

BIO 2420

MICROBIOLOGY COURSE INFORMATION

BIOLOGY DEPARTMENT

DIVISION OF ARTS AND SCIENCES

SOUTH PLAINS COLLEGE

INSTRUCTOR: REBECCA ZAMORA

MICROBIOLOGY 2420

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OFFICE: S133

OFFICE PHONE: (806) 894 - 9611; ext. 2313

E-mail address: rzamora@southplainscollege.edu

Blackboard Website: <http://southplainscollege.blackboard.com/>
(Log in with SPC User name and password.)

OFFICE HOURS: TUESDAY – 8:00AM - 9:30AM, 12:15PM – 1PM, 3:55 – 4:25PM
THURSDAY – 8:00AM - 9:30AM, 12:15PM – 1PM, 3:55 – 4:25PM
FRIDAY – 9:00 – 11:30AM

COURSE DESCRIPTION: A general microbiology course that covers the morphology and physiology of microorganisms with particular emphasis on the microbial relationship to disease, pathogenicity, and the immune response.

This course is designed for students entering the allied health profession such as: nursing, respiratory therapy, dental hygiene, etc... This course satisfies the microbiology requirements for certification in allied health fields, as well as microbiology requirements for transfer students working toward a certification in allied health fields.

Please Note: This course will not provide credit for Non-science majors, Biology majors, Pre-Med, or Pre-Dentistry. Please contact school of choice for Pre-Vet to inquire if the Veterinarian school will accept this course. **If you are not sure, please contact the instructor.**

This course will not count as a core science course for non-science majors.

PREREQUIREMENTS FOR MICROBIOLOGY: TSI compliant in Reading, Writing and Math

COURSE FORMAT: This course is a face-to-face lecture and lab class with an online component. Class meets on Tuesday and Thursday in the Science Building on the Levelland Campus.

Students will meet face-to-face for regularly scheduled lectures and labs in the Science Building on the Levelland Campus.

Each student is required to attend the class section registered for in the semester.

- Lecture class meets in Room 149 in the Science Building on the Levelland Campus.
- Lab class meets in Room 139 in the Science Building on the Levelland Campus.

If there is an emergency or weather event that results in cancellation of in person class, the lecture and lab course content material will be released on Blackboard.

COURSE ACCESS ON BLACKBOARD: To access your course on Blackboard a Web browser is necessary and required.

Blackboard is used to manage and deliver the online component course material which includes: announcements, lab and lecture hand-outs, assignments, assessments, lecture material, Microbiology Virtual Lab assignments, reviews for both lecture and lab and online lab exams.

- Weekly Microbiology Virtual lab assignments/assessments over lab topic material will be accessed on the Microbiology Virtual Lab Connect Access program via Blackboard.
- Exams will be scheduled on specific days in the semester

To access this course via SPC Blackboard website, go to the homepage of South Plains College; at the top of the page, you will see a link for Blackboard. Students will be prompted to enter a User ID and password.

Blackboard ID AND PASSWORD: Standard User ID will be first initial, your last name (the first initial will be your name that you have registered under at SPC). All letters are lower case and the last 4 digits of the Student ID (random number assigned by the college). The initial Password will be the Original Campus Connect Pin Number (found on your acceptance letter).

Example: Jane Smith, Student ID number: 123 – 00 - 4567

User ID: jsmith4567

Password: Original Campus Connect Pin Number

All information is lower case with NO spaces.

If this is your first time to take a course using Blackboard, I suggest that you visit the online help site at: <http://help.blackboard.com> then click on **Student** for help within the help site.

LOGGING INTO COURSE: Under NO circumstances are students allowed to give their User ID or Password to anyone. If someone, other than yourself, accesses this course using your personal ID and Password, you will be immediately dropped from this course. **Students need to log onto Blackboard daily during the semester to complete lecture reviews and assigned Microbiology Virtual Lab Assignments on Connect Access.**

Students need to log onto Blackboard daily during the semester to complete course work.

