Biology for Science Majors I
BIOL 1407-63500
Semester: Spring 2019
January 22, 2019 – May 16, 2019

Professor - Lecture and Lab: Dr. Bennett O'Connor
Email: Bcconnor@dcccd.edu
Office Number: H30
Meeting Days/Time: Lecture: MW 7:00pm-8:20pm   Lab: MW 5:30pm-6:50pm
Credit Hours: 4 Semester Hours
Science, Technology, Engineering and Math (STEM) Office Phone: 214-860-8649, 214-860-8760
Division Office Location: H129, Monday – Friday: 8:00 a.m. – 5:00 p.m.
Mission Statement: Mountain View College empowers people and transforms communities

Course Description: An introductory survey of current biological concepts for students majoring in the sciences. The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of these concepts. (3 Lab., 3 Lab.)

Course Prerequisites: Required: BIOL 1406

Course Materials/Supplies Needed

- LAB MANUAL: Print labs from eCampus prior to attending each lab session.
- Must Purchase Chemical Splash Goggles and Nitrile Gloves to participate in lab. Make sure to have every lab. Can either buy:
  0 gloves and goggles available in the College Bookstore or at local store (Walmart, Target, etc)
  OR
  0 Lab Safety Kit SKU 019071998: which includes: 1 Chemical Splash Goggles, 10 pairs Nitrile Gloves for working with chemicals, and 1 clear plastic apron (available in the College Bookstore- $30.00)
- Scantrons: 882E for lecture and lab exams.
- 3-Ring Binder with dividers for the labs and lab assignments printed from eCampus (2 inch binder recommended)

Core Objectives

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and 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

Lecture Student Learning Outcomes

After successful completion of this course the student should be able to:

1. Describe modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
2. Describe phylogenetic relationships and classification schemes.
3. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
4. Describe basic animal physiology and homeostasis as maintained by organ systems.
5. Compare different sexual and asexual life cycles noting their adaptive advantages.
6. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

**Lab Student 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. Demonstrate knowledge of modern evolutionary synthesis, natural selection, population genetics, micro and macroevolution, and speciation.
5. Distinguish between phylogenetic relationships and classification schemes.
6. Identify the major phyla of life with an emphasis on plants and animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
7. Describe basic animal physiology and homeostasis as maintained by organ systems.
8. Compare different sexual and asexual life cycles noting their adaptive advantages.
9. Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

**Course Outline:**

Objectives, which are determined by the district curriculum committee, are measurable or observable and will be evaluated. Different modes of instruction will be utilized for presentation and evaluation. Lecture topics will include evolution, protists, plant diversity, fungi, plant structure and transport, plant reproduction, plant responses, animal diversity, animal systems, ecology, population ecology, and ecosystems. The course calendar is on ecampus.

**Evaluation Procedures:**

**LECTURE EXAMS:** 65% of the total grade

- Lecture exams will be given in the testing center and must be taken by the deadline posted in the course calendar. The final exam will be given in the lecture classroom.
- 4 Lecture exams and final require Scantron 882E and #2 pencil
- 1 Comprehensive Final Exam given in the lecture classroom
  o Students are required to take the final exam. If you do not take the final exam, you will receive a 0.
  o If all lecture exams including the final exam are taken, the lowest test grade for the semester will be dropped.
- **Make-up Exam Policy:** In the event of a missed exam, the instructor must be notified within 24 hours of the scheduled exam and documentation will be required for the absence. Arrangements must be made with the instructor to make-up an exam.

**QUIZZES:** 5% of the total grade

**LABORATORY PRACTICALS:** 20% of the total grade

- Laboratory Practicals **MUST** be taken during the scheduled lab exam time (see course calendar). Scantron 882E required for each lab practical.
- There is a time limit of 1 hour - 15 minutes for all lab exams.
- A laboratory practical tests your knowledge of laboratory information, ability to interpret data, and ability to successfully perform laboratory skills.

**LABORATORY NOTEBOOK** - 10% of total grade

- You must turn in your lab notebook when you take each lab practical. Requirements for the lab notebook will be posted on eCampus. The laboratory professor may collect and grade individual labs before the lab practical in order to provide feedback.

**GRADING SCALE** - FOR EACH EXAM, ASSIGNMENT AND FINAL GRADE:

A = 89.5 +  
B = 79.5 - 89.4  
C = 69.5 - 79.4  
D = 59.5 - 69.4  
F < 59.4
*Grades are finalized at the end of the semester after the final exam. Ecampus final grade column can be used as an estimate of your grade but may not be 100% accurate. If you want an accurate calculation use the information in this syllabus. *A limited number of extra credit assignments may be given throughout the semester. If you miss the opportunity you will not be able to go back. You will not have to option for extra credit if you are late to class, late turning in assignments or missing assignments, do not participate, or have too many absences. Excessive absences and late to class effect your ability to participate.

