

BIOL 1406 (4:3:3)

Biology for Science Majors I

Department of Biology

Division of Arts and Sciences

SOUTH PLAINS COLLEGE
Levelland Campus

Spring 2020

Megan Keith
Instructor of Biology

COURSE INFORMATION SHEET
BIOL 1406- BIOLOGY FOR SCIENCE MAJORS I
SPRING 2020



Instructor:	Megan Keith	Office Hours:	Mon. 8:15AM – 9:15AM
Office:	Science Building S132		Tues. 2:30PM – 3:30PM
Email:	mkeith@southplainscollege.edu		Wed. 8:15AM – 9:15AM
			Thurs. 9:30AM – 11:30AM
Lecture:	Section 003 TR	8:00AM – 9:15AM (S188)	Fri. 8:30AM – 11:30AM
Lab:	Section 003 T	9:30AM – 12:00PM (S197)	

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.

Course Implementation:

Prerequisite: None

Credit: Four semester hours

Required Textbook: Campbell BIOLOGY, 11th edition by Reece et al. (**any format** is acceptable—printed, e-text, online access, etc.) ****If you are unable to purchase or rent a textbook, contact me immediately.****

Lab Manual: *Biology for Science Majors I & II Lab Manual*, 3rd edition (Available only at the SPC bookstore)

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 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 lecture is beneficial.

Course Objectives:

- A. To introduce basic biological principles through an integrated approach.
- B. To investigate the cellular processes of living organisms with an emphasis on biological chemistry applications.
- C. To investigate the mechanisms of genetics and inheritance.
- D. To introduce the role and mechanisms of evolution in biology.

Online Course Content

- Blackboard is the primary source for all course information.
- **Students need to access Blackboard daily.** Firefox or Safari are recommended.
- Specific course materials available include: PowerPoint lectures, messages and announcements from the instructor, study aids, required handouts, etc.

SPC Email

Each student has an SPC email account and should check it regularly. Instructors and the administration will use this email address to contact the student.

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.

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**).
- 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".

Students who miss multiple classes 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; attend class.

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 and MySPC.

Assessment

Final grades for the course will be calculated on a weighted scale: four exams (70%), assignments (online or hard copy- 10%), and quizzes (online or hard copy- 20%).

Letter Grade	Course Average*
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

***Course Average:** Calculated by the average of the three grades 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.

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 typically offer the opportunity for bonus points on some exams.

Exams

- Each major exam will cover material from BOTH lecture and lab.
- The exam format will include multiple-choice questions, short answer questions, words to define, and diagrams to draw or label.
- Each exam score is recorded as a percent score (number correct out of the total possible) with 100% being the maximum score.
- The last ("final") exam will be given during final exam week and will include both new material and comprehensive material.
- Students should **NOT** miss exams! Any student who misses an exam will have a 0 score entered for that exam. I will only consider allowing a student to make up an exam if they have contacted me **before** the exam has been given AND they can show documentation for an event that qualifies as an excused absence.

Quizzes

- Quiz dates are listed on the course schedule. Quizzes will cover lecture and lab material from the previous class.
- Quizzes will be given at the beginning of the lecture period or on Blackboard. Students will be given a set amount of time to finish the quiz. Quizzes CANNOT be made up if missed for any reason. Students who leave class immediately following a quiz will receive a 0 for that quiz.
- The lowest quiz grade (1) will be dropped at the end of the semester.

Assignments

- Assignments may include hard copy work (flow charts, genetics problems, etc.) or Blackboard assignments (concept checks).

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.

The final exam is comprehensive because this class lays a foundational knowledge of biology that you will build on as you continue your education.

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 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. 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;
 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.

Electronic Devices

- ALL electronic devices should be silenced inside the classroom. Devices that may be out during lecture include laptops, tablets, and in *special circumstances*, cell phones.
- If an electronic device goes off repeatedly during lecture or lab, **5 points will be deducted from the student's next major exam grade per incident.**
- If a device is being utilized for anything other than what is being covered in class that day, the student will be dismissed from class and will receive a 0 for the day. If a student is a repeat offender and cannot control their electronics usage out of respect for others, the student will be dismissed from the course.
- **Phones and smartwatches must be put away during exams. Earbuds should not be worn at ANY time during class.**
- **You may NOT record the lectures (I will do that for you) or take photos/videos of the instructor.**

My electronics policy may seem strict but it is my experience that students who are distracted during class (texting, listening to music, online shopping, etc.) don't do as well as students who are actively paying attention. In fact, most students who have earned a D or an F in this class have been consistently absent or distracted during class. This is YOUR education for YOUR future that YOU are paying for, please come to class prepared to work; I will do the same.

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.

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.

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.

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.

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.

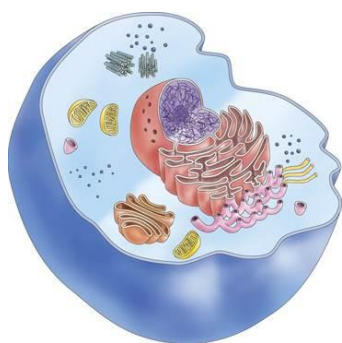
To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <http://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

ALiCE Active Shooter Response Training Sessions are made available to students throughout each semester.

