

Biology 20 (Biol 20) Human Anatomy

<i>Semester: Spring 2023</i>		<i>Reedley Community College</i>
Lecture Instructor: Dr. Christopher Emerling Email: christopher.emerling@reedleycollege.edu		<i>Class No. 51017</i> Lecture: M, W 12–1:15 pm CCI 203
Office Hours: M 11–11:50 am, T 10:30 am–1 pm, W 3:20–4:10 pm, LFS 13 Online Office hours: By appointment only Zoom ID: 990 6009 7271 Phone: extension 3134 <i>Class Dates: 1/9/23–5/19/23</i>		Lab: M 9–11:50 am LFS 17

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

Required Course Materials

- Textbook: Anatomy & Physiology, OpenStax (available for **free on Canvas**) or at the following website: <https://openstax.org/details/books/anatomy-and-physiology-2e>

Technology Requirements

- The web/online portion of this course will occur through Canvas. All students must have access to a device with internet access to that allows students to retrieve and complete assignments 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.

TENTATIVE SCHEDULE

Week	Lecture	Readings
Week 1: 1/9–1/13	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
Week 2: 1/16–1/20	MLK Day NO CLASS MONDAY Unit 1: Intro to Muscular, Skeletal, & Integumentary Systems	Ch. 10.1 Overview of Muscle Tissues, 6.1 The Functions of the Skeletal System, 5.3 Functions of the integumentary System
Week 3: 1/23–1/27	Unit 1: Intro to Digestive System Unit 1: Intro to Cardiovascular, Respiratory & Urinary Systems	Ch. 23.1 Overview of the Digestive System Ch.18.1 An Overview of Blood, 22.1 Organs and Structures of the Respiratory Systems
Week 4: 1/30–2/3	Unit 1: Intro to Immune, Lymphatic, Endocrine & Reproductive Systems Unit 1 Exam	Ch. 17.1 An Overview of the Endocrine System, 17.2 Hormones
Week 5: 2/6–2/10	Unit 2 (Limb Anatomy): Integument, Fascia Unit 2: Muscles, Nerves	Ch. 5.1 Layers of the Skin, 5.2 Accessory Structures of the Skin 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

<p>Week 6: 2/13– 2/17</p>	<p>Unit 2: Arteries, Veins & Lymphatic Vessels</p> <p>Unit 2: Skeleton, Synovial Joints</p>	<p>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</p> <p>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</p>
<p>Week 7: 2/20– 2/24</p>	<p>Washington Day NO CLASS MONDAY</p> <p>Unit 2 Exam</p>	
<p>Week 8: 2/27– 3/3</p>	<p>Unit 3 (Head Anatomy): Eyes</p> <p>Unit 3: Ears</p>	<p>Ch. 7.2 The Skull</p>
<p>Week 9: 3/6– 3/10</p>	<p>Unit 3: Brain, Cranial Nerves</p> <p>Unit 3: Spinal cord, Neuroendocrine organs</p>	<p>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</p> <p>Ch. 7.3 The Vertebral Column, 15.1 Divisions of the Autonomic Nervous System</p>
<p>Week 10: 3/13– 3/17</p>	<p>Unit 3: Nasal and Oral cavities, Pharynx</p> <p>Unit 3 Exam</p>	<p>Ch. 23.3 The Mouth, Pharynx, and Esophagus</p>
<p>Week 11: 3/20– 3/24</p>	<p>Unit 4 (Thoracic Anatomy): Esophagus, Trachea, Larynx</p> <p>Unit 4: Lungs</p>	<p>Ch. 7.4 The Thoracic Cage, 10.8 Smooth Muscle Tissue</p> <p>Ch. 22.2 The Lungs, 22.3 The Process of Breathing, 22.4 Gas Exchange, 22.5 Transport of Gases</p>
<p>Week 12: 3/27– 3/31</p>	<p>Unit 4: Heart</p> <p>Unit 4: Lymphatic ducts, Breasts, Thymus, Thyroid, Parathyroid</p>	<p>Ch. 10.7 Cardiac Muscle Tissue, 19.1 Heart Anatomy, 19.2 Cardiac Muscle and Electrical Activity, 19.3 Cardiac Cycle,</p> <p>Ch. 17.4 The Thyroid Gland, 17.5 The Parathyroid Glands</p>
<p>Spring Break: 4/3–4/7</p>	<p>SPRING BREAK NO CLASS</p>	

