

# Minnesota State University Moorhead

## CHEM 185: Introduction to Organic and Biochemistry Lab

### A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: \*.\*

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

To be taken concurrently with CHEM 180. Experiments exploring properties of selected functional groups, enzymes as diagnostic reagents and isolation and properties of carbohydrates, lipids, proteins and nucleic acids. Credit not applicable to a chemistry major or minor.

**B. COURSE EFFECTIVE DATES:** 05/19/1999 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Structure of hydrocarbons.
2. Properties of hydrocarbons.
3. Synthesis of aspirin.
4. The properties and preparation of esters and soaps.
5. Chemical and physical properties of alcohols.
6. What are aldehydes and ketones?
7. Identification of organic compounds.
8. The detection of fats, proteins and carbohydrates in foods.
9. The characterization of carbohydrates.
10. Study of enzymes and inhibitors.
11. Analysis of proteins and amino acids by chromatography.

### D. LEARNING OUTCOMES (General)

1. Understand the influence of society on the practice of science.
2. Make informed decisions and choices about societal issues based on scientific understanding of the underlying phenomena.
3. Identify the functional properties of various ingredients such as essential fatty acids and the role they play in producing enzymes and hormones.
4. Gain experience at applying the scientific method through designing and implementing several experiments and analyzing and drawing conclusions from the results.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted