

BIO 1406 (4:3:3)

General Biology I

Department of Biology

Division of Arts and Sciences

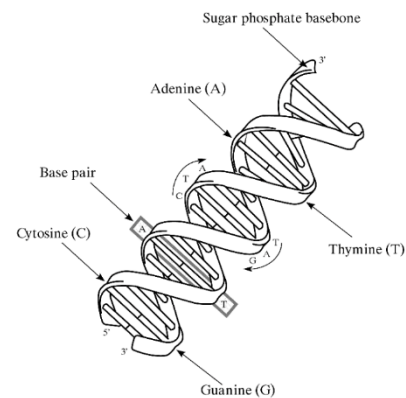
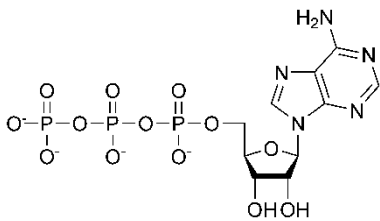
Levelland Campus

SOUTH PLAINS COLLEGE

Spring 2019

David R. Etheredge

Professor of Biology



SYLLABUS GENERAL COURSE INFORMATION BIOL 1406 GENERAL BIOLOGY I Spring 2019

Instructor: David R. Etheredge
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 Office Hours: Monday – 2:00 – 3:00
 Tuesday – 8:00 – 10:00
 Wednesday – 1:00 – 3:00
 Thursday – No office hours
 Friday – 8:00 - 11:00

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

Recommended text: Campbell *Biology*, 11th Ed. by Reece et.al.

Lab Manual: *Biology for Science Majors I & II Lab Manual*, 2nd edition (Available only at the Levelland 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 unifying themes and key concepts of the different types of organisms.
- D. To acquaint the student with the anatomy, function, genetics, and evolution of different types of organisms.
- E. To instill an appreciation of the variety and diversity of major organism groups.
- G. To allow laboratory investigation of topics covered.

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.

South Plains College Class Attendance Policy:

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 The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus.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 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.

Class Attendance Policy: The class attendance policy follows the guidelines outlined in the SPC class attendance policy above, but addresses this course specifically.

Punctual and regular class and lab attendance are required of all students, Students are responsible for all class work covered during absences from class, even in cases in which they are able to satisfy the instructor that the absence was unavoidable. When unavoidable situations such as illness, weather, an official college trip, or a death in the family cause absences, I may permit the student to make up class work missed. In such cases, it is the student's responsibility to complete the work missed within one week of their return to class.

When absences become excessive and, in my opinion, the minimum course objectives cannot be met, the student will be withdrawn from the course. Any student with 5 absences will be withdrawn from the class.

Students are expected to be attentive during lectures and working during lab sessions. Students studying for other classes, sleeping during class or leaving class early will be considered absent for the entire class period.

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 class will automatically be withdrawn from the class roll.

Tardy Policy: Excessive tardiness will not be tolerated. A student, who is consistently tardy, disturbs the class, is disrespectful and rude, and will be withdrawn (dropped) from the class. A student who has 4 or more tardies (or absences) will not be allowed to drop any quiz grades.

Examinations: Four major exams will be given during the semester. The exams will be announced in advance and will be primarily questions over lecture material but will include some questions over the lab

exercises covered during that particular unit. Test 1 will cover unit one material, Test 2 will cover unit two material and Test 3 will cover unit three material. Test 4 which will be the final exam (given during finals week) and will cover unit four material as well as a comprehensive portion of the exam covering all the material from units one, two, and three. Each exam is worth 100 points.

If it is known in advance that an absence will occur on an exam date, and the instructor is notified **ahead of time**, it may be possible, under special circumstances, to take the exam at an alternate time. Otherwise, the missed exam will count as a zero when computing the semester average. DO NOT MISS EXAMS!!!

Quizzes, Assignments and Lab Reports:

Quizzes: Throughout the semester there will be quizzes over the current material we are studying. Most of the **quizzes** will be announced in advance and will be over material already covered in class. Most of the quizzes will be administered online using Blackboard. These online quizzes will consist of 10 questions and will be time limited. You will only be able to take the quiz once, so be prepared. Other quizzes will be **take-home assignments** and a few from assigned readings.

Lab Report(s): For one or more of our labs this semester, there will be a lab report due. The report will be a “summary” of the lab exercise we completed in a standardized format. You will be provided a lab report handout and you must follow the format provided. The lab report handout will be available on Blackboard as a Microsoft word document. Download the document and complete it using a word processor. These reports need to be very organized and neatness counts! The due date will be announced in class. No late lab reports will be accepted. A detailed discussion about how to complete the report will be given during lab the day the report is assigned. Obviously, if you miss a lab you will not be allowed to turn in a lab report for that lab activity and will receive a zero. Lab report grades will be count for two quiz grades. A lab report grade cannot be dropped.

These quizzes/assignments/reports are designed to make sure the students are keeping up with the class work, which I believe is vital to the successful completion of this course. Throughout the semester there will be at least 15 quizzes/assignments and at the end of the semester, you will be able to drop some of the lowest quiz/assignment grades (usually two). Remember no lab report grade can be dropped. There are no make-up quizzes. If you miss a quiz/assignment/report the grade will be a zero. A student who has more than 4 absences or tardies will not be allowed to drop any quiz/assignment grades.

Summary of Grades: Four major Exams: 75% of your grade
Quizzes/Assignments/Reports: 25% of your grade

Grading Policy:

- Final semester average of 90 or above = A
- Final semester average of 80-89 = B
- Final semester average of 70-79 = C
- Final semester average of 60-69 = D
- Final semester average below 60 = F

This course must be completed with a grade of C or better in order for the student to take General Biology II (Biology 1407) at South Plains College.

