

CHEM 107 Syllabus

CHEM 107: Fundamentals of Chemistry

Course Description: Atomic/molecular theory, gases, liquids, solids, solutions, acid/base and oxidation/reduction reactions, kinetics, selected topics. Quantitative reasoning but with less focus on mathematical calculations than CHEM 111/CHEM 113. For students in science-related programs requiring one semester of general chemistry.

Prerequisite: MATH 117 or placement out of MATH 117 or MATH 141 or MATH 155 or MATH 160 or MATH 161 or MATH 229 or MATH 261 or concurrent registration in MATH 141 or MATH 155 or MATH 160 or MATH 161 or MATH 229 or MATH 261.

Course Policies: Descriptions of course expectations, time demands, required materials, attendance policies, assignments, grading policy, academic integrity, accommodations for disability, and other course policy details can be found in supplementary handouts distributed in class along with this syllabus, as well as on the course Canvas site.

Learning Objectives and the GT Pathways Program:

The Colorado Commission on Higher Education has approved CHEM 107 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-SC2 category. For transferring students, successful completion with a minimum C- grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, see <http://higher.ed.colorado.gov/academics/transfers/gtpathways/curriculum.html>

The content criteria and student learning outcomes (SLOs) listed below are required for GT-Pathways courses in the Natural and Physics Sciences content area, in the GT-SC2 (Lecture course without required laboratory) category. The peculiar numbering of the SLOs is due to the fact that they are excerpted from a comprehensive list of SLOs across all GT-Pathways courses. The SLOs are listed within categories that the GT-Pathways program calls "competencies" and are displayed in italics below.

Content Criteria:

1. The lecture content of a GT Pathways Science course (GT-SC1 or **GT-SC2**):
 - a. Develop foundational knowledge in the specific fields(s) of science.
 - b. Develop an understanding of the nature and process of science.
 - c. Demonstrate the ability to use scientific methodologies.
 - d. Examine quantitative approaches to study natural phenomena.

Competencies and Student Learning Outcomes:

Inquiry & Analysis:

4. Select or Develop a Design Process
 - a. Select or develop elements of the methodology or theoretical framework to solve problems in a given discipline.

5. Analyze and Intepret Evidence
 - a. Examine evidence to identify patterns, differences, similarities, limitations, and/or implications related to the focus.
 - b. Utilize multiple representations to interpret the data
6. Draw Conclusions
 - a. State a conclusion based on findings

Quantitative Literacy:

1. Interpret Information
 - a. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
2. Represent Information
 - a. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).