South Plains College

Common Course Syllabus: BIOL 2420

**Department**: Biology

**Discipline/Course Title**: Microbiology

**Course Number**: BIOL 2420

**Available Formats:** Face-to-face (16 wk), Flex (16 wk), Online (16 and 8 wk options)

**Campuses**: Levelland, Online

**Course Description**: This is 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 requirements for an Associate in Arts and Associate in Science degree as well as requirements for transfer students working toward a Bachelor of Arts degree, Bachelor of Science degree, or certification in allied health fields.

***Please note:*** This course is designed for allied health professionals and will not provide credit for Biology majors, Pre-Med, Pre-Dentistry, or Pre-Vet. **This course is not a core science curriculum course. If you are not sure, please contact the instructor.**

Prerequisite: Must be TSI compliant in Reading, Writing and Math prior to taking this course

**Credit**: 4

**Textbook**: Varies according to instructor

**Supplies**: See Instructor Course Information sheet

**Course Specific Instructions**: Each instructor will attach their Course Information sheet

**Student Learning Outcomes**: Upon successful completion of this course, students will:

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.

**Attendance Policy**: Absences will be documented starting from the first class meeting in the semester. Whenever absences become excessive and (in the instructor’s opinion) the minimum course objectives cannot be met, the student will be withdrawn from the course. Any student that is absent for a total of **4 or more class days** (regardless of the reason), absent from **every class period for two consecutive weeks**, **does not complete an exam** (lecture or lab) for any reason, **does not complete 4 graded assignments** (at any time, for any reason), AND/OR **cannot meet the minimum course requirements** may be administratively withdrawn from the course, by the instructor, with a grade of an X.Students who enroll in a course but have “Never Attended” by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records.

*From the SPC General Catalog*:  
*Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus.  
  
When an unavoidable reason for class absence arises, such as illness, an official trip authorized by the college or an official activity, the instructor may permit the student to make up work missed. It is the student’s responsibility to complete work missed within a reasonable period of time as determined by the instructor. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting.*

*Students who enroll in a course but have “Never Attended” by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of “X” or “F” as determined by the instructor. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student’s responsibility to be aware of that policy.*

*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.]*

**Hazardous Weather Policy**: South Plains College rarely cancels classes due to weather. Students should plan accordingly to be able to attend all classes and arrive at SPC Levelland safely. Announcements concerning cancellations and/or delays are made on local television, radio as well on MySPC. Emergency notifications are also made by the college via email, text, and phone call. I will post any delays or cancellations on Blackboard in the announcements tab and will also send out a mass email to your student email should any cancellation occur.

**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. Because of the potential hazards in the laboratory, any student who proves to be a danger to self or fellow classmates will be asked to withdraw or will be dropped from the class by the instructor.

**Academic Integrity and Dishonesty**: **:** Students are expected to do their own work on all lab simulations, assignments, quizzes, and examinations. Failure to comply with this policy (as laid out below) will result in an F for the assignment/exam and can result in an F for the entire course if circumstances warrant.

**PLAGARISM 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. Turning in a paper or assignment that has been partially or fully generated using a large language model.
3. Cutting and pasting together information from books, articles, other papers, or online sites (including large language models) without providing proper documentation.
4. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
5. Missing in-text citations.
6. Using artificial intelligence (such as ChatGPT) to formulate answers and passing it off as original thought.

**CHEATING VIOLATIONS** include, but are not limited to, the following:

1. Obtaining an unadministered examination or contents by buying, stealing, selling, soliciting, or through collusion (in whole or in part);
2. The unauthorized transporting or removal, in whole or in part, of the contents of the unadministered test.
3. Discovering the content of an examination before it is given.
4. Using an unauthorized source of information (notes, textbooks, phones, text messaging, internet, apps, smartwatches, large language models) during an examination, quiz, or homework assignment.
5. Entering an office or building to obtain unfair advantage.
6. Taking an examination for another student.
7. Bribing another person to obtain an unadministered test or information about an unadministered test.
8. Collaborating with or seeking aid from another person during a test.
9. Altering grade records.
10. Copying another’s work during an examination or on a homework assignment.
11. Rewriting another student’s work in Peer Editing so that the writing is no longer the original student’s.
12. Taking pictures of a test, test answers, or someone else’s paper.

If you have any questions about what constitutes your own work, **PLEASE ASK.**

**Grievance Procedure**:If a student has an issue with course policies or the course instructor, they should first try and resolve the issues with the instructor. If the problem is not resolved, the student may then continue to the Biology Department Chair who can advise the student on how to resolve the problem and/or direct them to the appropriate office.

**Copyright Notice**: All material presented by the instructor in the course is copyright protected. The material presented by the instructor may not be modified or altered in any way. You have permission to print out one copy of any material presented by the instructor in this course (i.e., Syllabus, PowerPoint Presentations, videos, etc). The one copy must only be used for your personal educational use during this semester. The material may not be altered or modified in any way. The material may not be distributed in any way. You have permission to download the same material to your computer hard drive or other medium to print out the material needed. Any material downloaded may not be altered or modified in any way. The downloaded material may not be distributed in any way.

**OFFICIAL SPC STATEMENTS:**

For information regarding official South Plains College statements about diversity, disabilities, non- discrimination, Title V Pregnancy Accommodations, Campus Concealed Carry, etc, please visit: https://www.southplainscollege.edu/syllabusstatements/.

*Please note this syllabus and course policies are subject to change at any time. The instructor will notify students of any changes at any point during the semester.*