PARKLAND COLLEGE

Course Information Form (CIF)

Course Code: CHE 206 (IAI CHM 914)

Course Title: Organic Chemistry Lab II

Department: Natural Sciences
PCS Code: 1.1 - Baccalaureate/Transfer
CIP Code: 40.0504
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 1-3-2
Credit Hour Distribution:

Lecture: 1	Lab: 3	Clinical: 0	**Total: 2**

General Course Information

Catalog Description

Continued exploration of laboratory techniques relevant to synthesis, isolation, purification, and identification of organic compounds. Multi-step synthesis and qualitative identification are included.

General Course Objectives

Applying the concepts of organic chemistry to practical experiments in the lab. This will augment and supplement the lecture material learned in CHE 205, Organic Chemistry II.

Minimum Placement Levels

English	Reading	Math
None	Placement out of CCS 098	None

Prerequisites

Credit in CHE 204 with a grade of C or higher

Recommended before enrolling (not required):
Credit or concurrent enrollment in CHE 205

Methods of Evaluation

9-13 laboratory reports, midterm, final, lab practical, and project (involves reading and writing applicable to lab).

Instructional Materials and Additional Supplies

The Organic Chem Lab Survival Manual, James W. Zubrick, current edition.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Introduction to Lab, Safety, Check-In, Organic Spectroscopy	1. Explain lab policies. 2. Practice chemistry safely. 3. Perform an infrared spectrum; interpret an infrared spectrum. 4. Interpret nuclear magnetic resonance spectra (carbon and proton).	1	3	0
Diels-Alder Reaction	1. Perform a Diels-Alder reaction and identify the products. 2. Perform a UV-Visible spectrum and interpret the results.	1	3	0
Electrophilic Aromatic Addition	1. Perform an electrophilic aromatic addition reaction; isolate, purify, and identify the products.	1	3	0
Organometallic Reactions	1. Perform an organometallic reaction; isolate, purify, and identify the products. 2. Exhibit the ability to perform the following techniques: 1) dry equipment; 2) set up a reflux under dry conditions with an addition funnel.	2	6	0
Reduction	1. Perform a reduction reaction and isolate, purify, and identify the product.	1	3	0
Qualitative Analysis I	1. Recognize, characterize, and identify compounds by means of chemical analysis and spectroscopic evidence.	2	6	0
Multi-Step Synthesis	1. Perform multiple steps in order to synthesize a compound; isolate, purify, and characterize the intermediate and final products.	3	9	0
Esterification	1. Perform an esterification reaction and isolate, purify, and identify the product.	1	3	0
Aldol Condensation	1. Perform an aldol condensation reaction and isolate, purify, and identify the product.	1	3	0
Diazonium Salts	1. Perform a diazonium salt reaction and characterize the product.	1	3	0
Research Project	1. Demonstrate the ability to find and interpret original research journal articles.	1	3	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	45	0