

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

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Blackboard Website: <http://southplainscollege.blackboard.com/> (Log in with SPC Username 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 an **online course** which means that it is accessed via the internet. Blackboard is used to manage and deliver this course to students.

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

Blackboard will be used to manage and deliver Lecture course content material, Homework and Lab Assignments, Connect access to the Microbiology Virtual Lab Assignment Program and Online exams.

- Lecture course content topics will be spread out through each week of the semester to help students manage the lecture topics more efficiently. **Students are expected to complete lecture topics in the week assigned during the semester.**
- Weekly Microbiology Virtual lab assignments/assessments over lab topic material will be accessed on the Microbiology Virtual Lab Connect Access program via Blackboard.
- Online exams will be scheduled on specific days in the semester

Weekly Blackboard participation, assignments completed and log-in will be documented as part of Attendance.

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

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 you allowed to give your 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.

NOTE: Students need to log onto Blackboard daily during the semester to check for new announcements, complete lecture course content material and assigned Microbiology Virtual Lab Assignments on Connect Access.

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

- *Course work includes Completion of both lecture and lab assignment topics*
- *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 online exams.** Students cannot be without a functional computer for even one day in online microbiology.

- 1) The computer must be able to connect to the Internet and allow the student to browse the World Wide Web.
- 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 outside of Blackboard if there is an emergency or Blackboard is not available due to technical failure.

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 **free** on Blackboard to accompany lecture topics. *Students will complete the student note packet that accompanies the PowerPoint slide presentations and audio or video lecture presentations for each assigned 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) **MICROBIOLOGY VIRTUAL LAB McGraw-Hill CONNECT ACCESS IS REQUIRED FOR THIS COURSE:**

SPC TexBook Inclusive Access Program: *This course is in the SPC TexBook Inclusive Access program, so students 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 student 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.*

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

- **Opting out of SPC TexBook Program (Inclusive Access):** Participating in Inclusive Access (Textbook) 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 (SPC 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**
(See next page for opting out)

**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: **All labs will be conducted online.** Weekly lab assignments/assessments will be assigned online using the Microbiology Virtual Lab Program by McGraw-Hill. (See 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 Assignment on Connect this semester. [[Registration Directions in Course Content tab on Blackboard](#)]

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)
- Click on the “Start Here” module on the homepage of Blackboard to access the Microbiology Virtual lab assignment schedule: [Print and Refer to this schedule Daily](#)
- At the end of the semester, the lowest grade of all the microbiology virtual lab assignments will be dropped

There will be **2 lab exams** scheduled over the assigned microbiology virtual labs in the semester.

EXAMS: All exams (lecture and lab) will be online and will be timed exams. Exams will be scheduled on a specified day in the semester. ([Go to the “Start Here” module on the homepage of blackboard to access the Exam schedule posted on Blackboard: Print and refer to it during the semester](#))

COURSE ATTENDANCE POLICY: Daily participation and completion of assignments/assessments on Blackboard is fundamental to meeting the objectives of this course.

Students are required to log onto Blackboard Monday through Friday of the semester for lecture course content topic presentations, online lab assignments and/or a scheduled online Exam.

NOTE: Logging onto Blackboard and not completing course work will be documented as an absence.

Absences will be documented starting on day 1 of the semester.

- *A missed online assignment or assessment will result in a grade of zero for that missed assignment or assessment and will be documented as an absence.*
- *Students need to consult with the instructor when an absence occurs.*

Microbiology is a **lab intensive class**. **Lab work is not optional.**

- Completion of Virtual Microbiology Lab assignments and Regular weekly online lab attendance is mandatory.
- **Students need to consult with the instructor when a lab absence occurs.**
- *If a student does not complete a lab assignment by the deadline, the student will receive a grade of zero for that lab assignment and **one absence.***
- **A student that misses completing 4 lab assignments will be automatically dropped from Microbiology. A student cannot receive credit for a lab science course if they do not complete the lab assignments.**

Class attendance will be documented each day that there is a scheduled virtual lab assignment due for submission and/or online exam scheduled. *Instructor will monitor and check that students are completing lab assignments and exams on days scheduled.*

NOTE: 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 Internet Microbiology:

- 1) Failure to complete and submit 4 Microbiology Virtual lab assignments/assessments in the semester.

Students will be allowed only 4 missed assigned virtual labs in this Microbiology course. (Missing 4 lab assignments is the equivalent of missing 2 weeks of Microbiology in person lab classes in a Fall or Spring semester. Students cannot receive credit for taking a lab science course if they do not complete lab assignments).

A student cannot receive credit for a lab science course if they do not complete the Microbiology Virtual lab assignments. **Lab is not optional.**

- 2) Students that go more than 7 consecutive days without logging into Blackboard and not completing required course assignments/assessments by due date will be automatically dropped.

NOTE: Logging onto Blackboard and not completing course work will be documented as an absence.

- 3) Failure to complete and submit two consecutive weekly homework assignments.

- 4) Failure to complete and submit 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 their 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 Course grade will consist of 5 major lecture exams, 2 Lab exams, Lab assignments, and Homework assignments. **Lecture Exam and Lab 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 online and compose 65% of the course grade.

Homework assignments will be administered online and compose 7% of the course grade.

Lab assignments and lab exams will be administered online and will compose 28% 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>8%</u>
	28.0%
HOMEWORK ASSIGNMENTS	7%

Course Evaluation:

65% (lecture exams) + 28% (Lab exams and lab assignments) + 7% (Homework) = 100% of course grade

Exams: All lecture and lab exams will be online and will be timed exams. **Each exam will be scheduled on a specified day in the semester. [See Exam schedule posted in the Start Here Module on Blackboard]**

Homework: The average of the homework grades will represent 7% of the course grade. Weekly homework assignments will be administered on Blackboard. Homework assignments will **NOT** be accepted late. **The one lowest homework grade in the semester will be dropped.**

Lab assignments: Weekly lab assignments/assessments will be assigned online using the Microbiology Virtual Lab Program by McGraw-Hill. **(See Microbiology Virtual Lab Assignment Schedule posted on Blackboard).** Lab assignments will **NOT** be accepted late.

A student cannot receive credit for a lab science course if they do not complete the lab assignments. Lab is not optional.

The average of the virtual lab assignments will represent 8% of the course grade.

Lab Assignments and Homework Assignments will be due on designated days throughout the semester.

NOTE: Lab assignments, and Homework Assignments not taken in the semester will receive a grade of zero. **Late work is not accepted for lab assignments and homework assignments.**

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 online 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.**

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.

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.
1. Estimate the number of microorganisms in a sample using methods such as direct counts, viable plate counts, or spectrophotometric measurements.
2. Demonstrate basic identification protocols based on microscopic morphology of some common fungi and parasites.