Week 13: 4/10– 4/14	Unit 4 Exam 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
Week 14: 4/17– 4/21	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
Week 15: 4/24– 4/28	Unit 5: Spleen, Digestive lymphatic tissue Unit 5 Exam	
Week 16: 5/1– 5/5	Unit 6 (Pelvic Anatomy): Bladder, Lower GI tract Unit 6: Male Reproductive Anatomy	Ch. 25.2 Gross Anatomy of Urine Transport Ch. 27.1 Anatomy and Physiology of the Testicular Reproductive System
Week 17: 5/8– 5/12	Unit 6: Female Reproductive Anatomy Unit 6 Exam	Ch. 27.1 Anatomy and Physiology of the Ovarian Reproductive System, 17.7 Gonadal and Placental Hormones
Week 18: 5/15– 5/19	Make-up Exams	

Textbook

- There is a *free* textbook available to read and/or download online at <https://openstax.org/details/books/anatomy-and-physiology-2e> Chapter readings listed in the Tentative Lecture Schedule above.

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 this class. Attendance online is counted by completing the attendance assignment for the week (typically a discussion). In order to avoid being dropped from this class, you must attend the first day of lecture and/or lab, 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	40% of grade
Lab*	Lab Activities, Quizzes and Exams	60% of grade

*See the full breakdown of lab grade in lab portion of syllabus below

The final course grade is based on a nontraditional scale:

Percent Range	Grade
85-100	A
70-84.99	B
50-69.99	C
30-49.99	D
Less than 30	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.

LECTURE 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.

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 lecture 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.

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. Refer to the lab instructor's policy regarding whether lab assignments can be submitted late.

COMMUNICATION POLICY

The best way to get ahold of me is to send me a direct message through 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. Don't know how to send a message in canvas? Check out this quick guide [How to send a message in canvas](#).

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 but 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" throughout the semester as a way to provide you with progress reports. 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 20th: last day to drop for full refund

January 27th: last day to drop to avoid a "W"; last day to Add in person

March 10th: last day to drop (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 LECTURE PORTION OF 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.

Human Anatomy BIOL 20 LAB Spring 2023

Syllabus & Course Information

Instructor Information:

Name: Kevin Helwick M.S.

E-mail: kh027@reedleycollege.edu

Course Meeting Time & Room:

→ We will meet on campus, in person in LFS Room 17 Mondays
9:00 AM – 11:50 AM

Required Materials and Technology:

→ Lab Manual (no cost): The laboratory portion of this class uses an **OER Lab Manual**. Lab material will be provided in the Canvas modules at no cost to students. You may purchase a pre-printed lab manual from the bookstore (low \$ cost).

→ To complete this course, you must have use of a **computer with internet access**. Laptops and tablets will work; please do not plan to do this class on your phone. If you do not have access to a computer, you may check one out from the library. The classroom will have both tablets and computers on hand to be used by students when needed **in class**.

→ **Internet browser: Google Chrome or Firefox** will run all of the assignments required for the course. Safari does not work well for Canvas quizzes (images do not display), or for many virtual platforms.

→ **File type restrictions:** Throughout the semester you will be uploading many types of files, including documents and images. However, there are few file types from Macs or iPhones that will not work on most computers and should not be uploaded as

assignment submissions. These include: ".pages", "HEIC" and "HEIF". Pages files are made from the pages applications on Mac computers and iPads; these can easily be converted to a pdf or word document. HEIC and HEIF are image files from iPhones and iPads and are Mac specific and will need to be converted, **the only file types allowed for upload are .jpeg and .pdf.**

Lab Exams: Lab exams must be taken on the day that they are scheduled. **There are no make-ups, no exceptions.** There will be **4 lab exams** (see the Tentative Schedule and Canvas for exam dates). These exams will be in the form of a practical, where stations are set up with models, microscopes, and/or images for identification. Students will rotate around the room until all students have been through all stations. All questions are fill-in or short answer.

