

Course Number: BIOL 1306 and 1106 – Lecture (3) and Laboratory (1) credit

Course Description: Biology is the “study of life.” It is a laboratory-based science course emphasizing the process of scientific investigation through the study of living things. Biology is a comprehensive course which studies all levels of living things. You will learn how the cell, the basic unit of life, makes up organisms and how these organisms live and respond within their ecosystems.

Instructor:	Dr. Zacher
Office:	Room 312
Office Hours:	7 – 8am M-F and 4 – 5 pm M and W
Contact Information:	mzacher@pi-isd.net

Learning Outcomes:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientist.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify substrates, products and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Core Objectives:

1. Critical Thinking – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills – to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Course Lecture Topics

Unit	Topic/Lecture/Event	Resources to View & Measurable Activities
1	Scientific Method	Exam 1 (LO 1, 2 and 5)
2	Metric Measurement and Microscopy	Item measurement and wet-mount preparations (LO 1)
3	Chemical Composition of Cells	Exam 2 (LO 4 and 6)
4	Cell Structure and Function	Exam 3 (LO 4, 6, 7, and 8)
5	How Enzymes Function	Exam 4 (LO 9)
6	Photosynthesis	Exam 5 (LO 9)
7	Cellular Respiration	Exam 6 (LO 9) Midterm Exam
8	Mitosis and Meiosis	Exam 7 (LO 10)
9	Mendelian Genetics	Exam 8 (LO 10)
10	Human Genetics	Exam 9 (LO 10)
11	DNA Biology and Technology	Exam 10 (LO 11)
12	Classification/Bacteria and Prokaryotes	Exam 11 (LO 12)
13	Fungi/Plants/Animals	Exam 12 (LO 12)
	Final Exam	Final Exam (LO 1-7; CO 1-4)

Activities: Laboratory and other kinesthetic activities will be completed with every unit.

More activities will be implemented as time allows.

*** caveat: time line may change dependent on class progress***

Required Text and Materials:

Campbell, Neil A. and Jane B. Reece. AP Biology, 7th Ed. Pearson 2005.

Course Expectations:

1. You will be tested approximately every two weeks.
2. You will be quizzed at least twice a week.
3. You are expected to have a notebook, or organizational system approved by me, in which to keep all class notes, handouts, lab write ups, etc.
4. You will be expected to have said notebook with you daily. No excuses.
5. You will be expected to turn in ALL work on time unless approved by me.
6. Plagiarism, or passing someone else's work off as your own, will not be tolerated in any manner. When in doubt, document!!!

Class Expectations:

1. Be in class, ON TIME, everyday. (Tardies are not tolerated)
2. Be PREPARED every day. (Notebook, pen or pencil, and brain engaged)
3. Be RESPECTFUL every day. This includes being respectful to yourselves, your classmates, and to me.
4. Be SILENT when I am addressing the class.
5. Be SILENT when your classmates are addressing the class.
6. Be RESPONSIBLE for yourselves and pick up your own trash.
7. Disruptive and/or immature behavior will NOT be tolerated.
8. Cell phone usage will not be permitted. If you have a cell phone in this classroom, it needs to be on silent mode and kept inside your backpack or bag.

Grading Procedures:

1. All homework and class work will be graded promptly and given a grade.
2. Quizzes will be given announced or unannounced. BE PREPARED!!
3. Quizzes, Tests, Projects, and Presentations will count for 60% of the nine weeks high school grade. They will count for 60% of your TSTC semester grade.
4. Daily work, homework, and participation will count for 40% of the nine weeks grade. They will count for 40% of your TSTC semester grade.
5. Midterm and Final exams will be 15% of your semester grade.

Grading Scale:

90-100.....A

80-89.....B

70-79.....C

60-69.....D **not applicable for high school grade

0-59.....F

Make Up Work Procedures:

It is the students' responsibility to acquire and complete assignments or assessments after their absence. The school district policy will be followed.

Accommodation Statement:

If you have a documented disability which will make it difficult for you to carry out class work as outlined and/or if you need special accommodations due to a disability, please contact (956) 364-4520 or visit the Support Services Office in the Auxiliary Services Building as soon as possible to make appropriate arrangements.

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I have received a copy of the syllabus and understand the conditions of the course. I understand my behavior or lack of progress in this course may cause the instructor to withdraw me at any time.

Student's Signature

e-mail address

Date