

BIOL 1406 (4:3:3)

Biology for Science Majors I

Department of Biology

Division of Arts and Sciences

SOUTH PLAINS COLLEGE

Fall 2026

Dr. Megan Keith
Professor of Biology

SOUTH PLAINS COLLEGE
BIOL 1406.001/002- GENERAL BIOLOGY FOR SCIENCE MAJORS I
FALL 2026



Instructor: Dr. Megan Keith
Office: Science Building S88
Email: mkeith@southplainscollege.edu

Meeting Times:
001- Lecture: M/W 8:00a-9:15a; Lab: M 9:30a-12:00p
002- Lecture: M/W 1:00p-2:15p; Lab: M 2:30p-5:00p

Course Description: This course focuses on fundamental principles of living organisms including the chemistry of life, cell and molecular biology, genetics and evolution. This is the first semester of an integrated course for majors in biological sciences and related studies, including the medical disciplines.

Student Learning Outcomes:

1. Describe the characteristics of life.
2. Explain the methods of inquiry used by scientists.
 - a. Use critical thinking and scientific problem solving to make informed decisions in the laboratory.
 - b. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
 - c. Effectively communicate the results of scientific investigations.
3. Identify the basic requirements of life and the properties of the major molecules needed for life.
4. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
5. Describe the structure of cell membranes and the movement of molecules across a membrane.
6. Identify the substrates, products, and important chemical pathways in metabolism.
7. Identify the principles of inheritance and solve classical genetic problems.
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
9. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Required Course Materials: *This course is using Open Educational Resources.*

- **Required textbook:** OpenStax BIOLOGY, 2nd edition **NOTE: This is an e-text, you have the option to purchase a hardy copy on the website-** <https://openstax.org/details/books/biology-2e>.
- **Required Laboratory Manual:** The lab manual is open access and will be provided to students in the form of PDF files. Students will need to download and print lab exercises before attending lab.
- **Other required materials:** A reliable internet connection, a device to access Blackboard, access to a printer, and materials to take notes.

Online Course Content

- Blackboard is the primary source for course information. **Students need to access Blackboard regularly. Google Chrome is the preferred browser for use with Blackboard and will be REQUIRED when taking exams.**
- Specific course materials available include PowerPoint lecture slides, lecture videos, reading assignments, messages and announcements from the instructor, study aids, quizzes, exams, lab exercises, etc.

Communication

Email and course messages are the main methods that I have to communicate with you. Any announcements that I make via Blackboard will also be sent to your SPC email. Please check for messages frequently.

The course messages option in Blackboard is my preferred method of communication because it allows me to keep track of messages from students in individual sections. Please use this as your first option for communication.

NOTE: If you email me, include something in the subject line that gives me an idea of the contents of the message, including your course number.

I will check my messages and email throughout the day Monday – Friday. I typically respond to all messages within 24 hours or less except on weekends and holidays.

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 download or print any material presented by the instructor in this course (ex. course information sheet, contact information, and learning module checklists). Copies must only be used for your personal educational use during this semester. The material may not be distributed in any way. If any course material is found on other websites, this is an act of academic misconduct and will be dealt with appropriately following the guidelines of the college concerning academic integrity.

Assessment

Final grades for the course will be calculated on a weighted scale: four exams (75%), quizzes (20%) and lab assignments (5%). I follow a traditional grading scale:

90 – 100% = A 80 – 89% = B 70 – 79% = C 60 – 69% = D ≤ 59% = F

***Course Average:** Calculated by the weighted average of the three grade categories indicated. If a student's final average is *less than* one half a percentage point away from the next higher letter grade, the instructor will consider giving the higher letter grade. For example, a student with an 89.51 would receive a letter grade of "A" for the course.

I do not curve final grades, however, we have resources available to you if you feel you need help in improving your grades. I also offer the opportunity for optional bonus points on SOME exams.

Exams

- Each major exam will cover material from BOTH lecture and lab material. The exam format may include multiple-choice questions, definitions, matching, short answer questions, and essay questions.
- Exam dates are listed in the course schedule.
- The final exam will be a comprehensive exam. This class lays a foundational knowledge of biology that you will need to build on as you continue your education.
- Students should **NOT** miss exams! Any student who misses an exam will have a 0 score entered for that exam. If you have to miss the exam (for an excused reason), you must contact me BEFORE the exam begins.
- Students should **NOT** arrive late. If you arrive after the first student has turned in their exam, you will not be permitted to participate.
- Cheating will not be tolerated and will result in an automatic zero.

Quizzes

- Quizzes will be administered weekly. Quizzes will take place at the beginning of lecture or lab. Dates are listed on the course schedule and will be posted on your calendar in Blackboard.
- Quizzes will cover lecture AND lab material. Students will be given a set amount of time to finish the quiz. Student who are more than 5 minute late to class will not be allowed to take the quiz.
- Missed quizzes CANNOT be made up unless proper documentation is provided for an excused absence.
- The lowest quiz grade (1) will be dropped at the end of the semester.

