

BIO 1406 (4:3:3)

General Biology I

Department of Biology

Division of Arts and Sciences

SOUTH PLAINS COLLEGE

Levelland Campus

Spring 2024

Instructor

Dr. Eric Niederhauser

Course Information

Biology I for Science Majors (BIOL 1406) Spring 2024

Instructor: Dr. Eric Niederhauser

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Office Hours: Monday: 9:30 - 10:30, 2:30 - 3:30

Tuesday: 9:00 - 10:30

Thursday: 9:00 - 10:30, 2:30 - 3:30

Friday: 10:00 – 12:00

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*, 12th Ed. by Urry et.al. Others ARE acceptable.

REQUIRED LAB MANUAL: *Biology for Science Majors I & II, Lab Manual*, by South Plains College Biology Department. Available only at the SPC bookstore.

Blackboard: Grades, course information, lectures, links etc. will be available on Blackboard, accessed through <https://southplainscollege.blackboard.com>. You are responsible for checking Blackboard regularly. You can always see your current grade on Blackboard

Emails and Announcements: If needed I will send announcements or reminders via email to your SPC email address. You are responsible for any information that is in the announcements or sent to your SPC email by me or the college, so please check them regularly.

Grading

EXAMS: There will be four exams given during the semester covering both lecture and lab. The exams will be multiple choice, true or false, fill-in-the blank, short answer and essay questions. The final exam will be comprehensive.

Do not miss exams. If you know in advance that you will be unavoidably absent on an exam date, notify the instructor ahead of time. It may be possible to take the exam at an alternate time. If you miss an exam due to an unforeseen circumstance and do not contact me within 24 hours, I will not consider a makeup exam. Failure to notify me will result in a zero for the exam.

IN-CLASS QUIZZES: There will be quizzes at the beginning of most classes that will address the previous lectures and lab. If you are late for class your quiz grade will suffer. There will be no in-class quiz makeups but at least three of the lowest in-class quiz grades will be dropped. Students who miss 4 or more quizzes (for any reason) will NOT have the lowest quiz grades dropped. Quizzes will use a remote clicker system.

LAB GRADES: Lab material is incorporated into Exams, Quizzes/Assignments. Credit will also be given for attendance (which is required). There are no lab makeups.

GRADING SUMMARY

Grade Type	Percentage of Grade
Exams	70 %
In-Class Quizzes	20 %
Lab Attendance/Assignments	10%

Grading scale: Final semester average 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; < 60 = F.

Last Day to Drop the Course: April 25, 2024

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

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 Policy: This course is designed to be an in-person course. Punctual and regular class attendance is mandatory. Once a week, class meetings consist of lecture period AND a lab period; consequently, failure to attend lecture OR lab will count as an absence and any work missed will receive a grade of zero. Labs cannot be made up. Students are responsible for all information discussed during absences from class - regardless of the reason.

If you intend to withdraw from the course, please see me first – do not just stop coming to class. When absences become excessive and, in the opinion of the instructor, minimum course objectives cannot be met, the student may be withdrawn from the course. That being said, it is the student's responsibility to withdraw from this course. Otherwise, students will be assigned their earned letter grade at the end of the course. Grades are kept up to date, and guidance will be provided throughout the term to help students decide whether they need to drop the class. For more information regarding drops/withdrawals, please visit www.southplainscollege.edu/admission-aid/apply/schedulechanges.php.

Tardy Policy: Arriving to class late is disruptive. If you are late, please come in quickly and quietly take your seat. A student who is consistently tardy will be withdrawn from the class. Notify me if there is a problem and you know you will be late. Barring emergency, there is no excuse for being tardy to lab. If you are late for lab you will lose participation credit for the lab.

Classroom Conduct: To create an effective learning environment, respect must be shown to your fellow students and to the instructor. Disruptive and disrespectful behavior will not be tolerated.

