SCOTTSDALE COMMUNITY COLLEGE
A MARICOPA COMMUNITY COLLEGE

Course Information

Semester & Year:	Spring 2025
Course Title:	Microbiology
Course Prefix & Number:	BIO205
Section Number:	29313
Credit Hours:	4.0
Start Date:	1/14/2025
End Date:	5/9/2025
Room Number:	SL 109
Meeting Days:	TTh
Meeting Times:	12:30 PM – 1:45 PM, Lab follows from 2:00 – 3:50 p.m.

Course Format

The course format for this course is in person.

Instructor Information

Instructor:	Anne Cedergren-Healy
Email:	anne.cedergren-healy@scottsdalecc.edu
Phone:	480-423-6779
Office Location:	NS 118
Office Hours:	MW 8:00 – 8:45 a.m. TTh 11:30 a.m. – 12:20 p.m. Friday by appointment.

Course Description

Study of microorganisms and their relationship to health, ecology, and related fields.

Prerequisites

A grade of C or better in (BIO156, or BIO156XT, or BIO181, or BIO181XT, or one year of high school biology) and (RDG100, or RDG100LL, or higher, or eligibility for CRE101). CHM130 or higher or one year of high school chemistry suggested but not required.

Course Competencies

1. Identify the significant and critical contributions to microbiology.

2. Use significant and critical contributions to microbiology to illustrate and explain the collaborative nature of science.

3. Identify structural characteristics identifying the major groups of microorganisms.

4. Compare and contrast prokaryotic cell and eukaryotic cells.

5. Compare and contrast viruses and cells.

6. Compare and contrast the physiology and biochemistry of the various groups of microorganisms.

7. Describe the modes of bacterial and viral reproduction and proliferation.

8. Describe the replication of genetic information, protein synthesis, and mutation in bacteria and viruses.

9. Compare and contrast microbial methods of genetic recombination including transformation, conjugation, and transduction.

10. Describe techniques and applications of genetic engineering and discuss their ethical implications.

11. Describe modes of regulation of bacterial gene expression.

12. Describe and compare the effectiveness of physical and chemical methods of microbial control.

13. Describe, compare and contrast innate and acquired immune responses.

14. Describe the roles and actions of phagocytes and lymphocytes in the control of infection.

15. Describe Immunologic disorders.

16. Describe the effect of immunization on the primary and secondary immune responses to pathogens.

17. Describe the symptoms, associated pathogen, transmission, course, treatment and prophylaxis of common infectious diseases.

18. Utilize aseptic technique for safe handling of microbes.

19. Apply various differential laboratory techniques to identify types of microorganisms.

Texts and Course Materials

OpenStax Microbiology can be downloaded or accessed for free at Free Microbiology Book Available for Download - OpenStax

Course Technologies

View the Accessibility Statements & Privacy Policies of technologies used in this course.

Maricopa Systems

This course uses key Maricopa systems for course management and communication.

- Canvas Learning Management System
- Student Maricopa Gmail Account

Student Assignment Tools

This course requires students to participate in or submit assignments using desktop or cloud-based applications.

- Google Products
- Canvas
- Microsoft Office 365
- SEA PHAGES Phage Discovery online laboratory manual (free)

Plagiarism Checker Tool (Turnitin)

Turnitin is a plagiarism check tool that matches text to a vast database of sources including the internet, published works, commercial databases and student work submitted to Turnitin in institutions internationally. Students must submit designated

papers to Turnitin when instructed. Information and instructions for Turnitin are provided in the course. For your reference, read the Turnitin Terms of Service.

Course Policies

The following are policies specific to this course. Students are also responsible for the college policies included on the Student Regulations page of the Maricopa Community College District website.

1. There is homework every week in Canvas over lecture material for that week.
2. There is no extra credit offered in this course because you will not need it.
3. Lecture and lab attendance is required. Please notify me as soon as possible if you must miss a class. There are no makeup labs, however if you can attend another lab section that week, please notify me.
4. Incomplete grades are **very rarely** given in this course because most students requesting incompletes lack sufficient justification, do not complete missing work, and fail the course as a result.

