

ARIZONA WESTERN COLLEGE
SYLLABUS

AST 100 ASTRONOMY/GE

Credit Hours: 4 Lec 3 Lab 3

PREREQUISITE: None

COURSE DESCRIPTION

A survey of stars, planets, galaxies, and life in the cosmos. Evolution of the stars; planet formation and global change; origin and destiny of the universe; space exploration and the search for extraterrestrial intelligence.

1. COURSE GOAL

The student will be informed as to the state of knowledge of the solar system, the sun, the stars, the galaxies, current theories of the nature of stellar evolution, and cosmology.

2. OUTCOMES

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

- 2.1 describe the differences between planets, stars, solar systems, galaxies, and the universe.
- 2.2 show the relationship of the planets to the sun by sketch or drawing of the solar system.
- 2.3 name the planets of the solar system.
- 2.4 show an understanding of solar processes by outlining the nuclear processes proposed in the sun.
- 2.5 show the relationship of the sun and other stars of the Milky Way Galaxy by sketch or drawing of the galaxy.
- 2.6 describe the origin of day and night, the phases of the moon, and the seasons of the year.

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
- The use of experimentation and/or observation to study natural phenomena, using the scientific method
- How to communicate information about the natural world using written, numeric, and/or visual formats; and when possible, how to use computational/simulation programming environments as a method for solving systems and simulating theoretical or experimental data
- The history of scientific development
- 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 investigating and understanding how natural phenomena varies by culture and location, including perspectives of indigenous peoples
- The importance of examining assumptions about the natural world and the implications those assumptions have for individual and societal decisions

4. METHODS OF INSTRUCTION

- 4.1 Lectures
- 4.2 Laboratory exercises
- 4.3 Homework assignments
- 4.4 Night viewing sessions
- 4.5 Videotapes and other multimedia materials

5. LEARNING ACTIVITIES

- 5.1 Reading assignments will be made to the students in the text and outside materials. The subject matter will be discussed by the professor and the students with the assistance of appropriate audiovisual and multimedia aids.
- 5.2 The student will prepare a research essay on a problem that involves astronomy in order to demonstrate the ability to collect, coordinate and communicate in writing, the concepts and ideas of the subject.
- 5.3 The student will perform a number of laboratory exercises, both written and computer-based to gain a knowledge of the nature of astronomical observation and measurement, calculations, and management of data
- 5.4 Several laboratory periods will be used for observing the sky at night in order that the student may become acquainted with the subject medium.
- 5.5 The student will participate in short quizzes and class-long examinations.
- 5.6 The student will complete textbook-based homework assignments.

6. EVALUATION

- 6.1 The student will be graded on the completion of homework assignments.
- 6.2 The student will be graded on the completion and submission of the research essay.
- 6.3 Critical thinking and writing are required in the research paper. The paper will be graded on form, grammar, and spelling as well as on content.
- 6.4 Writing ability will be evaluated in essay questions on the examinations.
- 6.5 The student will be graded on participation in problem solving sessions.
- 6.6 The student will be graded on the laboratory work and reports.
- 6.7 The student will be graded on several quizzes, examinations, and the final examination.
- 6.8 The majority of the grade will be determined by the in-class and final examinations, with the remainder determined approximately equally by the essay, labs, quizzes and participation, and homework.

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