

BIOL 1406 (4:3:3)

Biology for Science Majors I

Department of Biology

Division of Arts and Sciences

SOUTH PLAINS COLLEGE  
Levelland Campus

Fall 2020

Dr. Megan Keith  
Associate Professor of Biology

**SOUTH PLAINS COLLEGE**  
**BIOL 1406.151- GENERAL BIOLOGY FOR SCIENCE MAJORS I**  
**FALL 2020**



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Office Hours: Mon./Wed. 8:30AM – 9:30AM  
Tues./Thurs. 9:00AM – 10:30AM (virtual only)  
Fri. 9:00AM – 12:00PM

Virtual meetings outside of the designated virtual office hours must be scheduled via Calendly.

**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. To introduce basic biological principles through an integrated approach.
2. To investigate the cellular processes of living organisms with an emphasis on biological chemistry applications.
3. To investigate the mechanisms of genetics and inheritance.
4. To introduce the role and mechanisms of evolution in biology.

**Required Textbook/Online Materials:** Campbell BIOLOGY, 11<sup>th</sup> edition by Reece et al. with Mastering Biology access.

**NOTE: This is an e-text, if you already own a copy of the book please see the instructions for ordering a Mastering Biology access code from Pearson posted on Blackboard.**

**Required Lab Program:** Access to McGraw-Hill Connect.

**Other required materials:** A reliable internet connection and a webcam with microphone for use with Blackboard Collaborate, Zoom, etc. and the exam proctor. This can be a USB or internal webcam. **Mobile devices cannot be used for testing.**

\*Alternative purchasing options were listed in an email and are posted on Blackboard.\*

I require a textbook for the following reasons:

- 1) It is a great reference for upper level courses, comprehensive graduate exams, MCAT/PCAT prep, etc. (I used mine throughout both my undergraduate and graduate programs.)
- 2) It contains additional questions at the end of each chapter to help challenge you and assess your knowledge of the material.
- 3) I include some questions from the book on the exams.
- 4) Reading the chapter before we cover it in class is beneficial for learning and retention of information.

**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**

The Course Messages and Announcement tools in Blackboard will be our primary mode of communication beginning August 24<sup>th</sup>. I use the Course Messages option so that I can keep a record of communication with each student. If I need to reach you individually and you have not responded to my message using Course Messages within 48 hours, I will email you as a last resort using your SPC email. Check your Course Messages regularly, it functions as an email tool within Blackboard but you will not receive notifications that you have received a message.

**NOTE: Include something in the subject line that gives me an idea of the contents of the message.**

I will check my messages throughout the day Monday – Friday. I typically respond to all messages within 24 hours or less except for on weekends and holidays. I do have in-person labs on Mondays and Wednesdays so response time may be longer.

### ***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 (ex. course information sheet, contact information, and learning module checklists). 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 in order 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. If any course material is found on other websites, this because 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 (60%), quizzes (20%) and assignments (10%) and lab (10%). 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.
- ALWAYS read instructions carefully before beginning an exam.
- Each exam score is recorded as a percent score (number correct out of the total possible) with 100% being the maximum score.
- 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. To avoid any technical issues during your exam, I suggest taking it as early as possible and within normal business hours. If you have problems at 2AM, I and other services will not be available to help you.

***Mandatory proctoring of major exams-*** Online exams within this course require online proctoring. Therefore, students will be required to have a webcam (USB or internal) with a microphone when taking an exam or quiz. Students understand that this remote recording device is purchased and controlled by the student and that recordings from any private residence must be done with the permission of any person residing in the residence. To avoid any concerns in this regard, students should select private spaces for the testing. Various academic sites on each SPC campus offer secure private settings for recordings and students with concerns may discuss location of an appropriate space for the recordings with their instructor. Students must ensure that any recordings do not invade any third-party privacy rights and accept all responsibility and liability for violations of any third-party privacy concerns. Setup information will be provided prior to taking the proctored exam. **See exam testing procedures below.**

**Exam testing procedures-** The following table lists conduct requirements for online exams, as well as conduct violations. In general, behave as if you are taking the exam in a classroom with a live proctor.

Exam conduct requirement	Consequence for violation of exam conduct
Valid photo ID shown.	A zero will be given for the exam until student identity is confirmed by a valid photo ID.
Microphone turned on and recording.	A 30% penalty will be given for an exam taken without the microphone being turned on and recording throughout the entire exam.
Sufficient lighting of the testing area.	A 30% penalty will be given for an exam taken without enough lighting for the instructor to assess the testing environment.
Student remains in webcam view during exam.	A student who leaves the webcam view during an exam for any reason will receive a zero for that exam. Take all bathroom breaks, etc. before beginning the exam.
No unauthorized materials near desk area.	A student who has any unauthorized materials (books, notes, blank paper, phone, another computer, etc.) near the testing area will receive a zero for that exam.
No talking with others during the exam or playing of music or other audio recordings.	A student who has any music or audio recordings playing during exams, or who talks with any ADULT for any reason during the exam, will receive a zero for that exam.
The exam is taken in an approved proctored environment.	Any exam taken without either the webcam software or in an approved testing center will receive a zero for that exam.

**\*\*Consequences for violating the above requirements will be suspended on Quiz 1, so that the instructor can educate students about proper testing behavior. This suspending of consequences is done as a service to students to prevent unintentional or honest mistakes during subsequent exams. Consequences will be suspended only on Quiz 1 as it is meant to be a practice quiz to familiarize you with the secure exam proctor. I will provide feedback on any violations.**

**Any student who thinks that a penalty was misapplied can request that the penalty be reviewed according to the grievance procedure listed below.**

### Quizzes

- Quizzes will be administered weekly. Dates are listed on the course schedule and will be posted on your calendar in Blackboard as they become available.
- Quizzes will cover lecture AND lab material.
- Read instructions carefully before beginning each quiz.
- Students will be given a set amount of time to finish the quiz.
- Always review your quizzes as I may leave feedback. This can be done by going to My Grades and clicking on the grade you received for that 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.

