

Abilene Approval Chart for Curriculum Changes

A = Approve I = Information Item R = Respond In Writing

Course Number: BIOL 494 or Degree Plan(s):

We are proposing to open a new course BIOL 494 Human Physiology. Please see attached course application.

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost
	Campus-Level Academic Review¹						
	Change to a Course Include signatures from all chairs/program directors for cross-listed courses. ¹						
1.	Title (description unchanged)	A	A	A	I	I	I
2.	Description (not affecting content)	A	A	A	I	I	I
3.	Course term(s)	A	I	A	I	I	I
4.	Content (change of course outcomes)	A	A	A	I	I	A
5.	Number of credit hours	A	A	A	A	A	A
6.	Course number within the hundred	A	A	I	I	I	I
7.	Course number beyond the hundred	A	A	A	A	A	A
8.	Prerequisites	A	A	A	I	I	I
9.	Course restriction (e.g., majors only, junior standing)	A	A	A	A	A	A
10.	Level change (U to G or G to U)	A	A	A	A	A	A
11.	Cross list course	A	A	A	A	A	A
12.	Department of record	A	A	A	A	A	A
13.	<u>Open or close a course</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>
	Change to a Degree Plan						
14.	Educational Program — Revise	A	A	A	A	A	A
15.	Educational Program — Adopt/revise admission requirements	A	A	A	A	A	A
16.	GPA — Revise program-required GPA	A	A	A	A	A	A
17.	Minor — Revise	A	A	A	A	A	A

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost	Campus Faculty	Senior VPAA	President
	Full Review									
	Change to Catalog Information (for Campus)									
18.	General requirements for Bachelor's and Associate Degrees	-	-	-	-	A	A	A	A	I
19.	Policies governing academic probation and suspension	-	-	-	-	A	A	A	A	I
20.	Requirements for graduating with honors	-	-	-	-	A	A	A	A	I
	Change to a Degree Plan									
21.	Educational Program — Add or Discontinue ²³	A	A	A	A	A	A	A	A	I
22.	Educational Program — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I
23.	Minor — Add or Discontinue	A	A	A	A	A	A	-	A	I
24.	Minor — Discontinue (Provost-proposed)	R	-	R	A	A	A	-	A	I
25.	Degree — Add or Discontinue	A	A	A	A	A	A	A	A	I
26.	Degree — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I

		Dept./School	College	Dean	AUAC	Provost	UGEC	University Faculty	Senior VPAA	President
	Change to General Education Requirements for Undergraduates (System)									
27.	Change course outcomes of an included course	A	A	A	A	A	A	-	A	I
28.	Add or drop a required course from the General Education Requirements	A	-	A	-	A	A	A	A	I
29.	Add or drop a course from a menu within the General Education Requirements	A	-	A	-	A	A	-	A	I
30.	Comprehensive revision of General Education Requirements	-	-	-	-	A	A	A	A	I

Notes

² Any change to a cross-listed course requires the signature of both department chairs or program directors overseeing the course to ensure that the courses stay in sync. This includes courses taught at other campuses (e.g. BIBL 101 and BIBO 101).

³ For undergraduate majors, a minimum of 30 hours is required. These programs must have a minimum of 6 elective hours, unless the requirements of external accrediting bodies make it impossible. Master's programs must include a minimum of 30 hours, and doctoral programs must include a minimum of 30 hours beyond the master's.

⁴ When a department/school or dean proposes closing a program, approval routing follows the typical process beginning with the department/school. An administrative proposal by the provost or senior vice president for academic affairs would follow the "provost-proposed" routing on the chart.

Updated 8/1/2023

Department/School(s)

Jennifer Huddleston

10/17/2025

Chair Signature

Date

Chair/Program Director Signature

Date

College Academic Council(s)

Kathleen Ren

11/06/2025

Chair Signature

Date

Chair Signature

Date

Dean(s)

Charles M. Montalvo

11/24/2025

Signature

Date

Signature

Date

Teacher Education Council

Signature

Date

**Campus Academic Council:
Abilene Undergraduate or Abilene Graduate**

Signature

Date

Provost

Signature

Date

University General Education Council

Signature

Date

University Faculty

Abilene Faculty Senate Chair signature

Date

Dallas Faculty Council Chair signature

Date

Senior Vice President for Academic Affairs

Signature

Date

President

Signature

Date

Abilene New Course Application

Course ID (<i>Subject Code and Number</i>)	BIOL 494
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1. Systems and Catalog Information Complete each item.

