

# Course Abstract

*If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.*

*To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.*

## Course ID and Name: CHM 228 Organic Chemistry II Lab

**Department:** Department of Natural Sciences

**Chairperson:** Dr. Donna Howell

**Office Location:** SH 104

**E-mail Address:** DHowell@middlesexcc.edu

**Telephone:** 732.906.2592

**Prerequisites:** CHM 221 lecture with a grade of "C" or better, CHM 227

**Co-requisites:** CHM 222

**Course Description:** Laboratory experience includes the synthesis, characterization and identification of organic compounds using modern spectroscopic techniques: IR,  $^1\text{H-NMR}$ ,  $^{13}\text{C-NMR}$ , and Mass Spectrometry (MS). Introduction to basic techniques of chromatography (GC, HPLC) are also included.

**General Education Status:** GE.MST

**Credits:** 1

### Learning Outcomes:

1. Be able to recognize the importance of safety in a chemistry laboratory and practice appropriate safety rules and policies whenever conducting an experimental investigation.
2. Be able to perform a given chemical synthesis of compounds.
3. Be able to purify, identify, and recover organic compounds using a variety of techniques.
4. Be able to demonstrate the ability to collect, organize and analyze laboratory data.
5. Be able to gain working knowledge of spectra as used to identify organic compounds.
6. Be able to utilize the scientific method.

### Course Content Areas:

1. Synthesis, characterization and identification of organic compounds using modern spectroscopic techniques.
2. IR
3.  $^1\text{H-NMR}$
4.  $^{13}\text{C-NMR}$
5. Mass Spectrometry
6. HPLC