→ **Lab Reports:** Each week you will complete a lab during the scheduled time (see the course schedule for details). Completed labs will be turned in via canvas. There are 15 labs planned!

Late Work Policy & Attendance Policy:

→ Exams will be given on the day/times posted. The lab exams will cover multiple labs and will test your knowledge on the lab manual activities and my lab PowerPoints. **There will be no make-up exams, plan accordingly.** I reserve the right to make exceptions under extenuating circumstances. You must notify me 48 hours **BEFORE** the exam.

→ Lab assignments will be due **Friday night the week of the lab.** This gives you about 4 days to complete the full lab and submit it. Because you have such a large cushion to complete the lab, there will be **no late work accepted, no exceptions.**

→ **Attendance is absolutely necessary.** If you do not show up to lab and do not inform me you will not be given points for the lab activity, you are still responsible for knowing the material come time for the lab exam. If you must miss a lab, please reach out to me and we will find an alternative assignment so you can get points. Assignments will only be given points up until the exam. For example, no assignments from weeks 1-4 will be accepted after Exam I.

Grade Breakdown:

→ **Quizzes** will be in class every week and will focus on the previous weeks material. These quizzes will be completed via canvas!

→ **Practical Review Quizzes** will be completed at home via Canvas.

Lab Exams	300 Points (50% of lab grade)	4 Exams @ 75 Points Each
Lab Activities	150 Points (25% of lab grade)	15 Activities @ 10 Points Each
Quizzes	50 Points (8.3% of lab grade)	10 Quizzes @ 5 points Each
Practical Review Quizzes	100 Points (16.6% of lab grade)	4 Quizzes @ 25 Points Each
Total Lab Points	600 (or 100%)	

Tentative Lab Schedule:

Week 1: 1/9/23	Lab 1 – Introduction to Anatomy Safety, Microscope, Terminology
Week 2: 1/16/23 MLK Day (No Classes)	Quiz 1 Lab 2 – Histology Tissues (Online Canvas Assignment) Stay tuned for details via Canvas Announcement**
Week 3: 1/23/23	Quiz 2 Lab 3 – Integumentary System
Week 4: 1/30/23	Practical Review Quiz 1 Lab Exam 1: Labs 1-3
Week 5: 2/6/23	Lab 4 – The Skeletal System
Week 6: 2/13/23	Quiz 3 Lab 5 – Articulations Lab 6 - Muscular System
Week 7: 2/20/23 Presidents Day (No Classes)	Quiz 4 Lab 6 – Muscular System (Online Canvas Assignment, stay tuned for details Via Canvas Announcements**)
Week 8: 2/27/23	Practical Review Quiz 2

	Lab Exam 2: Labs 4-6
Week 9: 3/6/23	Lab 7 Endocrine System
Week 10: 3/13/23	Quiz 5 Lab 8 – The Nervous System Lab 8a – Sheep Brain Dissection
Week 11: 3/20/23	Quiz 6 Lab 9 – The Senses Lab 9a – Eyeball Dissection
Week 12: 3/27/23	Practical Review Quiz 3 Lab Exam 3: Labs 7-9
Week 13: 4/10/23	Lab 10 – The Cardiovascular System
Week 14: 4/17/23	Quiz 7 Lab 11 – The Lymphatic System Lab 12 – The Respiratory System
Week 15: 4/24/23	Quiz 8 Lab 13 – The Digestive System
Week 16: 5/1/23	Quiz 9 Lab 14 – Urinary System Lab 15 – Reproductive

	System
Week 17: 5/8/23	Quiz 10 (Class Survey) Practical Review Quiz 4 Lab Exam 4: Labs 10-15

*I reserve the right to make necessary changes to this syllabus when needed and will notify all students of these changes accordingly**