**Instructor Attendance Policy:**
- Students are expected to attend all classes. Students have the responsibility to attend class and to consult with the instructor when an absence occurs. If for some reason you must leave class early, you should inform the instructor prior to the start of class of your reason for leaving early. **On-time attendance is vital to your success in this course. Plan to arrive early. On-time attendance is taken at the beginning of class. A deduction may occur for lack of participation if unexcused tardy or absence.**

**Student Expectations:**
- Students will develop personal responsibility in the areas of on-time attendance, completing all assignments on time, studying 12-15 hours per week outside of class, and bringing the textbook to class.
- Students will develop personal responsibility in the areas of proper care for scientific equipment, proper care and respect for biological specimens, safety in the laboratory, proper storage of laboratory equipment, and cleanliness of laboratory stations.
- Students must write their **name, course and section and instructor** name on all assignments
- No earbuds in class. Please turn your cell to vibrate and step outside if you must text. No texting in class.

**Late Work Policy:**
- Students must contact the instructor if they will miss class, lab, or the due date for an assignment within 24 hours.
- Documentation of an excused absence is required. Arrangements must be made with the instructor to make-up a lab, exam, or assignment.
- Work is due at the beginning of class on the due date.
- Twenty points may be deducted per day for an assignment that is late if accepted. In class work that has a late start due to tardiness will have a minimum of 10 points deducted if accepted.

**Makeup Exam Policy:**
- Students must contact the instructor if they will miss an exam within 24 hours of the due date.
- Documentation of an excused absence is required.
- Arrangements must be made with the instructor to make-up an exam.

**LABORATORY EXPECTATIONS:**
**ATTENDANCE IS MANDATORY** and each exercise will require laboratory **participation.** Attendance will be taken at the beginning of each class period.
- Students are required to print a copy of the lab for each day from eCampus prior to class. If you do not have access to a computer and printer, you can print the pages for a small fee in the campus computer labs, W139 (W141 and W142) or the campus library.
- Instructions are given at the beginning of each lab and **WILL NOT** be repeated. Students who miss instruction will not be allowed to participate in lab.
- Labs for each lab practical must be kept in a lab notebook and brought to each lab session.
- Nitrile Gloves and chemical splash goggles are **required** when working with chemicals. **Purchase them before class! NO GLOVES, NO GOGGLES, NO LAB!**
- Hazardous Materials are used in the laboratory areas. Safety Data Sheets (SDS), required by OSHA, are available for all students to observe.
- **Cell Phones** are not permitted to ring in the lab. **No texting in class or lab– please step out into hall**
- Students who bring computers to class are not permitted to check email or the Internet for non-class related reasons.
- **Eating, Drinking, Gum Chewing, and/or Applying Cosmetic are NOT ALLOWED** in the laboratory at any time. Do not bring any beverage containers or water bottles into the lab.

**eCampus:**
- Students are encouraged to use the resources available on eCampus regularly.
• Go to the website: http://ecampus.dcccd.edu. Your login is an “e” and your seven-digit student identification number (example: e7654321). If you have never used eCampus before, your password is the same as your user name until you change it under personal information.

**eConnect:** Your final grade will be posted to eConnect and the course will be made unavailable.

**Disclaimer:** Instructor reserves the right to change course calendar and syllabus if needed.

**Withdraw date:** April 17, 2019

• Please speak with the instructor if you are having difficulty in the course.
• Students often drop courses when help is available that would enable them to continue. I hope you will discuss your plans with your instructor if you feel the need to withdraw.

**Academic Dishonesty:**
Students caught plagiarizing an assignment will receive a “0” on the test or assignment and will be subject to an “F” in the course and possible expulsion from the college. Any testing or exam no phone or notes may be used in Testing Center, Classroom or Lab Practical and may result in a “0” on the assignment and possible “F” and or expulsion.

**Mountain View College Institutional Policies:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Monday</th>
<th>Wednesday</th>
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<tbody>
<tr>
<td>1/28/2019</td>
<td>LEC: Ch 18 Evolution and the Origin of Species LAB 2: Data Collection and analysis</td>
<td>1/30/2019, Evolution of Populations LAB 3: Classification and Dichotomous Keys</td>
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<td>2/25/2019</td>
<td>LEC: Ch 26 Gymnosperms and Angiosperms LAB 10: Gymnosperms and Angiosperms</td>
<td>2/27/2019, LEC: Ch 30 Plant Tissues LAB PRACTICAL 1 (Labs 1-10): Lab Notebook #1</td>
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**Spring Break March 11 – 15, 2019 No Classes**

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<tr>
<th>Date</th>
<th>Monday</th>
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<tr>
<td>4/8/2019</td>
<td>LEC: Ch 29 Vertebrates LAB 17: Rat Dissection</td>
<td>4/10/2019, LEC: Ch 29 Vertebrates LAB 17: Rat Dissection</td>
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<tr>
<td>5/6/2019</td>
<td>LEC: Ch 46 Ecosystems LAB: Review</td>
<td>5/8/2019, LEC: Ch 46 Ecosystems LAB PRACTICAL 3 (Labs 17-22), Lab Notebook #3 LECTURE EXAM 4 (Ch 44-46) in the testing center Deadline 5/10/2018</td>
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**COMPREHENSIVE FINAL EXAM in CLASS (Date/Time given by instructor)**