- ***Logging onto Blackboard and not completing assignments and/or assessments that are due for submission will be documented as an Absence.***
- ***Missed assignments and assessments will receive a grade of zero***

COMPUTER REQUIREMENTS: Students must have access to a functional computer daily in the semester that meets the specifications for this course. **A student that does not have access to a working computer will not be an acceptable excuse for missed online assignments or assessments.** Students cannot be without a functional computer in this microbiology course.

- 1) The computer must be able to connect to the Internet
- 2) Allow Pop-ups so that Blackboard will run correctly.

SPC E-MAIL ACCESS: Use of student assigned SPC E-mail address (outside of Blackboard) is required for this course. Your SPC E-mail address assigned to you by the college is required to communicate with instructor.

If Professor Zamora needs to send the class an email, it will be sent to the student assigned SPC email account.

If you have never accessed your SPC email address, go to the homepage of South Plains College, scroll down the page, and **click on Webmail (students), enter your username and password to access your SPC email account.**

Students need to check their SPC email address daily during the semester.

NOTE: Each student is required to know how to access their **SPC email address** by **Week 1** of the semester. Professor Zamora must be able to communicate with students if there is an emergency or Blackboard is not available due to technical failure.

If student cannot access their assigned SPC email, contact the SPC Tech support desk: 806-716-2600

FACE-TO-FACE CLASS:

Punctual and regular in person lecture and lab attendance is mandatory for each face-to-face scheduled class.

Attendance will be taken at the beginning of each scheduled lecture **and** lab class.

Each student is expected to be prepared for each lecture and lab class which includes printing any hand-outs provided on blackboard that will be used during lecture and/or lab class.

Students need to consult with the instructor when an absence occurs in a face-to-face class.

- **Both lecture and lab absences will be documented starting from the first class meeting in the semester.**
- **Face-to-face Lecture and Lab class attendance is not optional for this course.**
- **Students are required to attend each face-to-face lecture and lab class for this course**

If you come to lecture or lab class late, it is your responsibility to check with your instructor after class to have the absence changed to a tardy. Tardiness to lab class will not be tolerated.

2 Tardies = 1 absence. Leaving lecture or class early will be documented the same as a tardy.

Remember: Tardiness is disrespectful to the instructor and fellow classmates.

When an unavoidable reason for a class absence arises, such as an illness or an official trip authorized by the college, consult with the instructor.

Whenever class absences become excessive and, in the instructor's opinion, minimum course objectives cannot be met, the student will be administratively withdrawn from the course.

Your presence in scheduled face-to-face lecture and lab class is fundamental to meeting the objectives of this course; consequently, the instructor will initiate a student's administrative withdrawal when the student has 4 face-to-face lecture and/or lab absences in the semester

COURSE MATERIAL REQUIREMENTS:

- 1) **TEXTBOOK:** Microbiology Openstax Textbook; available **free** in a digital format online at:
<https://openstax.org>

Free online digital textbook copy: <https://openstax.org> Click on Subjects icon, click on Science, click on Microbiology [Download the pdf textbook onto your computer in order to access the page numbers of the textbook]

NOTE: any student that would like a hardback version of the Microbiology textbook from Openstax will have the option at the Openstax weblink to purchase one.

- 2) **STUDENT NOTE PACKET:** Provided on Blackboard to accompany lecture topics.

Students will be required to print the student note packet pages in advance of each lecture class. The student note packet accompanies the PowerPoint slide presentations for each lecture topic in the semester.

- 3) **BASIC CALCULATOR:** Required. A calculator that can complete the 4 basic math functions: add, subtract, multiply and divide
- 4) **SAFETY GLASSES:** Safety Glasses are required for Microbiology face-to-face lab meetings. ***Safety glasses will be provided in lab.*** If you would like to purchase your own personal pair of safety glasses, they are available for purchase at the SPC Bookstore in Levelland.

- 5) **MICROBIOLOGY VIRTUAL LAB CONNECT ACCESS IS REQUIRED FOR THIS COURSE:**

SPC TexBook Inclusive Access Program: ***This course is in the SPC TexBook Inclusive Access program, so you do not need to purchase a Connect access code for the Microbiology Virtual Laboratory Assignments for this course because it has already been included in your tuition/fee payment.***

Access to the Microbiology Virtual Laboratory Program by McGraw-Hill Publisher is made available through Inclusive access program at South Plains College and can be accessed through Blackboard on the first day of class.