A	Course Developer	Jennifer Huddleston, Tony Fillmore, Maedgen Lindsey
B	Course Instructor	Jennifer Huddleston, Tony Fillmore
C	Course Title	Human Physiology
D	Course Abbreviation for Banner if title is more than 30 characters	
E	College	OSE - Onstead Science and Engineering ▾
F	Department or School	BIOL - Biology ▾
G	Number of Credit Hours	3 ▾
G1	Number of Lecture Contact Hours	3 ▾
G2	Number of Lab Contact Hours	0 ▾
H	Is the course for a fixed or variable number of credit hours?	Fixed ▾ If variable, explain rationale:
I	Is the course repeatable for additional credit?	No ▾
J	Maximum total number of credit hours a student can earn for this course	3
K	Course Schedule Type	Lecture (LEC) ▾ See Schedule Type definitions in the Reference section.
L	Number of Faculty Workload Hours	3 ▾
M	Grading Mode	Standard ▾
N	Maximum Enrollment	40 per semester

O	Catalog Description (50 words or less)	This course provides an in-depth exploration of human physiological processes, emphasizing the integration of molecular, cellular, and systems-level functions. Students will gain a comprehensive understanding of how the human body maintains homeostasis in response to various internal and external stimuli. Lecture may be taken without the lab.
P	List any prerequisites (course/s, test scores, class standing, major, etc.)	Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with a minimum grade of "C" and either BIOL 312 with a minimum grade of "C" or KINE 372 or PHYS 222.
Q	List any corequisites (these <i>must</i> be taken at the same time; note that a single requirement cannot be both a prerequisite <i>and</i> a corequisite)	
R	If the course is cross-listed, specify the subject code and course number of the other course	
S	Does this course require any additional student course fees?	No ▾ If yes, attach a completed course fee form (see form "Request to Add or Change Course Fees").
T1	Will the course be offered in fall terms?	Yes, every year ▾
T2	Will the course be offered in spring terms?	Yes, every year ▾
T3	Will the course be offered in summer terms?	No ▾
U	First semester this course will be offered under new Course ID. <i>May not be earlier than the coming fall semester.</i>	Fall 2026
V	Is this course required for a program(s)?	Yes ▾ If yes, submit a separate completed curriculum proposal to change the program(s).

W	Should the addition of this course be retroactively applied to the degree plan it supports? <i>This is rare, and rationale should explain compelling extenuating circumstances.</i>	No - If yes, provide rationale:
X	Has this course been offered as a Special Topics course? <i>New courses are not required to be taught as Special Topics courses prior to approval.</i>	Yes - If yes, provide course ID, term, and enrollment: Term 202610 - CRN 11099 - enrollment 20 Term 202620 - CRN 20062 - enrollment ?
Y	List any courses in which the content overlaps the proposed course. (Course ID and Name). <i>Attach a statement from the instructor/dept chair of the existing course justifying the new offering.</i>	BIOL 492 Physiology

2. Curriculum

- A. Explain any effects of this course on any degree plans. If the addition of the course alters program requirements, submit a separate [Approval Chart for Curriculum Change](#) to update the program.

This new course will be added as an option to the same menus where BIOL 492 Physiology resides.

- Biology, Pre-Veterinary Medicine, BS (BIOL-BIOV)
- Biology, Cellular/Molecular Biology, BS (BIOL-BICM)

This new course will replace BIOL 492 Physiology on this degree plan:

- Biology, Health Professions, BS (BIOL- BIOH)

Directors and department chairs of programs listing BIOL 492 were notified of this human physiology course that can be either included in their course menu or used to replace BIOL 492.

Center for Pre-Health Professions

- BA: Biomedical Sciences (BMSE)
- Biomedical Sciences, BS (BMSC)
- Biomedical Sciences, Pre-Dental, BS (BMSC-PDEN)
- Biomedical Sciences, Pre-Medical, BS (BMSC-PMED)
- Biomedical Sciences, Pre-PA, BA (BMSE-PRPA)
- Biomedical Sciences, Pre-PA, BS (BMSC-PPA)
- Biomedical Sciences, Pre-Pharmacy, BA (BMSE-PRPH)
- Biomedical Sciences, Pre-Pharmacy/Optometry, BS (BMSC-PPO)
- Biomedical Sciences, Pre-Veterinary Medicine, BS (BMSC-PVET)

Chemistry & Biochemistry

- Biochemistry, Biomedical Science, BS (BCH-BCBS)
- Chemistry, Medicinal Chemistry, BS (CHEM-CHMM)

Kinesiology & Nutrition

- Kinesiology, Pre-Physical Therapy, BS (KINE-KNPT)

Physics & Engineering

- Physics, Medical Physics, BS (PHYS-PHYM)

B. Justify the addition of this course to the current curriculum, explaining the gap it meets.

Currently, there is no Human Physiology course offered at ACU in the Department of Biology. The vast majority of our students are interested in pursuing careers in healthcare. The content covered in this course will meet the needs of students who are preparing to take the MCAT or who have a human physiology course as a graduate program prerequisite.

