

ARIZONA WESTERN COLLEGE  
SYLLABUS

## BIO 182 GENERAL BIOLOGY (MAJORS) II/GE

Credit Hours: 4 Lec 3 Lab 3

SUN# BIO 1182

PREREQUISITES: BIO 181, ENG 101 or 107

NOTE: Credit cannot be received in both BIO 100 and the BIO 181-182 sequence.

## COURSE DESCRIPTION

Additional principles of structure and function of living things at the molecular, cellular, organismic, and higher levels of organization. Includes evolution, organismal biology of bacteria, archaea, fungi, plants and animals, population biology, and ecology.

## 1. COURSE GOALS

- 1.1 BIO 182 is the second semester of a two semester introductory Biology sequence (General Biology I and General Biology II) which is intended for students majoring in the life sciences.
- 1.2 BIO 181 is a prerequisite for this course. BIO 181 introduces the study of molecular and cellular levels of Biology and genetics. BIO 182 includes the topics of evolution, the diversity of life, ecology, and the structure and function of bacteria, archaea, fungi, plants and animals.
- 1.3 Successful completion of BIO 181 – BIO 182 sequence will provide students with a firm background of pursue upper division Biology courses at the university level.
- 1.4 The two-course sequence will transfer to the state universities to fulfill core requirements in the Biological sciences.
- 1.5 This course emphasizes the methods of science and a global view of ecological processes.
- 1.6 Students cannot receive academic credit for BIO 100, Biology Concepts, and the BIO 181-182 sequence.

## 2. OUTCOMES

Upon satisfactory completion of this course, students will be able to:

- 2.1 explain why the concept of evolution is considered the most important unifying concept in the study of life's diversity.
- 2.2 explain the mechanisms of evolutionary change, and the processes of natural selection, adaptation, and speciation.
- 2.3 summarize, and discuss the significance of key events in the history of life on earth.
- 2.4 identify and characterize the major taxonomic groups of bacteria, archaea, fungi, plants and animals, and trace their evolutionary relationships.
- 2.5 outline the current thinking on human origins and evolution.
- 2.6 identify and discuss the basic structure and function of plant and animals at the levels of the tissues, organ systems, and the whole organism.
- 2.7 explain how anatomy, physiology, and behavior of species represent adaptations molded by natural selection for survival in the natural environment.
- 2.8 describe how ecological processes are reflected in patterns of population growth and demography.
- 2.9 describe how populations of a community interact through competition, predation, and symbiosis.
- 2.10 explain how energy flow and Biogeochemical cycling influence ecosystems and the biosphere.
- 2.11 discuss the view of Earth's biosphere as a single closed, interacting system.
- 2.12 discuss the role of biological diversity in the functioning of ecosystems.
- 2.13 explain the scope of human impact on Earth's ecosystems and the concept of conservation ethics.

3. AWC GENERAL EDUCATION (GE) CATEGORY & CRITERIA\_ NATURAL SCIENCES
  - How to describe, explain, and predict natural phenomena using scientific, logical, and quantitative reasoning and empirical evidence from observation and experimentation
  - How to critically evaluate scientific information, including visual displays and quantitative data
  - How the tools and techniques of the natural sciences are applied to global and local issues such as sustainability, climate change, etc.
  - The importance of examining assumptions about the natural world and the implications those assumptions have for individual and societal decisions
  
3. METHODS OF INSTRUCTION
  - 3.1 Lectures
  - 3.2 Laboratory exercises
  - 3.3 Powerpoint presentations
  - 3.4 Videos
  - 3.5 Classroom demonstrations
  - 3.6 Discussion
  - 3.7 Research project and report
  - 3.8 Internet activities
  
4. LEARNING ACTIVITIES
  - 4.1 Students read assigned course material and attend lecture and laboratory meetings
  - 4.2 Demonstrations, audio-visual materials, videos, discussion, and internet activities are utilized as appropriate.
  - 4.3 Students often work cooperatively during laboratory activities.
  - 4.4 A research project and written report is required.
  
5. EVALUATION
  - 5.1 Laboratories
  - 5.2 Exams
  - 5.3 Quizzes
  - 5.4 Research projects and reports
  
6. STUDENT RESPONSIBILITIES
  - 7.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
  - 7.2 Classroom Assignments: Students are responsible for work missed and for completing all work before the next class meeting. Students are responsible for participating in all oral drills and for taking all exams.
  - 7.3 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
  - 7.4 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
  - 7.5 Academic Integrity: Any student participating in acts of academic dishonesty including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
  - 7.6 Textbooks and materials: Students are required to bring notebook or looseleaf book,

pens, pencils, dictionaries, and purchase textbook required for class.

7.7 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for "No Show" reporting during the first 10 days of each semester.

Students who have enrolled but have never attended class may be issued a "No Show" (NS) grade by the professor or instructor and receive a final grade of "NS" on their official academic record.

An NS grade may result in a student losing their federal financial aid.

For online classes, *student attendance in an online class is defined as the following* (FSA Handbook, 2012, 5-90):

- Submitting an academic assignment
- Taking an exam, an interactive tutorial or computer-assisted instruction
- Attending a study group that is assigned by the school
- Participating in an online discussion about academic matters
- Initiating contact with a faculty member to ask a question about the academic subject studied in the course