



CHEM 2325

Division: Natural Science and Mathematics

Department: Chemistry

Course: CHEM 2325

Title: Organic Chemistry Laboratory II

Catalog Description:

This is the second semester organic chemistry laboratory that reinforces the fundamental principles of organic chemistry through laboratory experiences. It includes synthesis reactions and isolation of natural products. This lab course is designed for pre-professional majors as well as Chemistry majors.

General Education Requirements: N/A

Semesters Offered: Spring

Credit/Time Requirement: Credit: 1; Lecture: 0; Lab: 3

Clock/Hour Requirements: 0

Offered for Non-Credit: No

Prerequisites: CHEM 2310 and CHEM 2315 (formerly 2330)

Corequisites: CHEM 2320

Justification:

This course is offered by Chemistry departments at most institutions in the state and will transfer to all of them. It will provide students majoring in Chemistry or other pre-professional areas a detailed laboratory course in organic syntheses and natural product isolation.

Student Learning Outcomes:

Students will have a working knowledge of chemical reactivity, physical properties, preparation, nomenclature and synthesis of organic compounds.

Content:

Typical labs include: organic laboratory safety, infrared spectrometry, aldehydes and ketones, alcohols, aspirin synthesis, Grignard reactions, and perfume synthesis.

General Education Outcomes:

7) Apply scientific reasoning to a variety of contexts.

Students will be able to approach problems logically and come to a solution based on chemical principles. This will include their ability to apply reaction knowledge to syntheses and laboratory techniques in the isolation, purification, and identification of products. The successful achievement of this outcome will be illustrated in the written answers in their laboratory notebooks and the level of achievement will be determined by the grade they receive on these assignments.

Key Performance Indicators:

Students will be assessed through laboratory reports (75%) and occasional lab quizzes and pre-labs (10%). At the end of the semester a lab final or review experience (15%) will help the student integrate the laboratory experience with the other areas of chemistry. Percentages are approximate.

Representative Text and/or Supplies:

In house laboratory book

Optimum Class Size: 15

Maximum Class Size: 22

Signatures:

I hereby submit this course syllabus:

Dan Black, EdD, Associate Professor

I hereby find this course consistent with the goals and resources of the Chemistry Department:

Mark Wathen, PhD, Assistant Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)