Policies, Procedures, and Rules

This course will be conducted according to the policies and procedures of the South Plains College Student Handbook and General Catalog.

1. Attendance- Punctual and regular lecture and lab attendance is required of all students.

- Open door policy: if you do arrive late, quietly take your seat. You may not make up quizzes or other work. Excessive tardiness will not be tolerated and may result in withdrawal from the course (3 late arrivals exceeding 10 minutes = 1 unexcused absence). **Do not be disruptive to the rest of the class.**
- In the case of unexcused absence, the student will receive a 0 for the work submitted that day and it is the student's responsibility to obtain missed notes from classmates.

- When unavoidable situations such as illness, weather, an official college-sponsored trip, or a death in the family causes absence, the student may make up the missed class work as long as documentation can be provided. The student will have one week from the date the makeup work is assigned to turn it in for credit.
- The student may be administratively withdrawn from the course when absences become excessive (4 unexcused absences or more) AND the minimum course objectives cannot be met. The instructor is required to initiate a student's administrative withdrawal when the student has missed every class period for two weeks excluding holidays.
- Should a student, for any reason, delay in reporting to a class after his/her official enrollment, absences will be attributed to the student from the first meeting of the class. A student who does not attend a class by the 12th day of classes will automatically be dropped from the course and receive a grade of "X".
- If a student decides to stop attending class, submitting assignments, or that they want to drop the course for any reason, it is the student's responsibility to drop the course. If you fail to drop the course, you will receive a failing grade at the end of the semester.

Students who miss multiple assignments typically fall so far behind that they are unable to catch up and their grades suffer on that section of material. Set yourself up for success; manage your time wisely so that you can spend the time required to do well on your work and study effectively.

2. **Technical difficulties-** Please send an email immediately to notify the instructor of these difficulties. **You will be allowed one and only one reset on any assignment/exam for the semester.**

Should issues arise that are out of your control (i.e., Blackboard shuts down indefinitely) then the instructor will adjust assignment availability and due dates as appropriate.

3. **Make-up policy-** If work is missed for reasons that would not be considered an excused absence, it cannot be made up. There will be **no exceptions** to this rule. If, however, a student misses work due to circumstances out of their control, missed work may be made up. All make-up work is due within one week of the date that it is assigned. **It is essential that you communicate with me to ensure that you stay caught up in the class. If circumstances prevent you from making it to an exam, you must email me BEFORE the time at which the exam is administered (unless you are prevented from doing so due to an emergency).**

DO NOT schedule appointments or activities during class time.

4. **Academic Integrity-** *It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity.* The attempt of any student to present any work as their own which he or she has not honestly performed is regarded at SPC as a most serious offense and renders the offender liable to serious consequences, possibly suspension. Each student is expected to abide by absolute honesty. Infractions will result in penalties subject to an assignment of a grade of "F" for the course or expulsion from the college. Students should also regard civility online as a requirement to remain on the roll in class.
- 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. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, an administered test's content;
 2. Discovering the content of an examination before it is given, including bribing another person to obtain an unadministered test or information about an unadministered test;
 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;

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

5. South Plains College policies concerning Disabilities, Non-discrimination, Title IX Pregnancy and Parenting Accommodations, CARE (Campus Assessment, Response, and Evaluation), Intellectual Exchange, Campus Concealed Carry, COVID-19, and AI (Artificial Intelligence) can be found here:
<https://www.southplainscollege.edu/syllabusstatements/>

6. **Privacy-** The federal law guaranteeing student privacy is the policy of this instructor as well as that of SPC. This means that I will not discuss your grade with anyone other than YOU.
7. **Grievance procedure:** If a student is having a problem with the course policies or the instructor, he or she should first try and resolve any such problems with the instructor. If the problem is not resolved, the student may proceed to the Biology Department Chair, who can advise the student on how to resolve the problem or direct them to the appropriate office.
8. **Student Code of Conduct Policy:** Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class (see the Student Guide for more information: <http://catalog.southplainscollege.edu/content.php?catoid=58&navoid=1931>).

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.

Breakdown of Course Topics

Unit 1

Week 1: The Chemistry of Life
 Water
 Week 2: Carbon
 Macromolecules
 Week 3: Macromolecules, cont.
Exam 1

Unit 2

Week 4: Cells
 Week 5: Membrane Structure & Function
 Intro to Metabolism
 Week 6: Enzymes
 Cellular Respiration I
 Week 7: Cellular Respiration II
Exam 2

Unit 3

Week 8: Photosynthesis I
 Week 9: Photosynthesis II
 The Cell Cycle
 Week 10: Meiosis
 Genetics
 Week 11: Chromosomal Basis of Inheritance
Exam 3

Unit 4

Week 12: Molecular Basis of Inheritance
 Week 13: From Gene to Protein
 Week 14: Descent with Modification
 Week 15: Evolution of Populations
 The Origin of Species
Week 16: Comprehensive Final Exam