Generative Artificial Intelligence (AI) Policy

Opening Statement Regarding Generative Artificial Intelligence (AI)

The World Economic Forum defines generative AI as “a category of artificial intelligence (AI) algorithms that generate new outputs based on the data they have been trained on. Unlike traditional AI systems that are designed to recognize patterns and make predictions, generative AI creates new content in the form of images, text, audio, and more.”

Some examples of generative AI tools include but are not limited to: ChatGPT, Google Bard, Microsoft Copilot, Stable Diffusion, GrammarlyGo, and Adobe Firefly.

No Generative Artificial Intelligence (AI) Allowed

In this class, all work submitted must be your own. The use of generative AI tools will be considered academic misconduct (see Administrative Regulation 2.3.11 1.B(b)) and will be treated as such. If you are unsure if the tool or website you are using is a generative AI tool, please contact the instructor for further clarification before using the tool or website.

Grading Standards & Practices

Grade Scale

Letter Grade	Points Range
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Assignments

Assignment Name	Points	Approximate Percent of Grade
Various lecture activities	150	17%
15 Canvas homework sets @ 20 points each	300	35%
Avoiding Plagiarism module + 5 library checkpoints + 1 short paper	112	13%
Lab group – Lab notebook/MS OneNote/Google Doc	200	23%
Lab group – Present your phage to the class	100	12%
TOTAL:		**100%**

Response Time

Students can expect a response time on the same weekday for the instructor to respond to messages sent via the Canvas Learning Management System or email. Please use my campus email if you need to reach me over the weekend. Students can expect assignments to be graded within one week of the assignment's due date.

Attendance Policy

You are required to attend lectures and labs and to notify me if you must be absent. I take attendance using a sign-in sheet as required by the college. Please provide a doctor's note, car repair bill, court summons, etc. if applicable. If you miss four lectures, you will receive an email from me regarding your attendance and its impact upon your grade. If you miss labs, your course grade will drop by one letter grade for each 3 labs

you miss, regardless of whether they are consecutive. If your overall microbiology grade drops to a D or F, you will be withdrawn for “Excessive Absences” or “Academic Difficulties”. Your grade should not drop that low if you attend regularly and make use of office hours and/or tutoring.

Instructional Contact Hours (Seat Time)

This is a four (4) credit-hour course. Plan to spend at least eleven hours on course content weekly.

Online Tutoring

SCC's tutors are available online to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the Tutoring & Learning Centers page for detailed information on the five learning center’s hours and procedures. As much as possible, it is highly recommended that you utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments.

Please use your time effectively and be prepared with your questions before you connect to a tutor. Tutors and students communicate in real-time so whatever you type, draw, or share on the screen, the tutor sees, and vice versa. You may also want to have screenshots ready if applicable.

Learning Tools and Your Privacy and Security

SCC utilizes a variety of software applications and web-based tools operated by third party vendors to support student learning. To allow student access to the application, site or tool, certain identifiable information may be required to establish a username or password and submit work and/or download information from these tools. Inherent with all internet-based tools, there is a risk that individuals assume when electing to use these tools, as they may place information at risk of disclosure.

To use learning tools responsibly, please observe all laws and the Maricopa Community College District Student Conduct Code, such as copyright infringement, plagiarism, harassment or interference with the underlying technical code of the software. As a student using a learning tool, you have certain rights. Any original work that you produce belongs to you as a matter of copyright law. You also have a right to the privacy of your educational records. Your contributions to learning tools constitute an educational record. By using the tool, and not taking other options available to you in

this course equivalent to this assignment that would not be posted publicly on the internet, you consent to the collaborative use of this material as well as to the disclosure of it in this course and potentially for the use of future courses.

Students are responsible for the information contained in this syllabus, the Syllabus page in your Canvas course and the **College Policies & Student Services** page found in the First Steps module of your Canvas course. Students will be notified by the instructor of any changes in course requirements or policies.