

Abilene Approval Chart for Curriculum Changes

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

Course Number: BIOL 452 Virology or Degree Plan(s):

This is a proposal to add a new course, BIOL 452 Virology. See the new course application for details.

	Campus-Level Academic Review ¹	Chair	II	III	IV	V	VI
	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.	Open or close a course	A	A	A	A	A	A
	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

		V	P	Re	Ac	Ed	Un	Co	St	Ph	Th	Rel	Ar	Sc
	Full Review													
	Change to Catalog Information (for Campus)													
18.	General requirements for Bachelor's and Associate Degrees	-	-	-	-	A	A	A	A	A	A	A	A	I
19.	Policies governing academic probation and suspension	-	-	-	-	A	A	A	A	A	A	A	A	I
20.	Requirements for graduating with honors	-	-	-	-	A	A	A	A	A	A	A	A	I
	Change to a Degree Plan													
21.	Educational Program — Add or Discontinue ^{2 3}	A	A	A	A	A	A	A	A	A	A	A	A	I
22.	Educational Program — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	A	A	A	A	I
23.	Minor — Add or Discontinue	A	A	A	A	A	A	A	-	A	A	A	A	I
24.	Minor — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	-	A	A	A	A	I
25.	Degree — Add or Discontinue	A	A	A	A	A	A	A	A	A	A	A	A	I
26.	Degree — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	A	A	A	A	I

	Change to General Education Requirements for Undergraduates (System)	.	II	3	4	5	6	7	8	9	10	11	12	13
27.	Change course outcomes of an included course	A	A	A	A	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	A	A	A	A	I
29.	Add or drop a course from a menu within the General Education Requirements	A	-	A	-	A	A	A	-	A	A	A	A	I
30.	Comprehensive revision of General Education Requirements	-	-	-	-	A	A	A	A	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.

Department/School(s)

Jennifer Huddleston

10/11/2024

Chair Signature

Date

Chair/Program Director Signature

Date

College Academic Council(s)

Charles Minter

10/30/24

Chair Signature

Date

Chair Signature

Date

Dean(s)

Charles Minter

10/30/24

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 452
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1. Systems and Catalog Information Complete each item.

A	Course Developer	Jennifer Huddleston
B	Course Instructor	Jennifer Huddleston
C	Course Title	Virology
D	Course Abbreviation for Banner if title is more than 30 characters	Virology
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	<u>Lecture (LEC)</u> See Schedule Type definitions in the Reference section.
L	Number of Faculty Workload Hours	3

M	Grading Mode	<u>Standard</u>
N	Maximum Enrollment	24
O	Catalog Description (50 words or less)	A study of current concepts in the field of virology including virus evolution and ecology, virus structure and function, virus replication cycles, host-virus interactions, and impact of viruses. Prerequisite: BIOL 312 or BIOL 351 or BIOL 355. For science majors.
P	List any prerequisites (course/s, test scores, class standing, major, etc.)	BIOL 312, BIOL 351, or BIOL 355
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)	None
R	If the course is cross-listed, specify the subject code and course number of the other course	Not applicable
S	Does this course require any additional student course fees?	<u>No</u> If yes, attach a completed course fee form .
T1	Will the course be offered in fall terms?	<u>Yes, even years</u>
T2	Will the course be offered in spring terms?	<u>No</u>
T3	Will the course be offered in summer terms?	<u>No</u>
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)?	<u>No</u> 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>	<u>No</u> 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>	<u>Yes</u> If yes, provide course ID, term, and enrollment: BIOL 440.01 ST Virology, Fall 2024, enrollment 11
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 355 Microbiology

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 course will support existing degree plans. It can be added to any menu where BIOL 355 Microbiology resides.

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

Viruses are an important part of biology, including human and animal health, evolution, and ecology. This is a class that is needed that most biology programs offer, but ACU never has. Students also have a high interest in the subject.

3. Course Design

- A. Audience and Course Goal
1. Describe the intended audience, including prerequisite skills.

