COURSE TITLE: Biology for Science Majors I

COURSE NUMBER: BIOL 1406

COURSE PREREQUISITE
College level ready in Reading and Writing.

COURSE DESCRIPTION
Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce these concepts. (3 Lec., 3 Lab.)

TEXAS CORE CURRICULUM
http://www.thecb.state.tx.us/index.cfm?objectid=6F049CAE-F54E-26E4-ED9F0DAC62FABF7D
- Critical Thinking Skills - to include creative thinking, innovation, inquiry, analysis, evaluation and synthesis of information
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

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

REQUIRED MATERIALS
- Biology by OpenStax College, available through
  - OpenStax website for web, PDF, or ePUB versions:
    - http://openstaxcollege.org/textbooks/biology
  - Campus Bookstore or OpenStax website for the printed textbook (ISBN 978-1-938168-09-3)
- Handouts with Lecture and Laboratory Exercises available on eCampus

A student of El Centro College is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer. THECB TAC Rule 4.218 (c)

ATTENDANCE
Attendance in lecture and laboratory sections of this course is mandatory. Students must attend lecture in order to attend lab, except on test days. Students are expected to arrive on time and stay until class is dismissed.
COURSE OUTLINE

- Lecture presents the fundamental theory of biological topics. Five units will be covered and assessed:
  - Week 1: Molecules of Life
  - Week 2: Cell Structure
  - Week 3: Cell Energetics
  - Week 4: DNA & Cell Reproduction
  - Week 5: Inheritance & Expression of Genes

- Laboratory elaborates upon the theories presented in lecture through the use of hands-on learning experiences and may incorporate material not discussed in the lecture portion. Quizzes will be given at the beginning of each lab. Lab Projects will be given per the Course Schedule.

EVALUATION PROCESS

<table>
<thead>
<tr>
<th>Weight</th>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>65%</td>
<td>4 Lecture Exams @ 100 points ea.</td>
<td>400 (5 taken, lowest dropped)</td>
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<td>20 Class Assignments @ 5 points ea.</td>
<td>100</td>
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<tr>
<td></td>
<td>5 Practice Tests @ 10 points ea.</td>
<td>50 (6 taken, lowest dropped)</td>
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<td></td>
<td>Comprehensive Final</td>
<td>+100</td>
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<td></td>
<td>Lecture Total</td>
<td>650</td>
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<tr>
<td>35%</td>
<td>20 Lab Quizzes @ 5 points ea.</td>
<td>100 (24 taken, lowest 4 dropped)</td>
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<td>1 Evaluation Assignment</td>
<td>100</td>
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<tr>
<td></td>
<td>3 Lab Projects @ 50 points ea.</td>
<td>+150 (4 completed, lowest dropped)</td>
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<td></td>
<td>Lab Total</td>
<td>350</td>
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<tr>
<td></td>
<td>Course Total points</td>
<td>1000</td>
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GRADE SCALE

The following letter grades will be assigned per the total points listed:
A (90-100%)=900-1000, B (80-89%)=800-899, C (70-79%)=700-799, D (60-69%)=600-699, F (0-59%)=0-599

DROP DATE

The last day to drop for this semester and receive a grade of “W” is JUNE 25, 2019 by 7pm in the Registrar’s Office (A130). Under Texas law, students who enroll in a Texas public institution of higher education (including DCCCD) for the first time in fall 2007 or later may not drop more than six courses during their entire undergraduate career. For more information: [https://www.elcentrocollege.edu/apply-reg/reg/pages/dropwithdraw.aspx](https://www.elcentrocollege.edu/apply-reg/reg/pages/dropwithdraw.aspx)

CLASS RULES

- So that all students have an equal chance to learn, any student who engages in distracting practices will be asked to leave for the remainder of the class time. Distracting practices may include, but are not limited to, cell phone use, excessive talking, or sleeping. Dismissal due to distracting others will result in a quiz grade of zero (0%) for that day.
- Attendance in lecture and lab is mandatory. Students who leave early will receive a deduction from their quiz(s) grade for that day.
- The lab must be organized and neat for all classes. Failure to clean all workstations will result in a quiz grade of zero (0%) for the entire class.
- To maintain the integrity of exams, students more than 30 minutes late for a lecture exam will not be allowed to take the exam.
- Make-up exams will not be given for any reason. The first exam missed will count as the drop exam and subsequent exams missed will be given grades of zero (0%).
- Missed lab activities, lab quizzes, and lab projects cannot be made up due to time constraints.
- For safety purposes, closed-toe shoes must be worn in every lab. Goggles/gloves will be provided and must be worn when using eye and skin irritants.
- In order to participate in activities and experiments, students are required to print handouts before each class for use in lecture and lab. These handouts can be found on eCampus
- No “extra credit” can substitute for missed classes, exams, or poor performance.
ACCESSING eCAMPUS
You will be using eCampus, an online course site, in this class. Go to http://ecampus.dcccd.edu/ to log into your account. If you cannot access the site, please contact technical support at 1-866-374-7169. If this course is not available in your course list, please contact your instructor.

COMPUTER REQUIREMENTS
Students need access to hardware and software that meet the following requirements:
- Computer or other device able to access eCampus
- Google Chrome OR Mozilla Foxfire 5.0 or higher
- Shockwave Flash Plug-in

ACADEMIC DISHONESTY
Academic dishonesty will not be tolerated in this course. If cheating is observed, points for the coursework will be disallowed. Grades of zero given for cheating may not be dropped. Academic dishonesty includes activities such as copying from another student’s lecture exam, lab quiz, lab project, lab report sections, or collaboration with students who have completed lab projects, lab quizzes, lecture quizzes, and lecture exams. Coursework showing the same or similarly missed questions will serves as evidence of dishonesty. All tests involved may receive a score of zero. Students missing similar questions when taking the test at or near the same time will be more closely scrutinized. The instructor reserves the right to schedule separate testing times for students.

INSTITUTIONAL POLICIES
All El Centro students are responsible for knowing and adhering to the following institutional and course-related policies:
- Institutional Policies
- Course-related Institutional Policies
- Title IX and Sexual Misconduct
- Concealed Carry (Campus Carry)

DISCLAIMER: The provisions contained in this syllabus do not constitute a contract between the student and El Centro College. These provisions may be changed at the discretion of the Coordinator/Instructor. When necessary, appropriate notice of such changes will be given to the student. The instructor-of-record may provide additional information to enhance the course to meet the needs of the enrolled students, provided that the enhancements do not conflict with the official course syllabus.