



CHM 130 FUNDAMENTAL CHEMISTRY

SYLLABUS

Credit Hours: 4 Lec 3 Lab 3

CHM 1130

General Education Course: G (Global Awareness)

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 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:

1. Name compounds when supplied with a compound's molecular formula and write a compound's molecular formula when supplied with its name.

2. Identify the various periodic distinctions and trends of the elements in the periodic table.
3. Balance chemical equations and calculate mole-mass relationships and other stoichiometric relationships from relevant data.
4. Convert between and among metric units.
5. Predict ideal gas behavior and properties under different conditions pressure, temperature, volume, and quantity of gas.
6. Identify and describe the three sub-atomic particles of atoms.
7. Classify the physical states of matter and the phase changes between the physical states of matter.
8. Predict bonding types between atoms and molecules.
9. Predict acid-base chemistry and changes in pH to aqueous solutions.
10. Calculate the concentration of solutes in aqueous solutions.
11. Predict changes in equilibrium when stress is applied to either the reactants or products.
12. Predict the products formed in a spontaneous radioactive nuclear decay reaction.

3. **METHODS OF INSTRUCTION**

- 3.1 Lecture
- 3.2 Demonstrations
- 3.3 Instructional technology
- 3.4 Group
- 3.5 Laboratory exercises

4. **LEARNINGACTIVITIES**

- 4.1 Chapter problems
- 4.2 Chemistry laboratory experiments
- 4.3 Writing assignments

5. **EVALUATION**

- 5.1 Exams
- 5.2 Final exam
- 5.3 Quizzes

5.4 Laboratory exercises

5.5 Writing assignment

6. **EVALUATION AND GRADING & ASSIGNMENTS:**

Evaluation will be based on the following three criteria:

6.1 Attendance and participation in the class.

6.2 Passing to semester based exams and comprehensive final exam.

6.3 Completion of all class quizzes, assignments and laboratory exercises as assigned throughout the semester.

Attendance and participation (512 points, 39% of final grade):

There are 32 scheduled meetings. Each meeting is worth 16 points for a total of 512 points. In order to get full points students must attend on time (5 points will be deducted for every 5 minutes a student is late for class) and fully participate in the class.

Exams (500 points, 38% of final grade)

Class quizzes, assignments and laboratory exercises (288 points, 23% of final grade)

7. **STUDENT RESPONSIBILITIES**

7.1 Under SCAC 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: SCAC 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.

- 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 SCAC Student Code of Conduct.
- 7.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
- 7.6 College students are expected to attend every class session in which they are enrolled.

Instructor Information

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