The intended audience are STEM majors with an interest in viruses. Prerequisite skills involve having a grasp of cells and DNA and being able to apply that knowledge to a subdiscipline of biology.

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

Students will develop a comprehensive understanding of viruses, including their structure, life cycles, and pathogenicity, while analyzing antiviral strategies and the impact of viral outbreaks on global health, ultimately preparing them to critically evaluate virology-related information.

B. Student Learning Outcomes and Measurements

COURSE OUTCOMES FOR BIOL 452 VIROLOGY

American Society for Virology Curriculum Guidelines for Undergraduate Virology Education (2022)

(<https://asv.org/curriculum-guidelines/>):

After this undergraduate virology course students should be able to:

	Student Learning Outcome	Measurement
1	Define and describe viruses in terms of their nucleic acid and basic structural composition, and provide examples.	Virus Replication Project, Module 4 Exam, Comprehensive Exam
2	Convey that viruses are obligate intracellular pathogens that infect a broad range of host organisms.	Module 1 Exam, Comprehensive Exam
3	Detail the steps of the viral life cycle of diverse RNA and DNA viruses, providing biochemical mechanisms for attachment, entry, gene expression, genome replication, assembly, and release.	Virus Replication Project, Module 4 Exam, Comprehensive Exam
4	Identify and evaluate individual steps in a virus' replication cycle that can be effectively targeted by antiviral drugs for pharmaceutical intervention of viral diseases. Compare and contrast with established therapies for limiting viral infections including vaccines and therapeutic agents.	Module 2 Exam, Comprehensive Exam
5	Describe how host immune responses prevent or limit viral replication and	Module 2 Exam, Comprehensive Exam

	pathology, and how this process can be exploited to develop effective antiviral strategies and vaccines.	
6	Recognize and apply the basic principles of virus transmission, viral pathogenicity, and viral evolution, combined with the societal factors, that contribute to virus emergence, especially for virus outbreaks that affect global health.	Module 5 Exam, In-class book discussion, Comprehensive Exam
7	Explain how viruses impact the ecology and evolution of all of life, and recognize* the usefulness of viruses as model systems for gaining fundamental understanding of cellular functions.	Module 1 Exam, In-class book discussion, Comprehensive Exam
8	Recognize that virology is a continuously and rapidly evolving field, and that viruses and their proteins have been used to develop research tools, products, and therapeutics.	Module 3 Exam, Comprehensive Exam
9	Analyze* these fundamental concepts which will prepare students to critically assess the accuracy of information (e.g., by journalists and from social media) and to identify misconceptions regarding aspects of virology such as outbreaks.	Module 5 Exam, In-class book discussion, Comprehensive Exam

*ASV guidelines use the word “appreciate” in these instances. Since it is difficult to assess appreciation, the wording was changed.

C. Text and Resources

Required texts:

Basic Virology, 4th edition, by Martinez J. Hewlett, David Camerini, David C. Bloom. Wiley-Blackwell, 2021. ISBN-13: 978-1119314059

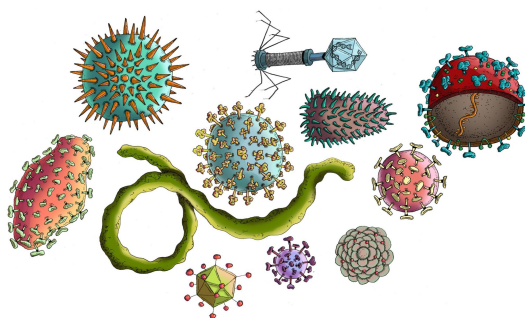
A Planet of Viruses, 3rd edition, by Carl Zimmer. University of Chicago Press. 2021. ISBN: 9780226782591

4. Supporting Documentation

Required of all applications	
1	Approval Chart for Curriculum Changes
2	Syllabus — Attach the syllabus for the course based upon the anticipated first-semester offering.
4	Library — Submit new course application and syllabus to the Library dean's office. Attach the Library's memo.
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. Attached
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). Attached
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. None needed
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. None needed
9	Justification — Attach any documents to which you refer in Section 2B. None needed

Virology

Fall 2026
BIOL 452.01, 3 Credit Hours
Onstead Science Center 361
9:30 a.m. TR
Abilene Christian University



Contact Information

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:

MWF: 9:30-11:00 am

TR: 1:30-3:00 pm

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.

