

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. 51018</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: W 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

Week 6: 2/13– 2/17	Unit 2: Arteries, Veins & Lymphatic Vessels Unit 2: Skeleton, Synovial Joints	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 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: 2/20– 2/24	Washington Day NO CLASS MONDAY Unit 2 Exam	
Week 8: 2/27– 3/3	Unit 3 (Head Anatomy): Eyes Unit 3: Ears	Ch. 7.2 The Skull
Week 9: 3/6– 3/10	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
Week 10: 3/13– 3/17	Unit 3: Nasal and Oral cavities, Pharynx Unit 3 Exam	Ch. 23.3 The Mouth, Pharynx, and Esophagus
Week 11: 3/20– 3/24	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
Week 12: 3/27– 3/31	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
Spring Break: 4/3–4/7	SPRING BREAK NO CLASS	

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	50% of grade
Lab*	Lab Handouts and Exams	50% of grade

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

The final course grade is based on the traditional 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.

LAB PORTION OF THE SYLLABUS

Biol 20: Human Anatomy

Section: 51018

Lab Instructor: Danielle Trathen

Email: danielle.trathen@reedleycollege.edu (I prefer canvas email)

Lab meetings: Wednesday 9:00am – 11:50am LFS 17

Office hours: TBD, I will be available to set up a meeting as needed.

Anatomy students may join the 272 (Biol-272 Sec 55744) on Tuesday mornings (9-11:50am) for extra support

Biol 20: Human Anatomy Sp. 2023

(Download or print the lab manual pages prior to class.

They will be available in Canvas)

Labs are worth 15 pts each.	15 labs x 15 pts = 225pts	
Exams are worth 50 pts each.	4 exams x 50 pts = 200pts	
	Total lab pts = 425pts	

DATES		Lab-Attend in person
Unit 1: Week 1 1/9/23		Lab 1 – Introduction to Anatomy Safety, Microscope, Terminology Coloring Pages Lab 1 Quiz
Holiday	MLK Day - No Classes Monday	
Week 2 1/16/23		Lab 2 – Histology Tissues Coloring Pages
Week 3 1-23-23		Lab 3 – Integumentary System Skin model Coloring Pages
Week 4 1-30-23	Lab Exam Labs 1-3	
Unit 2: Week 5 2/6/23		Lab 4 – The Skeletal System All the bones Lab 5 - Articulations Coloring Pages-review! Study Bones

Week 6 2/13/23		Bone Quiz Lab 6 – Muscular System I Cellular & Tissue
Holiday	President's Day-No Classes Monday	
Week 7 2/20/23		Muscle Quiz Lab 6 (cont)– Muscular System II Muscular System-major muscles Muscle presentations-muscles on skeleton
Week 8 2/27/23	Lab Exam II Labs 4-6	
Unit 3: Week 9 3/6/23		Lab 7 – Endocrine System Poster Session-Endocrine
Week 10 3/13/23		Lab 8 – The Nervous System Lab 8a – Sheep Brain Dissection Upload picture of dissection
Week 11 3/20/23		Lab 9 – The Senses Lab 9a – Eyeball Dissection Upload picture of dissection
Week 12 3/27/23	Lab Exam III Labs 7-9	
Spring Break April 3-7 (Good Friday- NO Classes)		
Unit 4: Week 13 4/10/23		Lab 10 – The Cardiovascular System Heart, vessels, blood cells/typing Upload blood typing results
Week 14 4/17/23		Lab 11 – The Lymphatic System Lab 12 – The Respiratory System
Week 15 4/24/23		Lab 13 – The Digestive System
Week 16 5/1/23		Lab 14 – Urinary System Lab 15 – Reproductive System
Week 17 5/8/23	Lab Exam IV	

Week 18 5/15/23	Finals	NO LAB
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