through Canvas.
- Check Canvas and your Reedley College email accounts regularly (multiple times per week) for announcements.
- If you need access to technology in order to complete your course, please make sure to contact the [Information Center](#) to check out a laptop or other needed technology.

ATTENDANCE AND DROP/ADD POLICY

Attendance is expected of all students every week. In order to avoid being dropped from this class, you must attend the first day of lecture, unless you contact me ahead of time to provide a legitimate excuse for your absence.

Beyond this, I reserve the right to drop students (both enrolled and waitlisted) based on the following policy:

1. Student does not attend the second and/or third weeks of class
2. Student does not respond to contact efforts from the professor after missing the second week of class

ASSESSMENTS

Category	Assignment Description	Points
Lecture	Lecture Exams	50% of grade
Lab	Lab Practicals	50% of grade

The final course grade is based on a nontraditional scale inspired by the [TEAS exams](#):

Percent Range	Grade
80-100	A
60-79.99	B
40-59.99	C
20-39.99	D
Less than 20	F

Course grades are non-negotiable. Instructor reserves the right to adjust individual tests and/or assignments should it be to the benefit to the entire class. Final grades may be adjusted to the benefit of the students, should there be a justifiable reason for doing so. I do not round up grades to the next letter grade given that there are multiple opportunities to boost grades during the course.

ASSESSMENTS

Lecture Exams These may be any combination of multiple-choice, true-false, matching, short-answer and other types of questions based on topics discussed in each lecture, and highlighted in the study guides. Questions may be based on words only or may include images. Please note that I require spelling and grammar to be as close to accurate as reasonably possible; spelling must be at least phonetically approximate, such that it is unambiguous what your answer is. If I can't clearly understand it, I can't give you points for it.

Lab Practical Exams There will be exams specifically based on the lab materials, known as lab practicals. These will be based on information covered during the lab activities and in the lab handouts. They frequently will include visual components, and may involve stations in which you will have to answer questions based on models / specimens / items physically placed in front of you.

LATE ASSIGNMENTS AND EXAM MAKE-UP POLICY

Making up exams may be possible if the student falls victim to extreme, *documentable* circumstances, but is ultimately at the discretion of the instructor. If a student misses an exam, they will have finals week to make up some of the exams that are missed. For lab practicals, this will be up to the discretion of your lab instructor given the usual difficulty associated with setting up lab practicals.

EXTRA CREDIT

I do not provide extra credit opportunities in a traditional sense. My belief is that the goal is for you to learn and complete what we are doing in class, not something beyond the scope of the normal content. However, I do believe strongly in providing the chance to learn from your mistakes and being able to master content on subsequent attempts. As such, during finals week, you will have the opportunity to 'retake' several of the exams that you had previously taken. They will not be identical to the earlier versions of the exams, but rather will include similar content. The grades on any exams you retake will replace your original exam score, whether it is higher or lower.

COMMUNICATION POLICY

The best way to get ahold of me is to send me a direct message through Canvas. Don't know how to send a message in canvas? Check out this quick guide [How to send a message in canvas](#). The second best way is to email me at christopher.emerling@reedleycollege.edu. I regularly check announcements for comments and replies, so this is also a viable option for communicating about specific content.

Please allow a 24hr response time on business days (Mon-Fri). I often reply on weekends as well, but given that I try to give myself breaks from work on the weekends, please do not assume that I will reply on non-business days. I tend to be very prompt with my responses, however, there are times when it may

take me up to 24hrs or more to respond. As a rule, I try to prioritize Canvas messages and e-mails that require an immediate response over those that are less urgent, so please indicate if the message is urgent. If you do not receive a response from me after 24hrs then please double check that you have contacted me correctly (e.g., was it the correct email address?), and then try again with both Canvas messages and e-mail. Emailing and messaging can be used 24/7. If I expect to be away from my computer for any significant length of time, you will be notified in advance.

OFFICE HOURS

Office hours are a great chance to meet one-on-one with your instructors, so you can get extra clarification on concepts that you have found difficult, practical advice on studying, additional context for completing assignments, and otherwise general support in the course. You can stop by my office directly during these hours, but if you cannot make it in person, I can jump onto Zoom and chat with you. If you wish to meet on Zoom, please contact me as soon as possible to schedule it so I can ensure that I'm available. My office hours, office number and my Zoom ID are posted on the first page of this syllabus. Office hours may not be posted in the first week or may be altered given changes in scheduling. However, they will be posted as soon as I have all the information I need to schedule them.

