

BIOL 2420

Microbiology for Non-Science Majors



Instructor: Dr. Emerson Crabill

Email: ecrabill@angelo.edu

Phone: 325-486-6642

Office: 003C CAV

Office Hours: M: 2-4 PM, T/R: 11-noon, W/F 1:00-3:00 PM

Course Information

Course Description

The study of infectious disease processes including host-microbe interactions and medical intervention. Laboratory includes basic microbiological methodology and case studies.

Prerequisite and Co-requisite Courses

Recommended Prerequisites: Biology 2324/2124 or Health Science Professions 2302/2102

Student Learning Outcomes

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

- Demonstrate knowledge in discerning signs and symptoms of medically relevant infectious diseases in order to apply knowledge in clinical settings

- Understand infectious disease processes including pathogenesis, diagnosis, signs and symptoms, transmission, and treatment
- Demonstrate understanding of the methods of infectious transmission and the means by which these are controlled, including those related to nosocomial infections
- Demonstrate knowledge of the nature of antimicrobial resistance and to incorporate this knowledge within the context of providing appropriate healthcare
- Demonstrate knowledge in administering quality care in the context of safe handling of infectious materials/patients in order to minimize risk of transmission

Course Delivery

This is a blended course. The lectures will be completely online and are asynchronous but with hard due dates. The labs will meet in person at the date and time specific to the lab section in CAV 005.

Required Texts and Materials

Norman-McKay L. *Microbiology : Basic and Clinical Principles*. New York, NY: Pearson; 2019.

Cappuccino JG, Welsh C. *Microbiology : A Laboratory Manual*. Twelfth ed. New York: Pearson; 2019.

Technology Requirements

To successfully complete this course, students need to purchase access to Top Hat. Lectures and daily assignments will be done through Top Hat. All lecture notes and Exams will be done through Blackboard.

Top Hat

We will be using **Top Hat Pro** (www.tophat.com) for class participation.

You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Getting-Started-with-Top-Hat>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as provides a brief overview to get you up and running on the system.

*An invitation will be sent to you by email. If you do not receive this email, you can register by simply visiting our course website: **Unique Course URL**
Note: our course Join Code is **XXXXXX***

Top Hat Pro may require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing.

Communication

The best way to contact me remotely is via e-mail. E-mails will be responded to in a timely manner (typically within 24 hours on weekdays), but do not expect an immediate response. You can also call me in my office.

You can contact me in person during office hours as posted, or you can schedule, via e-mail, a specific time to meet. If the University goes back online due to COVID-19 or any other global pandemic, we can also schedule meetings via webcam either in Blackboard or Top Hat.

Grading

Evaluation and Grades

Course grades will be determined as indicated in the table below.

Assessment	Points
Exam I	100
Exam II	100
Exam III	100
Exam IV	100
Top Hat participation questions	100
Lab Midterm	100
Lab Final	100
Lab Quizzes	50
Lab Reports/Case Studies	50
Total Points	800

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

A = 720-800 points

B = 640-719 points

C = 560- 639 points

D = 480-559 points

F = 0-479 points (Grades are not rounded up)

Assignment and Activity Descriptions

For the lecture, all lectures will be on Top Hat, all powerpoint slides will be on Blackboard. Top Hat quizzes and participation points will be earned via questions contained in the Top Hat lectures. Homework will be assigned in Top Hat. Lecture Exams will be on Blackboard, they are open note and open book, there is no time limit, but you can only take

them once. **All homework, quizzes, and Exams are due by the end of the day Friday for the week they are assigned.**

For the labs, quizzes worth 10 points will be given at the beginning of some lab classes. They will cover content from the previous week's lab. Not every class will have a quiz, and you will only be graded on your highest 5 quizzes. But you should prepare for every week as though there will be a quiz. Lab Reports will be assigned for some labs they are worth 10 points each, only your highest 5 lab reports will be counted toward your final grade. When a lab report is assigned, it is due the next week in lab. The lab midterm and final will be taken during the normal lab meeting time.

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)¹
- [Angelo State University Catalog](#)²

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#).³

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the

Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#).⁴ The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)⁵ for more information.

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](#)⁶ for more information.

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Required Use of Masks/Facial Coverings by Students in Class At Angelo State University

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory [Facial Covering Policy](#) to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Course Schedule

Week	Lecture Topics	Lab topics
Aug 17-21	Chapters 1 and 2: Introduction and Biochemistry	Basic Lab Techniques
Aug 24-28	Chapters 3 and 4: Prokaryotic Cells and Eukaryotic Cells	Microscopy and Staining
Aug 31-Sep 4	Chapter 5: Genetics	Gram Stain
Sep 7-11	EXAM I and Chapter 6: Viruses & Prions	No Labs (Labor Day)
Sep 14-18	Chapters 7 and 8: Microbial Growth and Metabolism	Biochemical Activities
Sep 21-25	Chapter 9: Infectious Disease	Control of Growth
Sep 28-Oct 2	Chapter 10: Host Microbe Interactions and EXAM II	Microbiology of Food
Oct 5-9	Chapters 11 and 12: Innate Immunity and Adaptive Immunity	Midterm Exam
Oct 12-16	Chapters 13 and 14: Immune disorders and Vaccines	Microbiology of Water/Soil
Oct 19-23	Chapter 15: Antimicrobial drugs and EXAM III	Bacterial Genetics
Oct 26-30	Chapters 16 and 17: Respiratory Infections and Skin/Eye Infections	Medical Microbiology
Nov 2-6	Chapters 18 and 19: Nervous system and Digestive System Infections	Case study
Nov 9-13	Chapter 20: Urinary Infections	Final Exam
Nov 16-20	Chapter 21: Cardiovascular and Lymphatic infections and EXAM IV	

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

¹ <https://www.angelo.edu/student-handbook/>

² <https://www.angelo.edu/catalogs/>

³ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁴ <https://www.angelo.edu/services/disability-services/>

⁵ <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>

⁶ <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>