3. Course Design

A. Audience and Course Goal

1. Describe the intended audience, including prerequisite skills.

The intended audience of this course is students who are particularly interested in pursuing careers in human health and need a strong foundation in human physiology before entering into graduate or professional school. The careers include medical doctor, physician's assistant, physical therapist, dentist, podiatrist, optometrist, medical physicist, and related careers. This course is not intended for students interested in allied health careers, such as nursing, respiratory therapy, athletic training, and occupational therapy, although they are welcome to enroll in this course provided they have the prerequisite courses. Students enrolling in this course should have a background in cell biology or exercise physiology. They should understand how cells function and have a basic understanding about the functions of the human body.

2. State the overarching course goal(s) in performance terms.

B. Student Learning Outcomes and Measurements

	Student Learning Outcome	Measurement
1	Analyze cellular physiology, membrane structure, transport, tissue types, and mechanisms of cell communication.	Unit 1 Exam

2	Summarize how the organization, function, and regulation of endocrine and nervous systems coordinate body processes.	Unit 1 Exam, Unit 2 Exam
3	Describe major organ systems (musculoskeletal, cardiovascular, respiratory, renal, digestive) and blood, emphasizing roles in movement, transport, and processing.	Unit 3 Exam, Unit 4 Exam
4	Compare and contrast mechanisms of homeostatic regulation for fluids, electrolytes, acid-base balance, and metabolism.	Unit 4 Exam
5	Discuss how all body systems—including immune and reproductive—integrate and adapt to maintain homeostasis in varied conditions.	Unit 2 Exam, Unit 3 Exam, Unit 4 Exam
6	Apply physiological principles to recognize and explain pathological changes in tissues, organs, and systems.	Unit 2 Exam, Unit 3 Exam, Unit 4 Exam

C. Text and Resources

Give the full publication information of the textbook/s and other required resources and outside readings. For **combined undergraduate/graduate** courses, make two lists:

A. full publication information; label **Undergraduate**.

Human Physiology: An Integrated Approach, 8e. Dee Unglaub Silverthorn. 2020. ISBN-9780134702377

B. full publication information; label **Graduate**.

Not applicable.

4. Supporting Documentation

Required of all applications	
1	Approval Chart for Curriculum Changes

	<i>Attached.</i>
2	Syllabus — Attach the syllabus for the course based upon the anticipated first-semester offering. <i>Attached.</i>
4	Library — Submit new course application and syllabus to the Library dean's office. Attach the Library's memo. <i>Attached.</i>
Attach if applicable	
5	Content Overlap — Include one document for each course you listed in Section 1Y. Attach statement from instructor/dept chair of existing course justifying the new offering. <i>Attached.</i>
6	Departmental Resources — List the resources that support the course and are available only through the department, if applicable. Attach the list of the holdings and the location(s). <i>Not applicable.</i>
7	Resources — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). Attach a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds. <i>Not applicable.</i>
8	Expenses — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). Attach a complete list of all items, the estimated cost of each and the source of the funds. <i>Not applicable.</i>
9	Justification — Attach any documents to which you refer in Section 2B. <i>Not applicable.</i>

Human Physiology

Fall 2026

BIOL 494.01, 3 Credit Hours
Onstead Science Center, 269
1:00 - 1:50 p.m. MWF
Abilene Christian University



Contact Information

Primary Instructor: Dr. Jennifer Huddleston, Associate Professor of Biology

Office: Halbert-Walling Research Center 202

Office phone number: 325-674-2010

Email address: jennifer.huddleston@acu.edu

Office hours:

TR: 1:00-3:30 p.m.

WF: 4:30-5:30 p.m.

The best approach to office hours is to reserve a slot on [this appointment page](#). Please feel free to connect with me on Google Chat as well.

Instructor: Dr. Anthony Fillmore, College Assistant Professor of Biology

Office: Halbert-Walling Research Center 210

Office phone number: 325-674-4956

Email address: tony.fillmore@acu.edu

Office hours:

T: 4:30-5:30 p.m.

W: 8:00-9:00 a.m.; 10:00-11:00 a.m.

Canvas course: <https://acu.instructure.com/courses/7686426>

Course Details

Required text:

Human Physiology: An Integrated Approach, 8e. Dee Unglaub Silverthorn. ISBN-9780134702377

Catalog description: This course provides an in-depth exploration of human physiological processes, emphasizing the integration of molecular, cellular, and systems-level functions. Students will gain a comprehensive understanding of how the human body maintains homeostasis in response to various internal and external stimuli. Lecture may be taken without the lab. Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with a minimum grade of "C" and either BIOL 312 with a minimum grade of "C" or KINE 372 or PHYS 222.

Mission Statements	University	The mission of Abilene Christian University is to educate students for Christian service and leadership throughout the world.
	College	The mission of the Onstead College of Science and Engineering is to explore and understand God's creation in the natural world and apply the acquired knowledge and principles to address its issues and challenges.
	Department	The mission of the Department of Biology is to educate students for Christian service and leadership by preparing them to become biological scientists, pre-college teachers, and health-care professionals.

