

Chemistry

Course # EAES 1013

Credits 6

Pre-requisites and Co-requisites: None

Course Description

Chemistry 1 introduces the fundamentals of chemical bonding, properties of matter, solution-phase chemistry, thermochemistry, equilibrium, kinetics, and nuclear chemistry. Chemistry at the microscopic and macroscopic level is explored with emphasis on the Earth and environmental context, including atmospheric chemistry, aqueous chemistry, and solid-state structure. Applications of chemistry in the modern world and its impact on humans and the environment will be explored throughout the course.

Course Learning Outcomes

Upon completion of the course, students are expected to be able to:

- Discuss how chemistry makes powerful contributions to understanding and managing the Earth, environment, and human society.
- Describe the basic chemical principles.
- Apply equations to quantitatively describe aqueous systems, systems at equilibrium, ideal gases, and the thermochemistry of a system.
- Predict molecular structure based on a chemical formula and write chemical equations that describe simple reactions in aqueous solution.
- Practice virtual laboratory work (online experimental procedures)

Course Assessments and Grading

Item	Weight (%)
Contribution	10
Group Assignment: Chemistry in our World	15

Item	Weight (%)
Problem Sets 4 set 2 pion each	8
Quiz 3 quizzes 3 point each	9
Laboratory Exercises	8
Mid-term exam	20
Final Exam	30