

Course Outline for: CHEM 1000 Real World Chemistry**A. Course Description**

1. Number of credits: 3
2. Lecture hours per week: 3
3. Prerequisites: None
4. Corequisites: None
5. MnTC Goals: Goal #3 - Natural Sciences

This course, designed for non-science majors, is an introduction to basic chemical concepts and principles with an emphasis on a conceptual understanding of chemistry. Topics will focus on various applications of chemistry in the world today. This course is suitable for students who may not have a strong math or science background.

B. Date last reviewed: March 2023**C. Outline of Major Content Areas**

There are four "Tools of a Chemist" topics that are taught in every CHEM 1000 section. These include the following:

1. The scientific method as a problem-solving tool
2. Analyzing scientific information
3. Atoms, molecules, elements, and compounds
4. Chemical reactions

Additional topics will be included at the discretion of the instructor. These may include:

1. Evaluating reliability of scientific claims
2. Forensics
3. Food and Chemistry
4. Chemistry and Art
5. Designer Drugs
6. Chemistry and the Environment
7. Pseudoscience
8. Automotive chemistry
9. Consumer products
10. Alternate fuels

D. Course Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Demonstrate an understanding of basic chemical principles and theories and apply them to describing the physical world. (Goal 3a,d)
2. Demonstrate an understanding of how chemists approach problem solving. (Goal 2a,c and 3a)
3. Communicate opinions and ideas as well as experimental data, analyses, and conclusions. (Goal 2d and 3c,d)

E. Methods for Assessing Student Learning

Methods for assessment may include, but are not limited to, the following:

1. Homework
2. exams/quizzes
3. special projects
4. group work
5. semester-long capstone project

F. Special Information

None