Course Instructors

There are two instructors for this course: Dr. Jennifer Huddleston and Dr. Anthony Fillmore. Dr. Huddleston is chair of the Department of Biology and has been at ACU for 14 years and has prepared hundreds of ACU students well for gross anatomy in medical school and PT school. Dr. Fillmore is a surgeon with many years of experience. Together we want to make this a great course for you. Our goal is for you to have a strong foundation in human anatomy, whether you are taking this course because you are just interested in the discipline or because you are planning to attend graduate or professional school to pursue a career in health professions. We know it can be confusing with two different instructors, so we ask that in all of your correspondence about the lecture course, that you copy both of us on your emails. If you do not, then we will add the other instructor to the email conversation. We both want to be aware of situations regarding students.

We both have different strengths. It is important that you be willing to learn from both of us regardless of our teaching styles.

Unique Christian Perspective

"For you formed my inward parts; you knitted me together in my mother's womb. I praise you, for I am fearfully and wonderfully made. Wonderful are your works; my soul knows it very well." Psalm 139:13-14

As Christians, we believe that God is the ultimate Creator and Designer of all things. The study of physiology offers a window into God's creative design, as it reveals the wonderful complexity and intricate order of the human body. Throughout the semester, strive to be mindful of the truth that the study of human physiology is not only an academic pursuit but also an opportunity to praise God for His care and craftsmanship.

Course Description and Objectives

In this course, you will learn about the biology of the human body, specifically the function of the organ systems and how they coordinate to maintain homeostasis.

This course is for students who want to deepen their understanding of the breadth and complexity of human physiology. Many students assume this course is just about memorizing bodily functions. This is not the case. We will investigate the core principles that govern how the human body works, emphasizing the mechanisms underlying processes in cells, tissues, organs, and organ systems. It challenges students to apply basic scientific principles, analyze physiological responses, and think critically about how body systems interact to maintain life and adapt to changing conditions.

The format of this course is a mixture of lecture and in-class learning activities. It is absolutely necessary to read and prepare for class each day. You will be expected to have familiarity with the material and work with it in class. There will be quizzes that will be given about once a week or so. See the schedule on Canvas for these dates. The course outcomes listed below will be introduced and taught through numerous diagrams, models, slides, and reading the textbook. Exams will require deep thinking. The content in this course requires time to learn it well.

Synopsis, Anticipated Outcomes, and Competency Measures:

A thorough knowledge of human physiology is necessary for further study in any of the health sciences. This class is designed to prepare students for graduate or professional programs in human health. At the completion of this course students should:

1. Analyze cellular physiology, membrane structure, transport, tissue types, and mechanisms of cell communication.
2. Summarize how the organization, function, and regulation of endocrine and nervous systems coordinate body processes.
3. Describe major organ systems (musculoskeletal, cardiovascular, respiratory, renal, digestive) and blood, emphasizing roles in movement, transport, and processing.
4. Compare and contrast mechanisms of homeostatic regulation for fluids, electrolytes, acid-base balance, and metabolism.
5. Discuss how all body systems—including immune and reproductive—integrate and adapt to maintain homeostasis in varied conditions.
6. Apply physiological principles to recognize and explain pathological changes in tissues, organs, and systems.

COURSE CONTENT

UNIT START DATE

Unit 1: Foundations of Cellular and Molecular Physiology

August 24

Unit 2: Muscle and Nervous System Structure, Function, and Integration

September 23

Unit 3: Cardiovascular, Respiratory, and Immune Systems: Mechanics and Regulation

October 29

Unit 4: Renal, Digestive, and Reproductive Physiology: Homeostasis and Integration

November 16

*Please see Canvas and this syllabus for specific assignments and their due dates. A more detailed tentative schedule is at the end of this document.

Course Requirements

This course will require you to put in consistent effort over the duration of the semester. If you are accustomed to memorizing slides to be successful in your science courses, then this learning strategy will not help you in this course. You have to put forth much time and effort to be able to think critically about human physiology. Regardless of your past learning or study strategies, you can be successful with consistent, hard work.

Assessment Activities

Quizzes (20%). There will be 11 topic quizzes over the course of the semester. Each of these quizzes will consist of 10 questions or less, will have a 10-minute time limit, and will be given at the beginning of class. Quizzes can be started late, but will automatically submit at the due time. Late quizzes cannot be started or taken after the due time. You will have the opportunity to replace up to three quizzes with a Physiology and Faith Reflection. Exceptions will be made for students who miss quizzes due to university approved absences and approved athletics absences.

Physiology and Faith Reflections for Quiz Grade Replacement (0%). Since the quiz policy is strict, you will have the opportunity to replace the grades of your three lowest quizzes. The specific instructions for this assignment are given on Canvas. These reflections are due by 11:59 p.m. on the last day of lecture before finals week.

Unit Exams (1-3) (48% total or 16% each). There will be three unit exams throughout the semester. You will have the entire class time to complete them. These will consist of application questions. The best way to study for these exams is to use the learning outcomes to guide your studying, read the textbook, take notes on slides during reading and during class, and participate in the daily learning activities.

