

# Biology 10: Fundamentals of Biology

Instructor: Nancy Freeman

Office: NS 116

Office Hours: Mon. 8:00am – 9:00am

Phone: (310) 532-3670 X5352

Mon.& Wed. 12:00 – 12:30

Tues. 12:00 – 1:00

e-mail: NFreeman@elcamino.edu

Text: Johnson, George and Loso, Johathan; Essentials of the Living World, 2<sup>nd</sup> ed. 2008  
Sylvia S. Mader, 2007 Biology 10 Laboratory Manual

**Course Description:** Biology 10 is a lower division, non-major's course designed to meet part of the general education science requirements. The lecture component of the class meets for 1 hour and 25 minutes, two times per week. The laboratory portion of the class meets for a total of 3 hours each week. This course is designed to introduce you to the living world around you and the ways in which you interact with it. Most of you have had high school biology, and through that experience you have either learned to love or hate the subject. Whatever your past experience, it is my hope to instill in you a greater understanding and appreciation for our natural world so that you become a more well rounded and knowledgeable citizen. My goal is that you leave this biology course with a greater comfort level and enjoyment for learning about life science.

## Biology 10: Student Learning Outcomes

1. Students will understand and apply principles of the Scientific Method, recognizing an idea based on reproducible evidence.
2. Students will be able to use an important tool of Biology, the compound and dissecting scopes, to observe cells and microorganisms.
3. Students will be able to explain the processes of each stage of Mitosis.

## Grading:

Your grade in this course will be calculated as a percentage of points earned on the following :

5 lecture exams	(100 pts each)	= 400 points
4 exam essays	( 10 pts each)	= 40 points
3 lab Tests	( 50 pts each)	= 150 points
2 article analysis	( 25 pts each)	= 50 points

The final grade scales is as follows:

100% - 90% = A

89% - 80% = B

79% - 70% = C

69% - 60% = D

59% and below is an F

Although I follow this scale strictly, I may adjust some total exam scores when I feel it is appropriate (for example, I may add 2 points to all exams if I feel an adjustment is justified).

### **Exams and Assignment Policy:**

- a. Only 1 lecture exam may be missed due to an excused absence. There are 5 (100pt) exams in lecture. I will drop the lowest score and count only 4 for your final grade. **If you are absent or more than 20 minutes late on the day of a lecture exam, that becomes the test score that gets dropped. You will receive a zero for any other missed exam in lecture.**
- b. You may only attend the exam or lab practical at your assigned lecture/lab hour.
- c. Late article assignments will be deducted 10% per day and will **NOT be accepted beyond the second class meeting following the due date.**
- d. Missed Lab tests can not be made up. This test format is unique and must be done at the scheduled time. A missed Lab Test will count as a Zero.
- e. All electronic devices must be cleared from the desktop during any test or quiz.

### **Attendance Policy:**

I will check attendance daily. A maximum of 4 absences are allowed for this course. All students are expected to be on time for each class session and stay until the end of class to meet the attendance requirement.

Students are required to have at least one work partner between meetings who is responsible for answering questions, offering feedback on assignments, and providing missed information.

According to the college catalogue, it is the responsibility of the student to file official withdrawals through the Admissions Office by designated deadlines to avoid being assigned a letter grade of A through F. It is possible that an instructor may have initiated the drop, but as a precaution, students should file their own paperwork. If you stop attending class and do not drop and your name appears on the grade sheet at the end of the semester, you will earn an F in the class. Friends, relatives, children, or other acquaintances may not attend class.

### **Supplies Required:**

Text: Johnson and Loso, 2008 **Essentials of The Living World**  
Sylvia S. Mader, 2007 **Biology 10 Laboratory Manual**

#2 pencils required on exam days

7 Scantron Sheets, #882E (answers A – E) on the day of the exam.

### **Classroom Expectations:**

1. Be courteous and on time.
2. Only water allowed in the classroom in a container with a secure lid. No food permitted in classroom anytime.
3. Silence cell phones and other electronic devices. Do not answer the phone during class.

**Some Helpful Information:** Class meetings are designed to clarify and/or expand on your assigned readings. **You are strongly urged to attend class;** if you should miss a meeting I encourage you to obtain the notes from a classmate, as test material will be stressed during lectures. The schedule is flexible and may be changed at MY discretion!!! It is your responsibility to find out if and when exam dates have been changed from the schedule. Absolutely NO EXTRA CREDIT will be offered.

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.

Date	Week	Lecture Syllabus	Chapters
8/31	1	M-Course Introduction & Science as a Way of Learning W-Chemistry of Life; Water, pH, and Bio. Molecules	1 - 4
9/7	2	M-Labor Day W -Cell Structure	5
9/14	3	M-Cell membrane Structure/Transport W-Cell Energy and Enzymes	5 6
9/21	4	M-Photosynthesis W-Deriving Energy from Food	7 8
9/28	5	M- Cell Division <b>W-Exam #1/ Article Analysis (due next class meeting)</b>	9
10/5	6	M-Reproduction and Meiosis W-DNA Structure and Replication	10 12
10/12	7	M-Gene Expression (Transcription and Translation) W-Mendel's Genetics	13 11
10/19	8	M-Human Genetics W-DNA Technology/Gene Therapy/Bioethics	11 14
10/26	9	<b>M-Exam #2</b> W-Intro to Evolutionary Theory	15
11/2	10	M-Principles of Natural Selection W-Principles of Speciation	15 15
11/9	11	M-Ecology Part 1 W-Ecology Part 2	20 21
11/16	12	M- Environmental Issues <b>W- Exam #3/ Article Analysis #2 (due next class meeting)</b>	23
11/23	13	M- Intro to the Human Body W- Digestive system (Thanksgiving Holiday Thurs.)	24 26
11/30	14	M-Cardiovascular system W-Respiratory System	25 27
12/7	15	M-Immune system W-Nervous system	29 30
12/14	16	<b>M-Exam #4</b> <b>W-Final Exam #5 Cumulative</b>	

---

## Bio. 10 Course Objectives

---

1. Describe the characteristics of life.
  2. Define basic chemical terms and describe the molecules that make up living things.
  3. Describe the anatomy of cells, and relate cellular structures with their functions.
  4. Describe the processes, chemical reactions, and end products involved in photosynthesis and cellular respiration.
  5. Identify and describe the phases of mitosis and meiosis.
  6. Demonstrate competence in working genetic problems, such as monohybrid and di-hybrid crosses, multiple alleles, sex-linked inheritance, and blending.
  7. Explain the structure of DNA, and how it is used in protein synthesis.
  8. Identify and describe genetic disorders caused by mutation and non-disjunction.
  9. Apply the principles of natural selection to predict outcomes of real or hypothetical examples.
  10. Describe speciation, and the evidences for common ancestry of life.
  11. Define basic ecological terms and describe the relationships between populations and the environment, as well as man's impact on the environment.
  12. Explain the Linnaean system of classification, the major taxa, and binomial nomenclature.
  13. Recognize the structural, functional, and ecological features that characterize the major groups of the prokaryotic, Protista, and Fungi kingdoms.
  14. Describe the major cells, tissues, and organs in higher plants, and how they integrate structure and function.
  15. Describe angiosperm reproduction: alternation of generations life cycle, and the structure of flowers, fruits, and seeds.
  16. Recognize the major phyla of the Animal Kingdom, and describe the structural features, which make each phylum unique.
  17. Describe the organs and functions of vertebrate organ systems, with special emphasis on the human.
  18. Engage in and understand the characteristics of Scientific Inquiry to formulate explanations based on reproducible evidence.
- 
-