Disruptive and disrespectful behavior includes:

- Cell phone use. **Cell Phone use is not permitted.** Cell phones should be **out of sight** in lecture and lab. Do not text or answer calls during class or lab time.
- Earbuds in your ear during lecture or lab.
- Use of other electronic devices including laptops. Research shows that taking notes by hand is more effective. I reserve the right to allow laptop use on an individual basis.
- Leaving class during lecture. **If you will need to leave early let me know.**
- Sleeping in class or lab.
- Eating in lab. Discrete food consumption in lecture is tolerated.
- Failure to follow general instructions.
- Talking out of turn, cursing, etc.

You will receive a zero for the day's quiz for disruptive behavior and may be asked to leave the classroom. If the poor behavior is deemed excessive the student may be withdrawn from the course.

Academic Integrity: The attempt of any student to cheat or present as her/his own any work, which she/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.

Examples of cheating and dishonesty include (but are not limited to): plagiarism, 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.

You must use your own words on exams.

Lab Safety: Each student will be informed/trained on the "Chemical Hygiene Plan (CHP) for Laboratories at South Plains College" 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.

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. I will NOT discuss your grade with your parents, guardians, friends, etc.

Other Applicable Policies: This webpage - <https://www.southplainscollege.edu/syllabusstatements/> has the official South Plains College statements about the following:

- Intellectual exchange
- Disabilities
- Non-discrimination
- Title V Pregnancy Accommodations
- CARE Team
- Campus Concealed Carry

Bio 1 406 Tentative Schedule Spring 2024

Lecture			Tuesday Laboratory		
Unit	Week	Date	Topic	Topic	Ex.
Organization and Chemistry of Life	1	Tue, Jan 16 Thur, Jan 18	Introduction. Life Defined and Organized Chemistry for Biology	Safety, Microscopes, Scientific Method (Daphnia)	LS,1, 5
	2	Tue, Jan 23 Thur, Jan 25	Water and Life, Carbon Organic Chemistry, Carbohydrates	Metric System, Data Analysis	2, 3
	3	Tue, Jan 30 Thur, Feb 1	Lipids, Nucleic Acids Proteins	Organic Molecules	4
	4	Tue, Feb 6 Thur, Feb 8	Cell Structure	Cells/Mitosis	6, 11
	5	Tue, Feb 13 Thur, Feb 15	The Cell Cycle Membrane Structure and Function	Diffusion and Osmosis	7
	6	Tue, Feb 20 Thur, Feb 22	Introduction to Metabolism Enzymes	Enzymes	8
	7	Tue, Feb 27 Thur, Feb 29	Cellular Respiration Photosynthesis	Respiration/Photosynthesis	9
	8	Tue, Mar 5 Thur, Mar 7	Biomass, Energy in Ecosystems, Biogeochem cycles EXAM 2	TBA	11
Spring Break					
Genetics, DNA Structure and Function	9	Tue, Mar 19 Thur, Mar 21	Meiosis and Sexual Life Cycles Mendel and the Gene Idea	DNA Extraction, Start Files Genetic Problems	15
	10	Tue, Mar 26 Thur, Mar 28	Beyond Mendel - Complications and Exceptions DNA Replication	Karyotypes, Chromosome Map Genetic Problems Due	13, 14
	11	Tue, Apr 2 Thur, Apr 4	From Gene to Protein (Gene Expression) From Gene to Protein, Mutation, Viruses,	Fly Analysis, Mutation Protein Synth. Simulation	12, 16
	12	Tue, Apr 9 Thur, Apr 11	Regulation of Gene Expression EXAM 3	PCR Day 1	17, 19
	13	Tue, Apr 16 Thur, Apr 18	DNA Technology DNA Tech Applications	Protein Fingerprinting	18
	14	Tue, Apr 23 Thur, Apr 25	Descent With Modification The Evolution of Populations	PCR Day 2	19
	15	Tue, Apr 30 Thur, May 2	The Origin of Species Evolution wrap-up and Semester Review	Population Genetics Hardy Weinberg	
Final EXAM: Thur, May 9, 10:15 am.					