Exams and quizzes will be given through Canvas and Lockdown Browser. In order to have the most successful testing experience, do the following: 1) Bring a device with LockDown browser already installed. 2) Make sure your device is fully charged. Do not expect to be able to plug into power during the exam or expect that the power outlets are working properly. 3) If your device malfunctions even when not using Lockdown Browser, take it to Team55 to fix the problems beforehand. 4) Take the practice quiz. Make sure you know how to access Lockdown Browser from your device. Bring this device to the exam. 5) If you have a Windows computer, make sure your updates are completed before the exam. 6) Restart your device and close all programs before the quiz or exam, leaving only Lockdown Browser running. 7) Arrive early and make sure your device is connected to WiFi so that you can start the quiz promptly at 1:00 p.m. 8) If your device malfunctions during the exam: a) Don't panic. Your answers are saved even if you have not yet completed and submitted the exam. b) Raise your hand and your instructor will assist you. c) If your device still malfunctions, again, don't panic. You will be provided with an alternate way to finish the quiz or exam.

Since the quizzes and exams have a limited number of questions, think of them as taking a sample of the knowledge that you have gained. There will be content that you will learn that will not appear on either of these but is still important in building your foundational knowledge of human physiology.

Comprehensive Final Exam (32%). There will be one comprehensive exam given during finals week. 50% of the exam will be from Unit 4 and the other 50% will cover units 1-3. You will be given guidance on how to study for this exam and the format as the date approaches.

Assessments with Tentative Calendar

Quizzes (11)	20%	See Canvas for dates
Unit Exam 1	16%	Monday, September 21
Unit Exam 2	16%	Friday, October 16
Unit Exam 3	16%	Friday, November 13
Comprehensive Final Exam (16%), also covers Unit 4 (16%)	32%	Thursday, December 10, 8:00-9:45 a.m.
Total	100%	

*The dates may be modified as needed.
Refer to Canvas for specific due dates and times.

Final grade calculation

90% - 100%
80% - 89%
70% - 79%
60% - 69%
Below 60%

Final Letter Grade

A
B
C
D
F

University Resources

We care about your class experience. The university also has a number of resources in place to support the ACU community both in this class and all aspects of university life.

Bias Education and Response Team (BERT):

Bias incidents affect our ability to work with, instruct and learn from each other. For more information about the reporting process of bias incidents at ACU, see <https://acu.edu/about/diversity-and-inclusion/bert/>.

SOAR (Student Opportunities, Advocacy, and Resources):

SOAR partners with faculty, staff, parents and students to assist ACU students and connect them to resources available to support their path to success. For more information about SOAR or to make a SOAR recommendation, see <https://acu.edu/soar-program/>.

Mental Health Resources:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Abilene Christian University is committed to supporting students addressing any of these concerns.

You can contact the Medical Care and Counseling Center at counseling@acu.edu, or by calling 325-674-2626. In addition, you can access free confidential counseling services through the Timely Care app by googling "timely.md acu" or calling (833) 484-6359.

In a crisis situation contact the National Suicide Prevention Hotline open 24/7 by dialing 988, or call the Police at 911.

University and Course Policies

ADA Compliance Policy:

Abilene Christian University is dedicated to removing barriers and opening access for students with disabilities in compliance with ADA and Section 504 of the Rehabilitation Act. The ACU website provides more information at <https://acu.edu/accessibility-statement/>. Please contact me to discuss any approved accommodations that you require for this class.

Title IX Policy:

As professors, one of our responsibilities is to help create a safe learning environment on our campus. We also have a mandatory reporting responsibility related to our role as professors. At ACU, we strive to comply with all applicable legal requirements prohibiting, preventing, and responding to sexual misconduct against any member of the ACU community. The full Title IX policy and process can be found at <https://acu.edu/human-resources/title-ix-and-sexual-misconduct-information/>.

Academic Integrity Policy:

Academic integrity is demonstrated by behavior that honors the learning environment, regardless of setting, context, location or modality. ACU's Academic Integrity Policy can be found at <https://acu.edu/office-of-the-provost/academic-policies/>.

The use of Artificial Intelligence (AI) tools to complete work for you may be a violation of the academic integrity policy. There are often times when using AI tools are not permitted. Examples of these uses are:

- Asking generative AI to complete an assignment for you – that you were meant to complete – where it can generate an entire solution when you don't understand it.
- Using AI tools on official assessments where uses have been expressly forbidden, such as unit exams and the One Health final project where the purpose is to determine your individual understanding of the material.
- Any use that may prevent your personal academic growth or may prevent you from understanding a topic or idea.

In general, your written work for this course should be original. That is to say, you should generate and take responsibility for the ideas, structure, and content in papers and essays for this course. When you submit an assignment, you are claiming it as your original work. You should not use AI to directly generate papers or essays. There are two reasons for this:

1. The purpose of writing assignments in this course is to help you learn to think and write well. Using AI to do your thinking and writing for you would defeat that purpose.
2. Even though AI can generate written content, high-quality writing that is original and human-generated will likely continue to be valuable and respected. The ability to participate in public and scholarly conversation through writing is worth your effort to acquire.

