

BIOL 1406 (4:3:3)

Biology for Science Majors II

Department of Biology

Division of Arts and Sciences

SOUTH PLAINS COLLEGE  
Levelland Campus

Fall 2017

Megan Keith  
Instructor of Biology

**COURSE INFORMATION SHEET**  
**BIOL 1406- BIOLOGY FOR SCIENCE MAJORS I**  
**FALL 2017**

Instructor: Megan Keith  
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Office Hours: Mon. 3:30-4:30  
Tues. 9:30-11:30  
Wed. 8:30-9:30/3:30-4:30  
Fri. 8:30-11:30

Lecture: Section 005 TR 1:00PM – 2:15PM (S188)  
Section 006 TR 8:00AM – 9:15AM (S188)  
Lab: Section 005 T 2:30PM – 5:00PM (S197)  
Section 006 R 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, 11<sup>th</sup> edition by Reece et al. (**any format** is acceptable—printed, e-text, online access, etc.)

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

**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.** Use Firefox or Safari.
- Specific course materials available include: PowerPoint lectures, messages and announcements from the instructor, online review access, 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. (continued on next page)

- 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 12<sup>th</sup> day of classes will automatically be dropped from the course and receive a grade of "X".

*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 (65%), daily quizzes (20%) and assignments (15%).

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 five 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. There are NO curves or extra credit in this course.

### 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.

### Quizzes

- Quizzes will be given daily. Each quiz will cover the lecture AND lab material from the previous class day.
- The lowest THREE (3) quiz grades will be dropped before the final quiz average is calculated at the end of the semester IF the student has received 3 or less absences.
- Quizzes will be given at the **beginning** of each lecture period. **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.

### 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.
- Any student caught cheating on an exam will be dropped immediately from the course with an "F". Any student caught cheating on a quiz will receive a permanent 0 for that grade that may not be dropped or replaced.

## **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.**
- **You may NOT record the lectures (I will do that for you) or take photos/video of the instructor during lab.**

## **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.

## **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, and common sense will guide the actions of each member of this class. Any student who fails to perform to expected standards will be asked to withdraw from the class. Descriptions of misconduct are listed in the South Plains College Student Guide.

## **Diversity Statement**

In this class, 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 diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

## **Special Accommodations**

Any student with special accommodations should identify themselves the first week of class. The student is responsible for providing the necessary documentation from the SPC Disabilities Services offices.

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 Center 806-716-2577, Reese Center (also covers ATC) Building 8: 806-716-4675, Plainview Center Main Office: 806-716-4302 or 806-296-9611, or the Health and Wellness main number at 806-716-2529.

## **Lab Safety**

Each student will be informed/trained on the Chemical Hygiene Plan (CHP) for laboratories at SPC documentation and training during the first lab period. Each student will be required to acknowledge receipt of this information and be required to follow all procedures outlined by the instructor and/or staff of South Plains College.

### *Safety Rules-*

- 1) Eating, drinking, tobacco products and cosmetics are not allowed in lab. Drinks are allowed in lecture; however, if you spill your drink then YOU are responsible for cleaning it up.
- 2) Proper attire for lab includes: long pants, shirt with sleeves, and closed-toe shoes. Loose hair should also be tied back.
- 3) When instructed, goggles and/or gloves must be worn.
- 4) Consultation of a physician is recommended if you might be pregnant or have a medical condition that may worsen due to chemical exposure.
- 5) Be respectful of the equipment and the specimens that you will be examining in lab.

### **Material Safety Data Sheets (MSDS)**

These data sheets detail any potential hazards which may be incurred while utilizing various chemicals in the laboratory. The MSDS notebook is located in room 146 of the science building. All students are encouraged to read about the chemicals used in the lab in the MSDS notebook. Please ask the instructor if you need 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, please refer to the SPC policy at: ([http://www.southplainscollege.edu/human\\_resources/policy\\_procedure/hhc.php](http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.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.

Tentative Lecture and Exam Schedule			Laboratory Schedule
Date	Topic	Campbell Biology 10 <sup>th</sup> ed.	Topic
Aug. 29	Introduction		Lab Intro/CHP/Safety
Aug. 31	The Chemical Context of Life	Ch. 2	
Sept. 5	Water	Ch. 3	Cubes, Scientific Method (Ex. 1), Microscopes (Ex. 5)
Sept. 7	Carbon and the Molecular Diversity of Life	Ch. 4	
Sept. 12	The Structure and Function of Macromolecules	Ch. 5	Testing for Organic Molecules (Ex. 4)/Cells (Ex. 6)
Sept. 14	Enzymes	p. 153-161	
Sept. 19	A Tour of the Cell	Ch. 6	<b>NO LAB</b>
<b>Sept. 21</b>	<b>EXAM 1</b>		
Sept. 26	Membrane Structure and Function	Ch. 7	Diffusion and Osmosis (Ex. 7)
Sept. 28	Introduction to Metabolism	Ch. 8	
Oct. 3	Cellular Respiration	Ch. 9	Enzyme Lab (Ex. 8)
Oct. 5	Cellular Respiration (cont.)	Ch. 9	
Oct. 10	Photosynthesis	Ch. 10	Respiration & Photosynthesis (Ex. 9 & 10), Mitosis (Ex. 11)
Oct. 12	Photosynthesis (cont.)	Ch. 10	
Oct. 17	The Cell Cycle	Ch. 12	<b>NO LAB</b>
Oct. 19	<b>EXAM 2</b>		
Oct. 24	Meiosis and Sexual Life Cycles	Ch. 13	DNA Extraction, Fruit Fly Genetics Day 1 (Ex. 15)
Oct. 26	Mendel and the Gene Idea	Ch. 14	
Oct. 31	Chromosomal Basis of Inheritance	Ch. 15	Genetics Problems (Ex. 14), Fruit Fly Genetics Day 2 (Ex. 15), Karyotypes (Ex. 12)
Nov. 2	Chromosomal Basis of Inheritance (cont.), Molecular Basis of Inheritance	Ch. 15 Ch. 16	
Nov. 7	Mol. Basis of Inheritance (cont.)	Ch. 16	Fruit Fly Analysis (Ex. 15), Genetics Problems (Ex. 14)
Nov. 9	From Gene to Protein	Ch. 17	
Nov. 14	From Gene to Protein (cont.)	Ch. 17	Protein Simulation (Ex. 16), PCR Day 1 (Ex. 19), Double Helix Video
Nov. 16	DNA Technology and Genomics	Ch. 20	
Nov. 21	<b>EXAM 3</b>		<b>NO LAB</b>
Nov. 22-26	<b>THANKSGIVING HOLIDAY</b>		
Nov. 28	Descent with Modification	Ch. 22	Protein Fingerprinting (Ex. 18)
Nov. 30	Evolution of Populations	Ch. 23	
Dec. 5	Evolution of Populations (cont.)	Ch. 23	PCR Day 2 (Ex. 19)
Dec. 7	The Origin of Species	Ch. 24	
<b>Dec. 12-15</b>	<b>FINALS WEEK</b>		
<b>Section 005</b>	<b>FINAL EXAM- December 14 10:15AM-12:15PM</b>		
<b>Section 006</b>	<b>FINAL EXAM- December 12 8:00AM-10:00AM</b>		

The last day to drop a course is November 16th.