

Chem 102L Chemistry Laboratory

1 credit

CHAMINADE UNIVERSITY/CCPI

Chaminade University committed to excellence in the liberal arts and career development: we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Laboratory experiments illustrating fundamental principles of chemistry (2 hrs lab.)

STUDENT LEARNING OUTCOMES

1.

Develop an appreciation for the methods of scientific inquiry through computer-based laboratory experiments showing real-time data.

2.

Apply knowledge to determine molar mass of unknown substance using freezing point data of solution.

3.

Apply and articulate the scientific method by preparing lab reports using the standard scientific format. Express in writing core chemistry principles, results of experiments and do critical thinking by synthesizing conclusions based on observations and data.

LEARNING RESOURCES

Required Textbook: Chemistry 162L Laboratory Manual Fall 2011, edited by Colmenares
(use UH email account login and password)

Other Requirements: Scientific Calculator, Internet Access, Lab goggles, closed shoes and a lab gown if you wear short pants/skirt/dress or low-waist pants/skirts.

PURPOSE OF THE LABORATORY COURSE

The chemistry laboratory allows the student to understand some of the theories discussed in the lecture more thoroughly. In the laboratory you will be involved with the processes of scientific inquiry used to discover chemical principles. It is the only way for the student to learn the techniques that are so important in research and in most laboratories. The student will discover that doing quality work in the laboratory requires a great deal of patience and care.

GRADING

The final grade will be based on the following scheme:

13 highest Lab Reports * 70% total Midterm

+ Final Exam 30%

Total 100%

*The lowest lab report score will be deleted.

Course grades will be assigned as follows:

A--90-100%

B--80-89%

C--70-79%

D--60-69%

F--less than 60%.

For grades I, W, Cr, NC--See college catalog,

https://windward.hawaii.edu/Catalogs_Schedules/WCC_Catalog_current.pdf

MODE OF INSTRUCTION

The primary mode of instruction is by hands-on laboratory activities. Each hands-on activity will be preceded by a class discussion based on a pre-lab online homework consisting of a reading assignment and completion of pre-lab questions and problems. The homework and pre-lab may consist of videos, websites, and computer activities.

Conduct of the Lab:

First 45 min Discuss answers to pre-lab assignment problems and questions, review important principles and safety precautions, demonstrate new techniques needed or use of new equipment in the science lab.

Remaining time Perform hands-on activity, record observation and data, calculate results

10 min Clean-up

Last 30 minutes Answer Post-lab questions

TA will check your lab book work and give you the grade you deserve that day.

COURSE POLICIES AND TIPS TO SUCCEED IN THIS COURSE

1.