With all this in mind, it is appropriate to use AI tools for some tasks in this class. These are the uses that are essentially analogous to any search engine or office aid software. Tasks include, but are not necessarily limited to:

- Identifying sources relevant to your written work
- Informational queries
- Editing for grammar and syntax
- Arranging bibliographic information in the correct citation format

Even with these approved uses, you must double-check for accuracy. You are responsible for the content that you submit. If you are in doubt about a particular use of an AI tool that is not listed here, please discuss this with me prior to your submission of an assignment.

Attendance Policy:

Attending face-to-face class sessions. This is the preferred way to engage course material. We will take attendance every class period, and your presence and participation will fulfill the expectations for you to engage the course material for that day.

Joining class sessions synchronously through Zoom or FaceTime, etc. If you are feeling ill, you should not attend face-to-face class sessions and should contact the [Medical Clinic](#). If you desire to attend remotely, you can ask a classmate to Zoom or FaceTime you into class. You and the classmate will be responsible for setting this up as we are typically busy getting the face-to-face portion situated. We cannot successfully manage teaching students well on Zoom and in person simultaneously. You may not be able to hear well or see the whiteboard or slides. We will spend our efforts teaching students in the physical classroom. You will be counted absent and will be responsible for getting notes you missed from peers, the textbook, or Canvas. You will be able to participate in group discussions and group activities. Please note: Neither audio nor video recording of lectures is permitted except through written permission from both instructors. Exceptions can be made through the Alpha Scholars Program for qualifying students.

The class may meet via Zoom under rare circumstances, such as instructor illness, unavoidable instructor absence, etc. Be prepared for this scenario and have a plan of how you will access the internet. The classroom will be open and you will be able to sit in the classroom to use the WiFi to join there in the event that this occurs. The library is also always available.

Attendance Policy. Attendance is taken daily, but will not be factored in as part of the course grade. We do not distinguish between “excused” or “unexcused” absences. If a student is absent nine times,, that student will be dropped from the class or receive an “F” as a final grade. A student is considered “absent” at the point when the instructor takes roll. You may also be considered absent from class if you leave class early or step out of class for more than a couple of minutes. You will receive an email indicating that an absence was recorded for you. If you believe you have received an absence email in error, you must contact the instructors within 24 hours to request a change.

If for an extended period of time you become too ill to attend class, we will work with SOAR to develop a plan that ensures your academic and physical well-being.

If you are absent on the day of a unit exam, you must contact the instructors immediately. If you have a valid doctor’s note, then you will be allowed to take an alternative version of the exam, which will be in essay format, and must occur within **two** business days of your release by the physician. Students

who miss unit exams due to official university business have the option of taking an alternate exam with a similar format to the original upon returning to campus.

If you are absent on the day of a quiz, you will not be allowed to make up the quiz except for university approved absences and approved athletics absences. There will be quiz replacement opportunities for three missed quizzes.

Help & Resources

If you are feeling lost or overwhelmed...

It can be difficult to be present and maintain focus if you have challenges meeting basic needs such as a place to live, access to food, consistent transportation, and more. These challenges may impact your personal and academic success and the faculty and staff of ACU are here to help. Our Student Opportunities, Advocacy and Resources (SOAR) program provides assistance with locating resources on- and off-campus to meet those basic needs, in addition to connecting students with mental health professionals, among others. I urge you to speak with me so that I may submit a SOAR referral on your behalf. You may also contact the SOAR office on behalf of yourself without my knowledge at <https://success.acu.edu/register/soar> for further support, resources, or information.



Tentative Lecture Schedule:

Lecture					
Week	Day	Date	Instructor	Topic	Chapter
1	M	8/24	H	Syllabus & Introduction to Course	
	W	8/26	F	Introduction to Physiology	Chapter 1: Introduction to Physiology
	F	8/28	H	Functional Compartments, Membranes	Chapter 3: Compartmentation
2	M	8/30		No Class, Labor Day	
	W	9/2	F	Intracellular Compartments, Tissues	
	F	9/4	H	Tissue Remodeling, Organs	
3	M	9/7	H	Modules 1 and 2 Quiz , Energy, Chemical Reactions	Chapter 4: Energy & Cellular Metabolism
	W	9/9	H	Enzymes, Metabolism, Osmosis & Tonicity	
	F	9/11	H	Passive, Active Transport, Membrane Potentials	Chapter 5: Membrane Dynamics
4	M	9/14	H	Module 3 Quiz , Communication, Signaling	Chapter 6: Communication
	W	9/16	F	Regulation of Signaling, Hormones	Chapter 7: Introduction to Endocrine
	F	9/18	H	Module 4 Quiz , Hormone Regulation, Pathologies	