Canvas course: <https://acu.instructure.com/courses/4066795>

Course Details

Required texts:

[*Basic Virology*, 4th edition, by Martinez J. Hewlett, David Camerini, David C. Bloom. Wiley-Blackwell, 2021. ISBN-13: 978-1119314059](#)

[*A Planet of Viruses*, 3rd edition, by Carl Zimmer. University of Chicago Press. 2021. ISBN: 9780226782591](#)

Catalog description: This course is a study of current concepts in the field of virology including virus evolution and ecology, virus structure and function, virus replication cycle, host-virus interactions, and impact of viruses. Prerequisite: BIOL 312, BIOL 351, or BIOL 355. For science majors.

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.

Unique Christian Perspective

As Christians and biologists, we are often focused on living beings, especially humans, and God's care for them. Virology is an interesting topic in biology because it is a study of entities that are at the fuzzy boundary between life and non-life. Though not technically alive, they function in ways that mimic life and they influence living beings in profound and irreversible ways that are often overlooked with just a superficial look at virology. Their activities as changers of life and genetic material gives us the opportunity to ask questions about what these observations tell us about God as the Creator.

Course Description and Objectives

In this course, you will learn about the biology of viruses and how to think about them in their ecological contexts, whether that be the human body or another natural environment. You will also learn how they replicate and how they influence evolution of other organisms.

This course is for students who want to learn more about the breadth and depth of the field of virology. Many students assume this course is about pathogens - the viruses that make humans sick. This is not the case. This course explores the fundamental aspects of viruses, including their structure, replication strategies, and mechanisms of infection. We will examine how viruses interact with host cells, evade immune responses, and spread within populations. While the course will cover viral pathogenesis, it will also address the broader ecological and evolutionary roles of viruses in various environments. The American Society for Virology has published guidelines over what each undergraduate semester-long virology course should include, and we will cover all of those.

This course will have a learning format that you may not be expecting for a science course. It is designed to use evidence-based teaching practices to facilitate your learning. Studies have shown that traditional passive lecture courses are not nearly as effective at teaching students as the active methods that I will employ in this course. This format requires you to put in effort to learn the material before, during, and after class. Each class will consist of a pre-class reading assignment with a short quiz, mini-lectures and activities during class, and a post-class assignment (usually one question with a similar format to an exam question).

COURSE OUTCOMES FOR BIOL 452 VIROLOGY

American Society for Virology Curriculum Guidelines for Undergraduate Virology Education (2022) (<https://asv.org/curriculum-guidelines/>):

After this undergraduate virology course students should be able to:

1. Define and describe viruses in terms of their nucleic acid and basic structural composition, and provide examples.
2. Convey that viruses are obligate intracellular pathogens that infect a broad range of host organisms.
 - a. Identify and recognize RNA and DNA viruses that affect microbes, plants, and animals by causing viral diseases including AIDS, cancer, flu, COVID-19, etc.

