ARIZONA WESTERN COLLEGE
SYLLABUS

ENV 101 ENVIRONMENTAL SCIENCE
Credit Hours: 4 Lec 3 Lab 2 Rec 1

GENERAL EDUCATION COURSE: G (Global Awareness)

PREREQUISITE: None

COURSE DESCRIPTION
Introduction to the interrelationships of biological, chemical, and geological cycles and their hazards to urbanized societies, and the impact of modern society on earth's habitats and resources.

1. COURSE GOALS
   - 1.1 Provide an introduction to the scientific method and scientific thinking.
   - 1.2 Introduce students to the ecological relationships between organisms and the environment, and to how the environment functions to influence the patterns of biotic communities.
   - 1.3 Focus attention on the human impacts to the environment and on environmental processes.
   - 1.4 Improve student writing skills is addressed through assigned papers, essay style test questions, and written laboratory assignments.
   - 1.5 Apply simple mathematics and quantitative thinking to environmental processes and problem.
   - 1.6 Apply scientific thinking and quantitative skills will to simple problems of data analysis and interpretation to develop skills for evaluating environmental processes and problems.

2. OUTCOMES
   Upon satisfactory completion of this course, students will be able to:
   - 2.1 describe the nature of science and apply the processes of scientific inquiry to the environment and environmental problems.
   - 2.2 explain the processes that create the Earth's climate.
   - 2.3 describe the distribution of the Earth's major biomes and the factors affecting their distribution.
   - 2.4 explain exponential and logistic population qualitatively, as well as the consequences of population growth arising from these two models.
   - 2.5 discuss the problems associated with human population growth, and how these problems vary in Developed and Developing Nations.
   - 2.6 diagram the key biogeochemical cycles of the Earth, and explain how they influence and interact with living organisms and ecosystem processes.
   - 2.7 identify the major human impacts on the environment, including but not limited to industrialization and agriculture.
   - 2.8 discuss the major patterns and causes of decreases in air and water quality.
   - 2.9 discuss and apply the methodology of risk assessment to evaluate risks associated with physical, chemical, and other types of hazards.
   - 2.10 discuss the major issues in the current debate about global warming and ozone depletion, and apply scientific thinking to the evidence bearing on these issues.
   - 2.11 identify strategies for mitigation of human environmental impacts, including but not limited to, biological agriculture, legislative control of air and water pollution, alternative energies, etc.

3. AWC GENERAL EDUCATION (GE) OUTCOMES
   - 3.1 DIGITAL LITERACY
     - Determine the extent of information needed
     - Access the needed information effectively and efficiently
     - Evaluate information and its sources critically
     - Incorporate selected information into one's knowledge base

- Use information effectively to accomplish a specific purpose

3.2 COMMUNICATION

- Write effectively and intelligently for a range of purposes and audiences in the English language (e.g., informing, persuading, advancing an argument, expressing, creating, etc.)
- Provide writing that presents a clear, specific thesis and awareness of audience
- Fully develops examples to support thesis in logical, coherent manner demonstrates original thinking, depth of analysis, and comprehension of material used and that shows high proficiency in standard English grammar, spelling, and punctuation

3.3 QUANTITATIVE ANALYSIS

- Identify and extract relevant data from given mathematical or contextual situations
- Select known models or develop appropriate models that organize the data into: tables or spreadsheets (with or without technology); graphical representations (with or without technology); symbolic/equation format
- Obtain correct mathematical results and state those results with appropriate qualifiers and use the results to: determine whether they are realistic in terms of original data/problem; determine whether the mathematical model/representation of data is appropriate; describe trends in a table, graph, or formula and make predications based on these trends; draw qualitative conclusions in written form; apply them to real world problems

3.4 SCIENTIFIC LITERACY

- Distinguish between a scientific hypothesis and scientific theory
- Describe the scientific method as a process
- Utilize data to communicate and apply an understanding of scientific logic and/or quantitative
- reasoning
- Analyze an article in popular literature that pertains to science and interpret the findings in terms
- of public policy, personal experience, or daily life

3.5 CIVIC DISCOURSE

- Describe historical, cultural, and political issues relevant in contemporary local, national, and global communities
- Analyze how such issues affect various local, national, and global regions, communities, and individuals
- Study of a scientific discipline that includes ecological and environmental interrelationships.
- Examine past human events in a sequential manner.
- Use broad historical views, showing the interconnectedness of events/ideas/creations/themes/theories.
- Analyze sources of information that interpret human developments, ideas and institutions in the sequence or sequences of past events (example: a course that covers not only what happened in the past, but examines the historical influences that explain why this past occurred as it did or why present human developments have occurred).

4. METHODS OF INSTRUCTION

4.1 Lectures
4.2 Laboratory exercises
4.3 Slide presentations
4.4 Films/videos
4.5 Classroom demonstrations
4.6 Recitation and discussion
4.7 Research project and report
4.8 Internet activities
4.9 Local field trips

5. LEARNING ACTIVITIES
   - 5.1 Assigned reading material
   - 5.2 Lecture and laboratory meetings
   - 5.3 Viewing audio-visual materials, films
   - 5.4 Laboratory activities
   - 5.5 Field trips
   - 5.6 Writing Assignments

6. EVALUATION
   - 6.1 Laboratory exercises
   - 6.2 Quizzes
   - 6.3 Term paper
   - 6.4 Final exam

7. STUDENT RESPONSIBILITIES
   - 7.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
   - 7.2 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.
   - 7.3 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.
   - 7.4 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.
   - 7.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
   - 7.6 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