

**LAST REVIEW: 2008-2009**

**NEXT REVIEW: 2013-2014**

**STATUS: A**

**COURSE TITLE: Organic Chemistry II Laboratory**

**COMMON COURSE NUMBER: CHM 2211L**

**CREDIT HOURS: 1**

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS: 3**

*(Voc. Course ONLY)*

Lecture:

Lab: **48**

Clinic:

Other:

**PREREQUISITE(S): CHM 2210 and CHM 2210L with a minimum grade of C**

**COREQUISITE(S): CHM 2211**

**PRE/COREQUISITE(S):**

**COURSE DESCRIPTION** *(750 characters, maximum):*

**Appropriate organic laboratory experiments and preparations to complement CHM 2211. Special fee charged.**

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area

General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area

General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

## **UNIT TITLES**

- 1. Laboratory and Safety Rules**
- 2. Laboratory Skills**

## EVALUATION:

Please provide a brief description (250 characters maximum) that details how students will be evaluated on the course outcomes.

**The student will be evaluated by lab reports, mid-term quiz and final, and homework questions.**

*\*\*\* Complete the following only if course is seeking general education status \*\*\**

## GENERAL EDUCATION Competencies and Skills \*:

Please highlight in green font all Competencies/Skills from the list below that apply to this course. In the box to the right of the Competency/Skill, enter all specific learning outcome numbers (i.e. 1.1, 2.7, 5.12) that apply.

1. Read with critical comprehension	
2. Speak and listen effectively	
3. Write clearly and coherently	2.7
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	2.6
5. Demonstrate and apply literacy in its various forms: (highlight in green ALL that apply) (1. technological, 2. informational, 3. mathematical, 4. scientific, 5. cultural, 6. historical, 7. aesthetic and/or 8. environmental)	1. Technological: 2.3, 2.5 4. Scientific: All outcomes
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	2.6, 2.7
8. Demonstrate an understanding of the physical and biological environment and how it is impacted by human beings	
9. Demonstrate an understanding of and appreciation for human diversities and commonalities	
10. Collaborate with others to achieve common goals.	
11. Research, synthesize and produce original work	
12. Practice ethical behavior	
13. Demonstrate self-direction and self motivation	
14. Assume responsibility for and understand the impact of personal behaviors on self and society	
15. Contribute to the welfare of the community	

\* General Education Competencies and Skills endorsed by '05-'06 General Education Task Force

## **UNITS**

### **Unit 1 Laboratory and Safety Rules**

#### **General Outcome:**

**1.0 The students shall be able to: (1) conduct a chemistry experiment using proper safety procedures, (2) recognize and deal with potentially hazardous situations, and (3) demonstrate an understanding for the necessity of safe laboratory procedures.**

#### **Specific Learning Outcomes:**

**Upon successful completion of this unit, the students shall be able to:**

- 1.1 Practice the safety rules as provided by the instructor.**
- 1.2 Explain why these safety rules are important.**
- 1.3 Conduct experiments in accordance with these safety rules.**
- 1.4 Locate and describe the use of safety equipment such as:**
  - 1.4.1 Fire extinguishers**
  - 1.4.2 Fire blanket(s)**
  - 1.4.3 Eye wash**
  - 1.4.4 Safety shower**
  - 1.4.5 First aid kit**
  - 1.4.6 Clean-up spill kits**
  - 1.4.7 Utility shut-offs**

**Common Course Number:** CHM 2211L

**Unit 2 Laboratory Skills**

**General Outcome:**

**2.0 The students shall: be able to demonstrate laboratory skills in the performance of experiments related to topics covered in CHM 2211.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the students shall be able to:**

- 2.1 Identify common laboratory glassware, select the appropriate glassware, and use it to perform a given laboratory task.**
- 2.2 Select, dispense, handle, dilute and dispose of laboratory chemicals safely and properly.**
- 2.3 Operate specific pieces of equipment such as balances, bunsen burners, melting point apparatus, heating mantles, refractometers, polarimeters, infrared spectrophotometers, chromatographic apparatus, etc.**
- 2.4 Properly assemble laboratory apparatus as required for an experiment.**
- 2.5 Perform certain laboratory tasks including melting points, distillations, recrystallizations, refluxing, separations, syntheses, etc.**
- 2.6 Perform chemical and physical tests to identify an unknown compound.**
- 2.7 Maintain an accurate record of procedures, observations, results, and conclusions.**