ARIZONA WESTERN COLLEGE
SYLLABUS

CHM 130 FUNDAMENTAL CHEMISTRY/GE
Credit Hours: 4 Lec 3 Lab 3
SUN# CHM 1130

PREREQUISITES: MAT 121 or approved higher level math

NOTE: Not recommended for chemistry majors. Credit cannot be received in both CHM 130 and CHM 151.

COURSE DESCRIPTION
Fundamental laws and principles of inorganic chemistry for students with little or no background in chemistry. Properties of matter are developed from the structure of atoms and molecules. Experiments demonstrate techniques and connect observation with theories.

1. COURSE GOALS
   - 1.1 Explain and apply the basic laws of chemistry and principles of chemical reactions.
   - 1.2 Discuss the local and global relevancy of chemical principles and ideas in the environment and the marketplace.

2. OUTCOMES
   Upon satisfactory completion of the course, students will be able to:
   - 2.1 name compounds when supplied with a compound's molecular formula and write a compound's molecular formula when supplied with its name.
   - 2.2 identify the various periodic distinctions and trends of the elements in the periodic table.
   - 2.3 balance chemical equations and calculate mole-mass relationships and other stoichiometric relationships from relevant data.
   - 2.4 convert between and among metric units.
   - 2.5 predict ideal gas behavior and properties under different conditions pressure, temperature, volume, and quantity of gas.
   - 2.6 identify and describe the three sub-atomic particles of atoms.
   - 2.7 classify the physical states of matter and the phase changes between the physical states of matter.
   - 2.8 predict bonding types between atoms and molecules.
   - 2.9 predict acid-base chemistry and changes in pH to aqueous solutions.
   - 2.10 calculate the concentration of solutes in aqueous solutions.
   - 2.11 predict changes in equilibrium when stress is applied to either the reactants or products.
   - 2.12 predict the products formed in a spontaneous radioactive nuclear decay reaction.

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
   - 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.

4. METHODS OF INSTRUCTION
   - 4.1 Lecture
   - 4.2 Demonstrations
   - 4.3 Instructional technology

4.4 Group
4.5 Laboratory exercises

5 LEARNING ACTIVITIES
5.1 Chapter problems
5.2 Chemistry laboratory experiments
5.3 Writing assignments

6 EVALUATION
6.1 Exams
6.2 Final exam
6.3 Quizzes
6.4 Laboratory exercises
6.5 Writing assignment

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