5	M	9/21	H	Unit 1 Exam	
	W	9/23	F	Muscles	Chapter 12: Muscles
	F	9/25	F	Neurons: Organization, Cell-types	Chapter 8: Neurons
6	M	9/28	H	Neurons: Signals, Communication	Chapter 8: Neurons
	W	9/30	H	Neurons: Integration	Chapter 8: Neurons
	F	10/2	H	Modules 5 and 6 Quiz , CNS Properties, Evolution	Chapter 9: Central Nervous System
7	M	10/5	H	Anatomy: Spinal Cord	Chapter 9: Central Nervous System
	W	10/7	F	Anatomy: Brain, brain function	Chapter 9: Central Nervous System
	F	10/9	H	Module 7 Quiz , Peripheral Nervous System, Neuromuscular Integration	Chapter 10: Sensory Physiology
8	M	10/12	H	Peripheral Nervous System, Neuromuscular Integration	Chapter 11: Efferent Division
	W	10/14	F	Module 8 Quiz , Peripheral Nervous System, Neuromuscular Integration	Chapter 13: Body Movement
	F	10/16	F	Unit 2 Exam	
9	M	10/19	F	Cardiovascular Physiology	Chapter 14: Cardiovascular
	W	10/21	F	Respiratory System- Mechanics	Chapter 17: Mechanics of Breathing
	F	10/23		No Class, Fall Break	
10	M	10/26	H	Ventilation, Gas Laws, Gas Exchange	Chapter 17, Chapter 18
	W	10/28	H	Gas Transport, Regulation of Ventilation	Chapter 18: Gas Exchange & Transport
	F	10/30	F	Modules 9 and 10 Quiz , Blood Vessels	Chapter 15: Blood Flow and Blood Pressure
11	M	11/2	H	Regulation of CV System, Lymphatics	Chapter 15: Blood Flow and Blood Pressure
	W	11/4	F	Blood	Chapter 16: Blood
	F	11/6	H	Module 11 Quiz , Innate Immunity	Chapter 24: Immune System
12	M	11/9	H	Adaptive Immunity	Chapter 24: Immune System
	W	11/11	F	Module 12 Quiz , Response to Exercise	Chapter 25: Exercise Physiology
	F	11/13	H	Unit 3 Exam	
13	M	11/16	H	Kidneys	Chapter 19: Kidneys
	W	11/18	H	Water & salt balance	Chapter 20: Fluid & Electrolyte Balance
	F	11/20	F	Acid-Base Balance, Digestive Anatomy	Chapter 20, Chapter 21
14	M	11/23	F	Modules 13 and 14 Quiz , Digestive function & regulation	Chapter 21: Digestive System
	W	11/25		No Class, Thanksgiving	
	F	11/27		No Class, Thanksgiving	
15	M	11/30	F	Sex Determination, Reproduction	Chapter 26: Reproduction & Development

	W	12/2	F	Male Reproduction, Female Reproduction	Chapter 26: Reproduction & Development
	F	12/4	H	Module 15 Quiz , Procreation, Pregnancy, and Parturition	Chapter 26: Reproduction & Development
Finals	R - 8:00- 9:45	12/10	H	Final Exam	

*The dates and/or topics may be modified as needed. Refer to Canvas for specific due dates and times.

** The instructors may change as needed. H - Huddleston, F - Fillmore



October 10, 2025

Dr. Jennifer Huddleston
Associate Professor of Biology
Onstead Science Center, 269
(325) 674-2010
jennifer.huddleston@acu.edu

Re: Human Physiology (BIOL 494)

Dear Dr. Huddleston,

Thank you for submitting Human Physiology (BIOL 494) to us for review. I have reviewed it based on the ACU Syllabus Guidelines. I found that the syllabus meets *all* aspects of the checklist.

Please note that this letter is intended as a reference, which will be read by the department chair and council members, who may also have questions or comments of their own. If you have any questions, please feel free to let me know.

Please also let me know if we can help in the design and facilitation of this course.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott E. Hamm', followed by a long horizontal line.

Dr. Scott E. Hamm,
Assistant Director, Adams Center

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

MEMORANDUM

DATE: October 8, 2025
TO: Dr. Jennifer Huddleston
FROM: Mark McCallon, Associate Dean for Library Services
RE: Course Application for BIOL 494 – Human Physiology

After reviewing the course application and syllabus, the library can support the proposed course. If additional library resources are required to support the course, please contact Mark McCallon, Librarian Liaison for the Department of Biology, at mccallonm@acu.edu. Thank you for letting the library review the course application and syllabus.