The fee for the Microbiology Virtual Laboratory Program is the lowest price available from the publisher and bookstore and is included in the student tuition/fee payment; therefore, students **do not have to purchase an access code** for the Microbiology Virtual lab program.

NOTE: If you are prompted to pay for the Microbiology Virtual Lab Program when logging onto a virtual lab assignment, contact Instructor immediately.

- **Opting out of Inclusive Access (TexBook):** Participating in Inclusive Access (Texbook) is not mandatory, and you can choose to opt-out.
- ***However; by opting-out you will lose access to the Microbiology Virtual Lab Program and competitive pricing, and you will need to purchase the Microbiology Virtual Lab Program on your own as it is required for this course.***
- If you drop the class or opt-out before the opt-out deadline, the Inclusive Access (TexBook) charge for the Microbiology Virtual Lab Program will be automatically refunded to your SPC account.
- The opt-out deadline for Fall and Spring is the twelfth class day. The opt-out deadline for shorter terms varies between the second and third class day.
- **Fall 2026 12th class day/official census date is September 9, 2026** **Please consult with your Professor before deciding to opt-out.*

If you still feel that you should purchase the Microbiology Virtual Lab Program on your own, send an **opt-out email** to CampusStore.SPC@bibliu.com Include your first name, last name, student ID number, and the course you are opting out of. Once you have been opted out, you will receive a confirmation email. If you need assistance with the process, contact the SPC Bookstore:

Email: CampusStore.SPC@bibliu.com/ **Phone:** 806-716-2399

VIRTUAL ONLINE LAB ASSIGNMENTS/ASSESSMENTS: Weekly lab homework assignments/assessments will be assigned online using the Microbiology Virtual Lab Program by McGraw-Hill. **Lab assignments are scheduled weekly to access lab topic comprehension.** (See Course Microbiology Virtual Lab Assignment Schedule posted on Blackboard)

Connect Access to The Microbiology Virtual Lab Program by McGraw-Hill is required and is included in student tuition/fee payment through SPC Textbook Inclusive Access at South Plains College.

Students are required to **Register** for Microbiology Virtual Lab Connect Access on Day 1 of the semester to have access to the Microbiology Virtual lab Assignments on Connect this semester.

Microbiology Virtual lab assignments on Connect will not be accepted late. A missed lab assignment will result in a zero for that assignment. Students must be vigilant and turn in each virtual lab assignment by the deadline for submission. (See Course Attendance Policy for Microbiology Virtual lab assignments)

EXAMS: Lecture exams will be in person unless the course is forced online. Lab exams will be administered online via Blackboard testing program. Each lecture and lab exam in the semester will be a timed exam. Exams will be scheduled on a specified day in the semester. (See Course Outline for Exam schedule).

COURSE ATTENDANCE POLICY: Lecture and lab attendance is **mandatory**. Microbiology is a **lab intensive class**. Face-to-face class attendance is mandatory for each scheduled lecture and lab in the semester. **Students need to consult with the instructor when a class absence occurs.**

Attendance will be documented in both lecture and lab class. If student attends lecture but not lab, that student will receive 1 absence for missing lab class or vice versa.

Daily participation and completion of assignments on Blackboard and Face-to-face class attendance is fundamental to meeting the objectives of this course.

Student attendance will be documented Monday through Friday of the semester using the following criteria:

- **scheduled face-to-face lecture and lab attendance**
- **completion of virtual online lab assignments on Blackboard by due date**

Students will be required to log onto Blackboard each week of the semester for lecture course content topic reviews and online microbiology virtual lab assignments or assessments.

- *If a student misses completing a Microbiology virtual lab assignment, **the student will receive a grade of zero for that lab assignment.***

Whenever absences become excessive and, in the instructor's opinion, minimum course objectives cannot be met, the student will be withdrawn from the course by Professor Zamora with an administrative withdrawal.

Any of the following Reasons will result an automatic drop from this Face-to-Face Microbiology Course:

- 1) **Failure to attend face-to-face scheduled lecture and/or lab classes:** Lecture and Lab attendance is not optional

The instructor will initiate a student administrative withdrawal when a student has 4 in person lecture and/or lab class absences in the semester.

