CHEM 104 Syllabus

CHEM 104: Chemistry in Context Laboratory

Course Description: Laboratory applications of principles covered in CHEM 103

Prerequisite: CHEM 103 or concurrent registration.

Course Policies: Descriptions of 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 103 for inclusion in the Guaranteed Transfer (GT) Pathways program in the GT-SC1 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://highered.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-SC1 (Lecture course with 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.
2. The laboratory (either a combined lecture and laboratory, or a separate laboratory tied to a science lecture course) content of a GT Pathways science course:
   a. Perform hands-on activities with demonstration and simulation components playing a secondary role.
   b. Engage in inquiry-based activities
   c. Demonstrate the ability to use the scientific method.
   d. Obtain and interpret data, and communicate the results of inquiry.
   e. Demonstrate proper technique and safe practices.

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).