



CHEM 2315

Division: Natural Science and Mathematics

Department: Chemistry

Course: CHEM 2315

Title: Organic Chemistry Laboratory I

Catalog Description:

This is an organic chemistry laboratory that reinforces the fundamental principles of organic chemistry through laboratory experiences. It includes basic techniques common to the organic chemistry laboratory and simple synthesis reactions. This lab course is designed for pre-professional majors as well as Chemistry majors.

General Education Requirements: N/A

Semesters Offered: Fall

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

Clock/Hour Requirements: 0

Offered for Non-Credit: No

Prerequisites: CHEM 1210 and CHEM 1230

Corequisites: CHEM 2310

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 techniques and beginning syntheses.

Student Learning Outcomes:

Students will be assessed on a weekly basis through laboratory reports and occasional lab quizzes and pre-labs. Homework in the form of pre-lab exercises will be assigned from time to time to give students the opportunity to check their own progress. At the end of the semester a lab final or review period will help the student integrate the laboratory experience with the lecture material.

Content:

Typical labs include: Organic Compounds Overview, Introduction to Organic Chemistry Safety, Recrystallization (I and II), Melting Points, Distillation, Extraction (I and II), Gas Chromatography (I and II), SN2 - 1-Br butane (I and II), Spectroscopy (I and II), and Lab Review and Final.

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.

Key Performance Indicators:

Students will be assessed on a week by week basis through laboratory reports and occasional lab quizzes and pre-labs. Homework in the form of pre-lab exercises will be assigned from time to time to give students the opportunity to check their own progress. At the end of the semester a lab final or review period will help the student integrate the laboratory experience with the lecture material.

Representative Text and/or Supplies:

Williamson, Macroscale and Microscale Organic Experiments, 3rd Edition, Houghton Mifflin Publishing, Boston, MA., 1999 (or current edition)

Optimum Class Size: 15

Maximum Class Size: 22

Signatures:

I hereby submit this course syllabus:

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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)