Students cannot receive credit for taking a lab science course if they do not attend face-to-face lab class and complete virtual microbiology lab assignments.

- 2) **Failure to complete and submit 4 virtual lab homework assignments/assessments in the semester.**

Students will be allowed only 4 missed online assigned virtual lab homework assignments/assessments in Microbiology course.

- 3) **Students that go more than 7 consecutive days without logging into Blackboard to complete required course assignments/assessments by due date will be automatically dropped**

- 4) **Failure to complete a scheduled exam in the semester.**

NOTE: At the time of administrative withdrawal by the instructor, the student will be dropped with an X unless this option is not available.

It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

COURSE EVALUATION: The lecture course content grade will consist of 5 major lecture course content exams that will compose 65% of the course grade. (Final exam will not be comprehensive.) Exam format will include any of the following possibilities: multiple choice, matching, fill in the blank, Multiple answers for a question, short answer and true or false.

Lecture course content exams will be administered in person and compose 65% of the course grade.

Lab assignments and lab exams will be administered online and will compose 35% of course grade.

LECTURE EXAM I	13%
LECTURE EXAM II	13%
LECTURE EXAM III	13%
LECTURE EXAM IV	13%
FINAL EXAM	<u>13%</u>
	65.0%
LAB EXAM I	10%
LAB EXAM II	10%
LAB ASSIGNMENTS include Virtual labs	<u>15%</u>
	35.0%

Lecture and Lab: 65% + 35% = 100% of course grade

LAB Component: 35% of Grade

A. Lab Exams:

Lab Exam I	10%
Lab Exam II	10%

B. Virtual Lab Assignments: 15%
35%

GRADING SCALE FOR COURSE EVALUATION: Microbiology student end of course percentage grade will be tabulated based on the following grading scale:

STANDARD SCALE

90 – 100 = A
80 – 89.5 = B
70 – 79.5 = C
60 – 69.5 = D
59.5 and below = F

MAKE-UP EXAMS: *Students will be allowed to make up only 1 scheduled exam in the semester only if it is a documented medical emergency.* Please Contact Professor Zamora within 24 hours of the scheduled exam about such emergencies and **Consult with Professor Zamora for a missed exam and provide medical documentation for missing a scheduled exam.** Students must also provide some form of proof to verify the emergency. **Missed exam must be taken within 3 days of the date scheduled.**

CELL PHONES: All cell phones must be on silent (not vibrate, but actually **silenced**) or turned off and put away during class/lab/exam time. Cell phones are disruptive to classroom conduct and are not allowed in class or lab.

DISMISSAL POLICY: A high standard of conduct is expected of all students.

It is assumed that obedience to the law, respect for properly constituted authority, personal honor, integrity, proper safety, and common sense will guide the actions of each member of this class.

Any student who fails to perform according to expected standards may be asked to withdraw or be dropped from the class by the instructor.

Spring 2026 updated COVID-19 STATEMENT for South Plains College: (Rev. 9/2025)

If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or get tested for COVID-19.

- Fever or chills
- Cough, shortness of breath, difficulty breathing
- Sore throat
- Congestion or runny nose
- Muscles or body aches
- Fatigue
- Headache
- Nausea or Vomiting
- Diarrhea

Please also notify DeEtte Edens, FNP-C, Associate Director of Health & Wellness, at dedens@southplainscollege.edu or 806-716-2376

1. SPC will follow the recommended 3-day isolation period for individuals that test positive.
 - a. **Please note that day 0 is the date of positive test. Day 1 begins the first full day after the date of positive result.**
2. COVID reporting
 - a. Please have students and employees notify DeEtte Edens, FNP-C if they have tested positive to verify dates before returning to class or work.
 - b. The home tests are sufficient but students need to submit a photo of the positive result. The date of test must be written on the test result and an ID included in the photo. If tested elsewhere (clinic, pharmacy, etc.), please submit a copy of the doctor's note or email notification. Results may be emailed to DeEtte Edens, FNP-C at dedens@southplainscollege.edu.
 - c. A student is clear to return to class without further assessment if they have completed:
 - The 3-day isolation period, symptoms have improved and
 - they are afebrile for 24 hours without the use of fever-reducing medication.
 - d. **HEATH SCIENCE PROGRAMS ONLY:** Due to clinical requirements, students in health science programs returning to class or clinical from a positive test will be required to wear a mask in the health sciences areas including offices, hallways, and classrooms, as well as in the clinical setting for a 10-day period from date of positive test.
3. Please instruct students and employees to communicate with DeEtte Edens prior to their return date if still symptomatic at the end of the 3-day isolation.
4. Exposed individuals will not be required to quarantine. If exposed, SPC does request individuals closely monitor themselves. If an individual does become symptomatic, please do not attend class or work and be tested.