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.



<i>Tentative Lecture and Exam Schedule</i>				<i>Laboratory Schedule</i>
Date	Topic	Campbell Biology 11th ed.	Assignments	Exercise
Jan. 14	Introduction/Chemical Context of Life	Ch. 2	Ch. 1- Independent Study (required handout for exam 1)	Lab Intro/CHP/Safety Microscopes (Ex. 5)
Jan. 16	Water	Ch. 3	Concept Check #1 (due 1/20)	
Jan. 21	Carbon and the Molecular Diversity of Life	Ch. 4	Practice essay available on Blackboard- Test prep (not graded), Independent Investigation Worksheet	Scientific Method (Ex. 1), Independent Investigations Study Techniques
Jan. 23	The Structure and Function of Macromolecules	Ch. 5	Quiz 1 Concept Check #2 (due 1/27)	
Jan. 28	Enzymes	p. 153-161	Quiz 2	Testing for Organic Molecules (Ex. 4) REVIEW FOR EXAM
Jan. 30	EXAM 1			
Feb. 4	A Tour of the Cell & Membrane Structure and Function	Ch. 6 & 7	Ch. 6- Independent Study (required handout for exam 2)	Cell Lab
Feb. 6	Membrane Structure and Function & Intro to Metabolism	Ch. 7 & 8	Concept Check #3 (due 2/10)	
Feb. 11	Cellular Respiration	Ch. 9	Osmosis Worksheet (due 2/13)	Diffusion and Osmosis (Ex. 7)
Feb. 13	Cellular Respiration (cont.)	Ch. 9	Concept Check #4 (due 2/17)	
Feb. 18	Photosynthesis	Ch. 10	Quiz 3	Enzyme Lab (Ex. 8)
Feb. 20	Photosynthesis (cont.)	Ch. 10	Quiz 4 Concept Check #5 (due 2/24)	
Feb. 25	Cell Communication	Ch. 11	Quiz 5	Photosynthesis and Respiration (Ex. 9 & 10)
Feb. 27	EXAM 2			
Mar. 3	The Cell Cycle	Ch. 12		Mitosis (Ex. 11)
Mar. 5	Meiosis and Sexual Life Cycles	Ch. 13	Concept Check #6 (due 3/9) Quiz 6	
Mar. 10	Mendel and the Gene Idea	Ch. 14	Genetics Problems- Set #1 (due 3/24)	DNA Extraction, Fruit Fly Genetics Day 1 (Ex. 15), Genetics Problems (Ex. 14)
Mar. 12	NO CLASS- INDEPENDENT ASSIGNMENT		Quiz 7 (on Blackboard) Concept Check #7 (due 3/23)	

Mar. 16 – 20	SPRING BREAK			
Mar. 24	Chromosomal Basis of Inheritance	Ch. 15	Genetics Problems- Set #2 (due 3/31)	Genetics Problems (Ex. 14), Fruit Fly Analysis2 (Ex. 15)
Mar. 26	Molecular Basis of Inheritance	Ch. 16	Quiz 8 Concept Check #8 (due 3/30)	
Mar. 31	From Gene to Protein	Ch. 17	Karyotypes (pg. 71- due in lab) Genetics Problems- Set #3 (due 4/7)	Genetics Problems (Ex. 14), Karyotypes (Ex. 12), Protein Simulation (Ex. 16)
Apr. 2	From Gene to Protein (cont.)	Ch. 17	Quiz 9 Concept Check #9 (due 4/6)	
Apr. 7	FINISH LECTURE MATERIAL AND REVIEW FOR EXAM- ATTENDANCE REQUIRED			PCR Day 1 (Ex. 19), Double Helix Video
Apr. 9	Exam 3			
Apr. 14	Viruses	Ch. 19		Protein Fingerprinting (Ex. 18)
Apr. 16	NO CLASS- INDEPENDENT ASSIGNMENT OVER DNA TECHNOLOGY	Ch. 20	Independent Assignment (CRISPR)- due 4/23	
Apr. 21	Descent with Modification	Ch. 22		Hardy-Weinberg Simulation
Apr. 23	Evolution of Populations	Ch. 23	Concept Check #10 (due 4/27)	
Apr. 28	Evolution of Populations (cont.)	Ch. 23	Quiz 10	PCR Day 2 (Ex. 19) Fermentation Results
Apr. 30	The Origin of Species	Ch. 24	Quiz 11 STUDY FOR YOUR COMPREHENSIVE FINAL!!!!!!	
May 4-7	FINALS WEEK			
Section 003	FINAL EXAM- May 5th, 8:00AM – 10:00AM			

Important Dates:

The last day to drop a course is April 23rd.

May Graduation application deadline- March 10th.

I will not have office hours on:

February 21

March 12-13

April 16-17