CHEM A020: PROBLEM SOLVING IN ORGANIC CHEMISTRY 1

Item	Value
Curriculum Committee Approval Date	02/09/2022
Top Code	190500 - Chemistry, General
Units	1 Total Units
Hours	18 Total Hours (Lecture Hours 18)
Total Outside of Class Hours	0
Course Credit Status	Credit: Non-Degree Applicable (C)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Pass/No Pass (B)

Course Description

This course covers problem-solving skills and strategies that enhance success in CHEM A220. Topics include problems in organic chemical structure, nomenclature, reactions and reaction mechanisms. COREQUISITE: CHEM A220. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Explain and give examples of common problem-solving skill strategies in organic chemistry.
2. Employ critical thinking and common problem-solving strategies to solve problems and reaction-based problems in the topic areas of Chemistry A220.

Course Objectives

- 1. The student will be able to demonstrate strategies for solving common problems in first semester organic chemistry.

Lecture Content

Students will develop organic chemistry learning skills that will include: 1. Problem solving 2. Textbook utilization 3. Test preparation 4. Test error analysis 5. Utilizing chemistry tutorial material 6. Analyzing decision making processes

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Instructional Techniques

Lecture, demonstration, problem assignments, and discussion.

Reading Assignments

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Writing Assignments

Assignments will include some questions requiring the writing of sentence explanations and/or descriptions. Students will be expected to analyze questions and generate answers to them. Some answers will be in the language of mathematics, some will be written in English, and some will be given in graphical drawings that represent chemical structures. Some questions will require the use of principles to synthesize an answer which was not taught. Students will spend approximately 2-3 hrs per week outside of class on these assignments for a total of 36 hours for the semester.

Out-of-class Assignments

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Demonstration of Critical Thinking

This course is designed as a companion course to Chemistry A220, Organic Chemistry A. The evaluation will be Credit/No Credit, based on the satisfactory completion of the assignments of the course

Required Writing, Problem Solving, Skills Demonstration

Assignments will include some questions requiring the writing of sentence explanations and/or descriptions. Students will be expected to analyze questions and generate answers to them. Some answers will be in the language of mathematics, some will be written in English, and some will be given in graphical drawings that represent chemical structures. Some questions will require the use of principles to synthesize an answer which was not taught.

Eligible Disciplines

Chemistry: Master's degree in chemistry OR bachelor's degree in chemistry or biochemistry AND master's degree in biochemistry, chemical engineering, chemical physics, physics, molecular biology, or geochemistry OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Klein, David. Organic Chemistry as a Second Language: First Semester Topics, 4th ed. New York: Wiley Sons, Inc., 2016