If you test positive for COVID-19, notify DeEtte Edens, FNP-C, Associate Director of Health & Wellness at South Plains College, at dedens@southplainscollege.edu or 806-716-2376.

If you test positive for COVID-19, please also notify Professor Zamora, rzamora@southplainscollege.edu

ACADEMIC DISHONESTY: "Cheating" will NOT be tolerated.

Students are expected to do their own work on all projects, assignments, examinations, and papers. Failure to comply with this policy will result in an F for the assignment and can result in an F for the course if circumstances warrant.

Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain unfair advantage;

5. Taking an examination for another student;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

Student Code of Conduct Policy: A high standard of conduct is expected of all students. It is assumed that obedience to the law, respect for properly constituted authority, personal honor, integrity, proper safety, and common sense will guide the actions of each member of this class. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Any student who fails to perform according to these expected standards will be withdrawn from this course.

Intellectual Exchange Statement

In South Plains College courses, the instructor will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disabilities: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Lubbock Centers (located at the Lubbock Downtown Center) 806-716-4675, or Plainview Center (Main Office) 806-716-4302.

Nondiscrimination Policy: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, under Title IX you have a right to reasonable accommodations to help continue your education.

To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Health and Wellness Center. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Health and Wellness Center at 806-716-2529 or email dburleson@southplainscollege.edu for assistance.

Student Identification Verification Pictures (added 12/3/2025)

EFFECTIVE SPRING 2026: In order to comply with institutional identity-verification procedures, students enrolled in courses at South Plains College must have a current photo available in the College's student information system. Approved photos are used solely for instructional, advising, and security purposes and are protected under applicable privacy laws. Students without a photo on file must update their record during the first week of class.

Pictures may be uploaded using these [instructions](#).

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

Learning Outcomes:

Lecture:

- 1. Describe distinctive characteristics and diverse growth requirements of prokaryotic organisms compared to eukaryotic organisms.**
- 2. Provide examples of the impact of microorganisms on agriculture, environment, ecosystem, energy, and human health, including biofilms.**
- 3. Distinguish between mechanisms of physical and chemical agents to control microbial populations.**
- 4. Explain the unique characteristics of bacterial metabolism and bacterial genetics.**
- 5. Describe evidence for the evolution of cells, organelles, and major metabolic pathways from early prokaryotes and how phylogenetic trees reflect evolutionary relationships.**
- 6. Compare characteristics and replication of acellular infectious agents (viruses and prions) with characteristics and reproduction of cellular infectious agents (prokaryotes and eukaryotes).**
- 7. Describe functions of host defenses and the immune system in combating infectious diseases and explain how immunizations protect against specific diseases.**
- 8. Explain transmission and virulence mechanisms of cellular and acellular infectious agents.**

Lab:

- 1. Use and comply with laboratory safety rules, procedures, and universal precautions.**
- 2. Demonstrate proficient use of a compound light microscope.**
- 3. Describe and prepare widely used stains and wet mounts and discuss their significance in identification of microorganisms.**
- 4. Perform basic microbiology procedures using aseptic techniques for transfer, isolation and observation of commonly encountered, clinically significant bacteria.**
- 5. Use different types of bacterial culture media to grow, isolate, and identify microorganisms.**
- 6. Perform basic bacterial identification procedures using biochemical tests.**
- 7. Estimate the number of microorganisms in a sample using methods such as direct counts, viable plate counts, or spectrophotometric measurements.**
- 8. Demonstrate basic identification protocols based on microscopic morphology of some common fungi and parasites.**