**\*\*\*At this time, Proctorio will not be used on quizzes. This may change if academic dishonesty is observed by the instructor.**

### Assignments

- Assignments include Mastering Biology homework exercises as well as additional exercises to reinforce topics that students often struggle with. All assignments will be posted with clear instructions.

Assignments are meant to challenge you to apply what you are learning in class to various situations. This skill is needed in your upper level biology courses, so it is my goal to help you develop this skill early in your academic career.

## ***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-** Regular and consistent interaction with online lessons and textbook materials is necessary for satisfactory achievement.
  - Attendance will be measured by a student's ability to consistently log on to Blackboard and COMPLETE the assigned work. Failure to turn in assignments will be recorded as an "absence." The instructor will monitor student statistics throughout the duration of the course and will contact you if your personal statistics deviate from what is "normal" for the rest of the class.
  - The student may be administratively withdrawn from the course when they have **failed to turn in a total of four (4) graded assignments, quizzes, etc. (at any time; for any reason) or failed to complete one exam, AND the minimum course objectives cannot be met.**
  - 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."

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-** If you experience technical difficulties please refer to the list of offices/personnel to call for help with your unique issue(s). Please send a course message *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 you experience computer problems or miss assignments, you *will not* be able to make up or retake the assignment. All SPC campuses will have internet and computer access for students. A missed assignment will result in a zero on that assignment, *no exceptions*. I provide a checklist of tasks that need to be completed with each learning module in addition to the course schedule, therefore, there should be no confusion about what needs to be turned in and when it is due. **If you become so sick that you cannot perform your work, a doctor's note will be required as documentation to get an extension on the missed work. Communication is extremely important in these circumstances!**

- 4. Online Course Netiquette-** Remember that you are addressing a professor and/or a group, even though you don't see them.
  - Don't say things that you wouldn't say publicly in a traditional class setting.
  - Don't address comments to individuals unless you want all to know what you are telling that person.
  - Don't share confidential information.
  - Read any messages or comments before sending; once it is out there, you can't change it.
  - Access your course messages frequently and read through an entire message before you reply.
  - Because electronic communication does not show smiles and frowns (other than the graphic kind), or employ intonation, humor and sarcasm might be misunderstood. Use these carefully and employ good word choice so that your meaning comes through clearly.
  - Avoid sending unkind messages. Besides angering others and reflecting poorly on you, they may have the effect of shutting down discussion.
  - Aim for clarity and readability in your text. Paragraph often, avoid using only capital letters, and stay away from character symbols and conventions that get in the way of visual comfort.
  - Although electronic communication can be very informal, try for good language usage so that your message comes through rather than your mistakes (many mail programs have spell checkers). Avoid correcting other

people's language, however. Try to be clear, indicating what you are talking about fully instead of presuming that others know which message you are responding to, what chapter or assignment you are referring to, etc.

- Use of inappropriate or disrespectful language, cyber bullying, etc. will result in a zero for that assignment and will require that the student attend a meeting with the instructor and/or any other appropriate faculty to address this issue.

**5. 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. 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. 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.

**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.

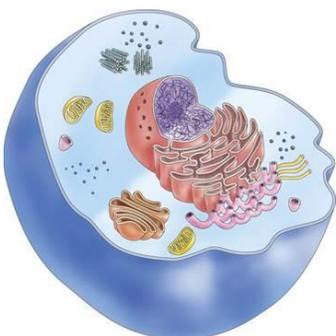
**7. Grievance procedure:** If a student is having a problem with the course policies or the instructor, he or she should first try and resolve any such problems with the instructor. If the problem is not resolved, the student may proceed to the Biology Department Chair, who can advise the student on 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.

**9. Diversity Statement:** In this class, the teacher 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 diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

- 10. Disability Statement:** 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, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.
- 11. 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.
- 12. 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 Director of Health and Wellness. 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 Director of Health and Wellness at 806-716-2362 or email [cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.
- 13. COVID-19:** *It is the policy of South Plains College for the Fall 2020 semester that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the SPC community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings while in SPC buildings including in classrooms, labs, hallways, and restrooms. Failure to comply with this policy may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Dean of Students on the Levelland campus or the Dean/Director of external centers for Student Code of Conduct Violation.*

**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: The Chemistry of Life

Chemical Context of Life  
The Life Supporting Properties of Water  
Carbon & the Molecular Diversity of Life  
The Structure & Function of Macromolecules  
Enzymes  
**Exam 1**

## Unit 2: Cells- Structure & Function

A Tour of the Cell  
Membrane Structure & Function  
Introduction to Metabolism  
Cellular Respiration  
Photosynthesis  
Cell Communication  
**Exam 2**

## Unit 3: Cellular Reproduction, Genetics, & Inheritance

The Cell Cycle  
Meiosis & Sexual Life Cycles  
Mendel & the Gene Idea  
Chromosomal Basis of Inheritance  
Molecular Basis of Inheritance  
From Gene to Protein  
**Exam 3**

## Unit 4: Viruses, DNA Technology, Evolution & Natural Selection

Viruses  
DNA Technology  
Descent with Modification  
Evolution of Populations  
The Origin of Species  
**Exam 4 (Comprehensive Final)**

