



Wayne County Community College District

COURSE SYLLABUS

CHM 255 Laboratory for Organic Chemistry I and II

CREDIT HOURS: 4

CONTACT HOURS: 90

COURSE DESCRIPTION:

Preparations, properties, and identification of organic compounds provide the student with basic laboratory skills in organic chemistry (meets six hours per week; six hours laboratory).

PREREQUISITE: CHM 250

COREQUISITE: CHM 252

EXPECTED COMPETENCIES:

Upon successful completion of this course, the student will be able to:

- **Practice proper safety and disposal procedures in an organic chemistry lab with regard to the following**
 - a. flammable substances
 - b. Bunsen burners
 - c. peroxides
 - d. volatile substances
 - e. toxic substances
 - f. gloves
 - g. fire extinguishers
 - h. oxidizers
 - i. corrosives
 - j. caustics
 - k. fume hood
 - l. vacuum
 - m. compressed gas
 - n. spills
 - o. halogenated solvents
- **Maintain an accurate laboratory notebook paying close attention to the following issues**
 - a. Use non-erasable black ink
 - b. Maintain an updated table of contents
 - c. Include Date, Title, and Purpose and Reference for each experiment.
 - d. Include preliminary or background information
 - Balanced equation and Mechanism of main reaction
 - Reference data
 - Side reactions
 - e. Describe the procedure, including clean-up directions
 - f. Record all observations
 - g. Calculate theoretical and percent yields
 - h. Write up conclusions and analyze all results
- **Utilize chemical and physical properties to separate and identify the components of a sample of matter.**
 - a. Calibrate a thermometer.
 - b. Determine the melting point of an organic substance or mixture.
 - c. Determine the boiling point of an organic substance mixture.
 - d. Compare the solubility of various compounds in various solvents.
 - e. Identify compounds based on the reactions that they undergo
 - f. Perform separations of various organic mixtures using the following techniques:
 - Simple distillation



Wayne County Community College District

COURSE SYLLABUS

CHM 255 Laboratory for Organic Chemistry I and II

- Fractional distillation
 - Steam distillation
 - Sublimation
 - Extraction
 - Thin-layer chromatography
- **Perform a variety of organic synthesis reactions including:**
 - a. 1-bromobutane
 - b. adipic acid
 - c. cyclohexanone
 - d. dibenzalacetone
 - e. cyclohexene
 - f. Dyes

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100% = A

80%-89.9% = B

70%-79.9% = C

60%-69.9% = D

<60% = E