3. Detail the steps of the viral life cycle of diverse RNA and DNA viruses, providing biochemical mechanisms for attachment, entry, gene expression, genome replication, assembly, and release.
4. Identify and evaluate individual steps in a virus' replication cycle that can be effectively targeted by antiviral drugs for pharmaceutical intervention of viral diseases. Compare and contrast with established therapies for limiting viral infections including vaccines and therapeutic agents.
5. Describe how host immune responses prevent or limit viral replication and pathology, and how this process can be exploited to develop effective antiviral strategies and vaccines.
6. Recognize and apply the basic principles of virus transmission, viral pathogenicity, and viral evolution, combined with the societal factors, that contribute to virus emergence, especially for virus outbreaks that affect global health.
7. Explain how viruses impact the ecology and evolution of all of life, and recognize* the usefulness of viruses as model systems for gaining fundamental understanding of cellular functions.
8. Recognize that virology is a continuously and rapidly evolving field, and that viruses and their proteins have been used to develop research tools, products, and therapeutics.
9. Analyze* these fundamental concepts which will prepare students to critically assess the accuracy of information (e.g., by journalists and from social media) and to identify misconceptions regarding aspects of virology such as outbreaks.

*ASV guidelines use the word "appreciate" in these instances. Since it is difficult to assess appreciation, the wording was changed.

These course outcomes will be introduced and taught through pre-class assignments, in-class assignments, and post-class assignments. They will be assessed through module exams, the final comprehensive exam, and the virology project.

COURSE CONTENT	MODULE START DATE
Module 1: Virology and Disease	August 25
Module 2: Basic Properties of Viruses and Virus-Cell Interaction	September 17
Module 3: Working With Virus	October 13
Module 4: Replication Patterns of Specific Viruses	November 3
Module 5: Viruses and the Future	December 1
*Please see Canvas and this syllabus for specific assignments, exams, projects, and their due dates	

Course Requirements

This course involves watching videos, reading, writing, presentations, and group discussions. You will need to put in consistent effort over the semester. If you are accustomed to memorizing facts 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 virology. Regardless of your past learning or study strategies, you can be successful with consistent, hard work. Bring a fully charged mobile device (either laptop or tablet) to class every day.

Assessment Activities

These assessments and assignments consist of both formative (knowledge and skills building) and summative (testing) activities.

Pre-Class Assignments (3%). You will be expected to fully prepare for class each day by completing the pre-class assignments. This typically consists of reading sections of the textbook and taking a short open-book quiz over them. A reading guide will be provided for you. The questions in this reading guide are optional. You will not be asked to turn these in for a grade. However, you are strongly encouraged to complete the reading guide and questions to aid in your learning and your thinking about viruses. The graded component is the short quiz due by midnight each evening before class (Monday and Wednesday evenings). The pre-class assignments and reading guides will be open at least 5-7 days before they are due. You will have one dropped grade to account for various things that happen in life. Late assignments will not be accepted. Be prepared each day to discuss the essay question on the graded component during class.

In-Class Assignments (4%). During class each day we will typically work on activities in groups or pairs, but sometimes individually. When working in groups or pairs, one person will be responsible for uploading the completed assignment. If you are not present or if you are tardy, then you will have to complete the in-class work alone and your answers cannot match other students'. Alternative in-class assignments may be automatically assigned to absent students with the same due date. You will have one dropped grade to account for skipping class, forgetting, group leader not uploading the assignment, technology problems, etc. I do not accept late work as we will usually finish this work during class. It is due by midnight the night before the next class.

Post-Class Assignments (3%). After class each day, you will be assigned one question, typically in the format and depth of an exam question, so you will know what to expect for an exam. Exact exam questions will not be given. This is an individual assignment. Your answer cannot match another classmate's exactly. You will have one dropped grade to account for various things that happen in life, like forgetting, technology problems, etc. Late submissions will not be accepted.

Module Exams (1-4) (60%). There will be four module exams throughout the semester. You will have the entire class time (80 minutes) to complete them. These will consist of application questions. The best way to study for these exams is to complete the reading guides, actively engage in class daily work and study the material outside of class.

Comprehensive Final Exam (20%). There will be one comprehensive exam given during finals week. You will be given guidance on how to study for this exam and the format as the date approaches.

Virus Replication Project (10%). This project will focus on the replication strategy of an important virus. Each student will choose a virus. You will be responsible for teaching the class about this virus. You will construct a reading guide and pre-class assignment for the class that will be due about half-way through the semester. One week before your scheduled presentation date, you will submit your in-class plan for teaching your peers, which includes a mini-lecture that describes the importance of the virus, either the historic context or emerging threat, and its replication strategy, activities that will be done during class time, a short post-class assignment, and possible exam questions. You will split a class period with another student who is covering a different topic.

Activities and Assessment with Tentative Calendar

Pre-Class Assignments	3%	Due by midnight on the evenings before next class
In-Class Assignments	4%	Due by midnight on the evenings before next class
Post-Class Assignments	3%	Due by midnight on the evenings before next class
Module Exams (1-4)	60%	9/15, 10/8, 10/29, 11/24, 9:30-10:50 a.m.
Comprehensive Final Exam	20%	12/11, 10:00-11:45 a.m.
Virus Replication Project	10%	10/22 Part A - midnight. 10/27-11/19 Parts B,C
Total	100%	

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

Final grade calculation	Final Letter Grade
90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

University Resources

I 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 a professor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as a professor. 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 module 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 and Engagement Policy:

Ideally, you will be able to engage the course material by attending class in-person. If you are ill, however, I want you to be able to engage the course material in other meaningful ways without attending face-to-face class sessions. If you feel ill, you should contact the [Medical Clinic](#). With that in mind, I will measure class engagement in the following ways:

Attending face-to-face class sessions. This is the preferred way to engage course material. I will take attendance every class period, and your presence and participation will fulfill my 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. 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 I am typically busy getting the face-to-face portion situated. My brain 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. I will spend my 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, but you will upload your daily work individually - which must be unique. Please note: Neither audio nor video recording of lectures is permitted except through written permission from me. Exceptions can be made through the Alpha Scholars Program for qualifying students.

If I cannot be present in class and am well enough, the class will meet via Zoom. 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. The library is also always available.

Participating in other ways. If you are unable to attend face-to-face or join our class remotely, you can still engage the course material. This option for course engagement should be considered a last resort. You will be given an alternate daily work assignment with the same due date. It's intended to provide a way to stay engaged when it is impossible to attend in the other ways.

This policy makes it unnecessary to distinguish between “excused” or “unexcused” absences. You are expected to engage the course material for every class session, and you have three different ways to do so. Even if you miss class for a university event or family emergency, you can still participate by engaging the course material through alternative ways.

If a student is absent more than 20% of the class (9 times on MWF, 6 times on TR, 3 times for a once a week class), 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, which will be at least after 9:35 a.m. 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.

If for an extended period of time you become too ill to engage the course material in any of the ways outlined above, you and I 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 module exam, you must contact me 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 module 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.

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.



October 10, 2024

Dr. Jennifer Huddleston
HWRC 202
jennifer.huddleston@acu.edu
325-674-2010

Re: Review of BIOL452

Dear Dr. Huddleston,

Thank you for submitting BIOL452: Virology to us for a review. I have reviewed it based on the [ACU Syllabus Guidelines](#). I found the syllabus to meet all requirements.

Please note that this letter is intended as a reference, which will be read by members of the council, 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 be of any help in the design and facilitation of this course.

A handwritten signature in black ink that reads "Amy Boone". The signature is written in a cursive, flowing style.

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

M E M O R A N D U M

DATE: October 11, 2024
TO: Dr. Jennifer Huddleston
FROM: Mark McCallon, Associate Dean for Library Services
RE: Course Application for BIOL 452 – Virology

After reviewing the course application, the library should be able to support the proposed course, depending on the viruses chosen by students for the Virus Replication Project. If additional library resources in support of the course are required, please contact James Wiser, Librarian Liaison for the Department of Biology, at jaw20b@acu.edu . Thank you for letting the library review the course application.

