CHEM 124L: General Organic and Biochemistry Lab

This detailed course description provides information about course topics & content. It is not a course syllabus. Summer 2013 course syllabi are updated in the spring, and may not be available until summer classes begin.

Instructor Information

Instructor	Email	Course Format	Number of Credits
Frank Tyminski	tyminski@umbc.edu	Lab	2

General Information

Course Format

Labs meet two days per week for four hours. Lab lectures will be given each lab day for 50 minutes.

Delivery Format

In-Person

Prerequisite /Co-requisite:

Pre: CHEM 123; Co: CHEM 124

Course Materials

Currently Used Materials

- Bettelheim & Landesberg, "Laboratory Experiments for Introduction to General, Organic and Biochemistry", 7th edition.

Course Objectives/Learning Outcomes:

This course is intended to acquaint students with common laboratory practices used to investigate laboratory systems. The student observes first hand chemical phenomena that were described in CHEM 123.

- Purpose of the steps and procedures in the experiments both practically and how the procedure relates to theory
- Background theory of reaction equations, stoichiometric, kinetic and thermodynamic calculations
- Safety awareness of toxic and corrosive properties of chemicals used
- Names and formulas of compounds used in the experiments

Potential Topics Covered:

Experiments to be performed include:

- Lab Safety
- Lab Techniques: Measurement & Significant Figures

- Density
- pH and Buffers
- Analysis of Vinegar by Titration
- Classification & Identification of Alcohols and Phenols
- Classification & Identification of Aldehydes and Ketones
- Properties of Carboxylic Acids and Esters
- Properties of Amines and Amides
- Preparation of Acetylsalicylic Acid (Aspirin)
- Preparation of a Soap
- Separation of Amino Acids by Chromatography
- Properties of Enzymes

Information for Visiting Students:

Proof of completion of pre-requisite must be supplied if the student did not take CHEM 123 and/or 124 at UMBC.

Additional Information and Resources

The laboratory course is intended to acquaint students with common laboratory practices used to investigate chemical systems. The student gets the opportunity to observe first-hand chemical phenomena that are described in CHEM 123 and CHEM 124. Working in a chemical laboratory requires safe handling of toxic and/or corrosive chemicals. Be sure to read carefully the standard safety procedures for UMBC laboratories on the last page of this syllabus. Also note specific warnings indicated by exclamation points in the margin for each experiment.

Attendance is required at laboratory lectures on Tuesdays. Theory, procedures, and safety considerations for the next week's experiment will be discussed.