Human Physiology - Attachment 5: Course Overlap

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Dr. Jennifer R. Huddleston
Associate Professor
Department Chair
Department of Biology
Abilene Christian University
ACU Box 27868
Abilene, Texas 79699-7868
jennifer.huddleston@acu.edu

October 8, 2025

Dear Academic Council Committee Members:

I am writing to you as both the chair of the Department of Biology and the instructor of BIOL 440 ST: Human Physiology/BIOL 494 Human Physiology. BIOL 492 Physiology and BIOL 494 Human Physiology have overlapping content. Human physiology is a subdiscipline of animal physiology, the content covered in BIOL 492. BIOL 494 Human Physiology focuses strictly on human systems and is geared towards preparing students for careers in human healthcare.

Dr. Qiang Xu teaches BIOL 492 Physiology. Here is an excerpt from his Spring 2025 syllabus:

Purpose:

This course represents a key course to help us fulfill our Department Mission. The materials presented in this course are fundamental to understanding normal function in animals. In addition to providing students with a good understanding of how animals adapt physiologically to environmental conditions, my teaching goal is to stimulate students' interest and creativity in this field and build up their abilities to solve scientific problems.

Course Content:

This course will provide students with an understanding of the physical principles governing the lives of animals, including how animals solve the physiological problems they face in their environment and the basic physical principles that underlie physiological processes. Several organ systems, such as digestive and metabolic, respiratory, circulatory, thermoregulatory, nervous, musculoskeletal, osmoregulatory and renal, will be introduced with specific examples.

This course focuses on animal physiology. The textbook for this course is *Principles of Animal Physiology*, 3rd Edition, by Christopher Moyes and Patricia Schulte (2016). The study of physiology is approached from looking at how a diversity of animals like sponges, flatworms, mosquitos, and mammals maintain homeostasis in their bodies. In contrast, the proposed human physiology course uses the textbook *Human Physiology: An Integrated Approach*, 8th Edition, by Dee Unglaub Silverthorn (2020).

Though the organ systems are the same in both courses, they are approached in different ways. For example, when studying the circulatory system, the focus is on how worms or shrimp pump blood, in addition to how humans pump blood. In the human physiology course, much time is devoted to the in-depth learning of the human heart and how it functions.

While humans are, indeed, animals and understanding animals helps us to understand humans, some of our students require a more in-depth understanding of humans because of their chosen career paths. Physician's assistant graduate programs, in particular, are becoming increasingly strict on the version of physiology that students must have as a program prerequisite. They are requiring human physiology and rejecting animal physiology courses. They see the two courses as separate and not equivalent.

Although the content is overlapping between the two courses, the focus in each is distinctly different, justifying the existence of both courses.

Sincerely,



Jennifer Huddleston, Ph.D.

Re: Prerequisites for Human Physiology

1 message

Sheila Jones <jones@acu.edu>

Wed, Oct 8, 2025 at 5:49 PM

To: Jennifer Huddleston <jrh11a@acu.edu>

Hi Jennifer,

Yes, I think KINE 372 is the most appropriate KINE course as a prerequisite for BIOL 494, and they should definitely have KINE 372 before they take it, too.

Thanks!

Sheila

Sheila Jones, PhD, RD, LD
Director, Didactic Program in Dietetics
Chair, Department of Kinesiology and Nutrition
Program Director, M.S. in Nutrition
Associate Dean, College of Health and Behavioral Sciences
ACU Box 28084
Abilene, Texas 79699
(325) 674-2089

Romans 8:38-39

On Wed, Oct 8, 2025 at 10:44 AM Jennifer Huddleston <jrh11a@acu.edu> wrote:

Sheila,

I am preparing the application for our new Human Physiology course and considering the prerequisites. The prerequisites for BIOL 492 Physiology are: Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with a minimum grade of "C" and either BIOL 312 or junior standing.

We added the "or junior standing" so your pre-PT students could enroll in the course without having to take BIOL 312 Cell Biology. For this new course, I would like to add a course that only KINE students take that is relevant to the content. This would prevent some of our biology majors who cannot pass BIOL 312 from taking Human Physiology. If our majors can't pass BIOL 312, then they definitely cannot pass Human Physiology since much of physiology is applied cell biology. Currently, I have six pre-PT students in the course. All of them say they have taken KINE 372. Would this be a reasonable prerequisite to add to this new course?

That would make it: Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with a minimum grade of "C" and either BIOL 312 with a minimum grade of "C" or KINE 372.

I do not understand the sequencing well enough in your department to determine if this is a reasonable prerequisite that would both somewhat prepare your students for this class and force our students to take a logical sequence that prepares them.

What do you suggest? Is this reasonable or is there a better approach to this?

Thanks!

- Jennifer



To Whom It May Concern:

I am writing to support the new BIOL 494 Human Physiology course being proposed by the Biology Department. This course will benefit our Medical Physics majors by providing material better aligned to the recommended courses for students wishing to enter Medical Physics clinical and graduate programs and will become a required course in this degree plan. We also appreciate the willingness to find a way for our students to satisfy pre-requisites without requiring additional courses.

Sincerely,

A handwritten signature in black ink, appearing to read 'Larry Isenhower'.

Dr. Larry Isenhower
Co-Chair Department of Engineering and Physics