The last day to drop this course is: **April 25, 2019**

Peer Tutors are available for one-on-one tutoring sessions that are free of charge. Tutor information is available on Blackboard and posted in lab and lecture rooms. **We have awesome tutors, use them!!!!**

Students with disabilities: Any student with disabilities or special needs should identify themselves in the first week of class. I will do everything in my power to accommodate any special needs. The student is responsible for providing the necessary documentation from the SPC Disability Services office. 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.

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 as his own any work, which he has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension. Dishonesty (cheating) of any kind on examinations and quizzes on written assignments, illegal possession of examinations, the use of unauthorized notes during an examination or quiz, obtaining information during an exam from the textbook or from the exam paper of another student, assisting others to cheat, alteration of grade records, illegal entry or unauthorized presence in an office are examples of cheating. Complete honesty is required of the student in the presentation of any and all phases of coursework as his own.

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.

Cell Phone Policy: All cell phones and other electronic devices should be **turned OFF** inside the classrooms (both lecture and lab). Cell phones should not be in view (including in the cubbyhole of the lab desks!) at any time.

If the cell phone “rings” or “buzzes”, or is being used during class for text messaging or a student gets up from class to answer a phone call, **5 points** will be deducted from the students next major exam grade per incident. If the cell phone “rings” or “buzzes” during a Major Exam, the exam will be taken up and graded at that point.

Privacy: The federal law guaranteeing student privacy is the policy of this professor as well as that of SPC. This means that I will not discuss your grade with anyone other than you (which means that I will NOT discuss your grade with your parents, guardians, friends, etc.)

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, 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.

Lab Safety: Each student will be informed/trained on the “Chemical Hygiene Plant (CHP) for Laboratories at South Plains College” documentation and training during the first week of the semester. 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.

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.

To help ensure a great semester and successful completion of this course:

Attend class and be on time

Be an active part of the class, pay attention

Prepare before class for lectures and labs

Come to and participate in the study sessions

Use the Tutors

Take good notes

Read the assignments

Schedule some time for looking over your notes or reading the textbook every day

Find (make) time to study

Schedule your time wisely

Study as much as possible

Take the quizzes and lab reports seriously, they could really help your class average.

If you have questions, ASK ME! Please!

Please ask for help if you do not know how to study. I can help!

College is an awesome opportunity, take advantage of it.

By the way, you are encouraged to have some fun, and enjoy learning!!

Spring 2019 - Tentative Schedule - Topics, Test and Reading Assignments

Unit One – The Chemistry of Life

<i>Topic</i>	<i>Campbell BIOLOGY, 10th edition</i>	<i>OpenStax College BIOLOGY text</i>
Introduction	Chapter 1	Chapter 1
The Chemical Context of Life	Chapter 2	Chapter 2.1
Water and Life	Chapter 3	Chapter 2.3
Carbon and the Molecular Diversity of Life	Chapter 4	Chapter 3
The Structure and Function of Macromolecules	Chapter 5	Chapter 3
Enzymes	Pages 150-159	Chapter 6.5
A Tour of the Cell	Chapter 6	Chapter 4

Test I - February 6, 2019

Unit two - The Cell

<i>Topic</i>	<i>Campbell BIOLOGY, 10th edition</i>	<i>OpenStax College BIOLOGY text</i>
Membrane Structure and Function	Chapter 7	Chapter 5
Intro to Metabolism	Chapter 8	Chapter 6
Cellular Respiration	Chapter 9	Chapter 7
Photosynthesis	Chapter 10	Chapter 8
The Cell Cycle	Chapter 12	Chapter 10

Test II - March 6, 2019

Unit Three – Genetics

<i>Topic</i>	<i>Campbell BIOLOGY, 10th edition</i>	<i>OpenStax College BIOLOGY text</i>
Meiosis and Sexual Life Cycles	Chapter 13	Chapter 11
Mendel and the Gene Idea	Chapter 14	Chapter 12, 13
The Molecular Basis of Inheritance	Chapter 16	Chapter 14
From Gene to Protein	Chapter 17	Chapter 15
DNA Technology and Genomics	Chapter 20, 21	Chapter 17.1-17.3
Viruses	Chapter 19	Chapter 21

Test III - April 17, 2019

Unit Four - Mechanisms of Evolution

<i>Topic</i>	<i>Campbell BIOLOGY, 10th edition</i>	<i>OpenStax College BIOLOGY text</i>
Descent with Modification: A Darwinian View of Life	Chapter 22	Chapter 18; 19.3
The Evolution of Populations	Chapter 23	Chapter 19.1
The Origin of Species	Chapter 24	Chapter 18.2

The Final Exam will include comprehensive material from the previous test (Test I, II and III) and Unit Four.

TEST IV FINAL EXAM – Biol 1406 001 (MW 8:00 class) - May. 6, 2019 - Monday 8:00-10:00

Biology 1406

Lab Schedule - Spring 2019

<i>Lab dates</i>	<i>Lab Topic</i>
Jan. 14	Use of Microscope, Scientific Method
Jan. 21	MLK Holiday
Jan. 28	Organic Testing
Feb. 4	Cell Lab
Feb. 11	Diffusion and Osmosis
Feb. 18	Enzyme Lab
Feb. 25	Respiration and Photosynthesis, Start Fermentation
March 4	Cell Cycle, Mitosis
March 11	SPRING BREAK
March 18	DNA Extraction, Start Flies
March 25	Remove Flies, Genetic Problems, Karyotype
April 1	Fly Analysis, Genetic Problems, Protein Simulation
April 8	PCR Day 1, Double Helix Video
April 15	Protein Fingerprinting
April 22	Easter Holiday
April 29	PCR Day 2, Try the Wine