CANVAS

All course content will be located on Canvas. Please turn on e-mail notifications for Announcements in Canvas or check them regularly. You can find them under the tab "Announcements" and see the three most recent announcements at the top of the course page.

STARFISH

I will be using a service called "Starfish" during some points of the semester as a way to provide you with progress reports and to make referrals. Of course, you are able to view your grade any time on Canvas, but this gives me a way to acknowledge your success or encourage you if you're struggling during the class. If you're having a particularly difficult time, enough Starfish alerts from your instructors can trigger your counselor to contact you and help you to figure out the best plan of action for the course (i.e., whether to drop, get tutoring, change majors, etc.). Check your emails periodically in case you receive any Starfish alerts or "kudos" from myself or other instructors.

DROPPING THE COURSE

It is the student's responsibility to drop themselves from the course, not the professor, though the professor may drop you under certain conditions (see above). Here are some important dates:

January 19th: last day to drop for full refund

January 28th: last day to drop to avoid a "W"

March 8th: last day to drop to earn a "W"; letter grades assigned after this date

TUTORING

We may have a tutor embedded in our course this semester. The tutors are former, successful students who understand the material well, know how to study for the class and can help you succeed. I highly recommend that most students receive tutoring, even students who tend to do reasonably well. Students that are getting tutored are not 'less than' others who don't go to tutors. I received tutoring when I was in college (calculus and physics), and it helped me enormously to succeed in those classes.

COLLEGE POLICIES

The college has several policies that you will be expected to adhere to in my course. The policies on Disabled Students Programs and Services, Student Conduct Standards, Academic Dishonesty, and the Computer/Network Equipment Use Policy, portions of which are below, can all be found in the Reedley College Catalog.

Academic Dishonesty: "Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest

activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.” Reedley College Catalog. In an online classroom, academic dishonesty can manifest in (1) copying other students’ work, (2) sharing answers on exams and much more. When you cheat, not only do you defraud the college, but you devalue your education and the education of others by weakening the integrity of our institution. Furthermore, in my experience, cheaters almost never succeed at their career goals, so don’t ruin your opportunity to learn!

Please see the Student Conduct Standards and Grievance Procedures Handbook available in the Vice-President of Student Services office, or at the links listed below.

Student Conduct Standards: <https://www.reedleycollege.edu/about/about-us/policies-and-procedures/student%20conduct%20standards.html>

Grievance Procedures: <https://www.reedleycollege.edu/about/about-us/policies-and-procedures/grievance-procedures.html>

Academic Accommodations: If you have a verified need for an academic accommodation or materials in alternate media (e.g. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact the instructor as soon as possible so he can help determine how to best accommodate you. If you have not already, you should contact Disabled Student Programs & Services (DSP&S) as soon as possible so they can begin to assign your accommodations.

DIVERSITY STATEMENT

Diversity is not only a fact of life but, to me, it is one of life’s most beautiful traits and greatest strengths. My goal is for all students from all backgrounds and perspectives to be able to succeed, thrive and feel valued in my courses. My valuing of diversity encompasses gender, sexual identity, disability and health status, age, socioeconomic status, religion, philosophy, ethnicity, race, and culture. If you believe that my course and/or my instructional techniques are in any way invalidating your group identity or are in some way hampering your ability to succeed, please let me know so that I can address any concerns you have.

FINAL NOTES FOR SYLLABUS

Every syllabus represents the intended roadmap and structure of the course, but due to unforeseen events and/or feedback during the semester, adjustments may be necessary. This is a reminder that some details described in this syllabus are potentially subject to change at the discretion of the instructor, but I will inform you as promptly and clearly as possible as to the reasoning for any changes.

Student Learning Outcomes are statements about what the discipline faculty hope you will be able to do at the end of the course. This is NOT a guarantee: the ultimate responsibility for whether you will be able to do these things lies with you, the student. In addition, the assessment of Student Learning Outcomes is done by the department in order to evaluate the program as a whole, and not to evaluate individual faculty performance.