Virology - Attachment 7: Course Overlap

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September 30, 2024

Dear Academic Council Committee Members:

I am writing to you as both the chair of the Department of Biology and the instructor of BIOL 355 Microbiology. BIOL 355 Microbiology covers aspects of virus biology that are also covered in BIOL 452 Virology. Virology is a subdiscipline of microbiology. However, this content only comprises two days (equivalent to 1 hour, 40 minutes of class time). The content is covered on a much more superficial level in order to introduce students to basic concepts of virology.

The American Society for Virology (ASV) has two sets of curriculum guidelines; one for stand-alone courses and another for a unit within a course. The specific content curriculum guidelines for a virology unit is used for BIOL 355 Microbiology and are listed below:

Content recommendations for virology content when a unit within a larger course (e.g., microbiology course)

1. Virus Evolution and Ecology

- a. Viruses evolve because of variation within their genomes introduced by a variety of processes including random mutation, recombination, and reassortment. These variants are then subjected to selection pressures exerted by their hosts and the environment or by random sampling *via* genetic drift.

2. Virus Structure and Function

- a. Viruses are composed of viral nucleic acids surrounded by a protective protein shell, and in some cases a lipid envelope.
- b. The Baltimore classification system groups viruses based on whether the genome is composed of DNA or RNA, is single- or double-stranded, and according to the mechanism by which viral messenger RNA (mRNA) is synthesized.

3. Virus Replication Cycle

- a. Viruses are obligate intracellular pathogens and require living host cells in which to replicate.
- b. Virus life cycles consist of sequential processes beginning with entry into a host cell and ending with release of new virions from the infected cell.

4. Host-Virus Interactions

- a. Not all exposures to a virus result in infection or disease.
- b. The processes by which viruses cause disease involved interactions of virus and host factors at the cellular and organismal level.
- c. After a non-lethal exposure to a virus, the host often develops a protective immune response against the virus (in some cases, also against related viruses).
- d. Virus infection and disease can be prevented and/or treated using a variety of biological, chemical, and physical approaches.

5. Impact of Viruses

- a. Human lives and economics are impacted by viral diseases in humans and other organisms.
- b. Viruses have large-scale effects on ecosystems and the environment.

Although the content is overlapping between the two courses, the content is minimal in BIOL 355 Microbiology and is not in as much detail as in BIOL 452 Virology, justifying the existence of both courses.

Sincerely,



Jennifer Huddleston, Ph.D.

Virology - Attachment 6: Departmental Resources

Instructions: List the resources that support the course and are available only through the department, if applicable.

Module 3: Working with Virus

During 2 class periods (total of 2 hours, 40 minutes) in this module, students will work with bacterial viruses (bacteriophages) in the microbiology lab spaces in Halbert-Walling Research Center, rooms 148, 148A, 150. It is important for students to be able to see viruses on plates in these simple, safe experiments. *E. coli* hosts and their bacteriophages were obtained from Dr. Jolene Ramsey at Texas A&M University. These *E. coli* hosts are rated as biosafety level 1 or biosafety level 2 organisms. The microbiology labs are rated at biosafety level 2. These stocks are stored in HAL 148A refrigerators and 181A freezers.

Bacteriophage name	<i>E. coli</i> hosts
Lambda Sam7	MG1655 (no plaques), LE392 (plaques)
Lambda PaPa	MG1655, LE392
Lambda Ur	MG1655, LE392
T4D	MG1655, LE392
T7	MG1655, LE392
T5	MG1655, LE392
HK97	MG1655, LE392
Mu	MG1655, LE392
N4 wt	MG1655, LE392
N4 gp2am	MG1655 (no plaques), LE392 (plaques)
Paul	4s
Sciku	4s
Pisces	4s
Mansfield	4s
4s 26-1	4s
4s-25-2	4s

4s-28-1	4s
4s-29	4s

These experiments will require saline, 0.7% soft agar, and plates of tryptic soy agar. These materials are readily available in the microbiology lab and their consumption will be negligible compared to the volume of materials consumed by BIOL 354 and BIOL 357.

There is no noticeable cost to the department for these two lab demonstration days.