

LAST REVIEW: 2008-2009

NEXT REVIEW: 2013-2014

STATUS: A

COURSE TITLE: Chemistry for Health Sciences Laboratory

COMMON COURSE NUMBER: CHM 1032L

CREDIT HOURS: 1

CONTACT HOUR BREAKDOWN

(per 16 week term)

CLOCK HOURS:

(Voc. Course ONLY)

Lecture:

Lab: 32

Clinic:

Other:

PREREQUISITE(S): MAT 0024 or Appropriate Assessment Scores

COREQUISITE(S): CHM 1032

PRE/COREQUISITE(S):

COURSE DESCRIPTION *(750 characters, maximum):*

Laboratory exercises to accompany CHM 1032, including inorganic, organic and biochemical experiments. This course does not meet Area 4A or 5 of the General Education Requirements for the A.A. degree.

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

Area

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

Area

UNIT TITLES

1. Laboratory and Safety Rules
2. Laboratory Calculations
3. Laboratory Skills

EVALUATION:

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

Upon successful completion of this course, the students should be able to use the appropriate laboratory equipment to perform laboratory experiments safely on the topics covered in CHM 1032, to collect data accurately and to use that data to calculate a reasonable answer or come to a logical conclusion.

***** 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	
4. Think creatively, logically, critically, and reflectively (analyze, synthesize, apply, and evaluate)	
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)	
6. Apply problem solving techniques to real-world experiences	
7. Apply methods of scientific inquiry	
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	



BROWARD COLLEGE COURSE OUTLINE

* *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 student 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 Measurable Learning Outcomes:

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

- 1.1** List the safety rules as provided by the instructor.
- 1.2** Explain why these safety rules are important
- 1.3** Locate and describe the use of safety equipment such as fire extinguishers, fire blanket(s), eye wash, safety shower, first aid kit, clean-up spill kits, utility shutoffs, etc.
- 1.4** Conduct experiments in accordance with these safety rules.

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Unit 2 Laboratory Calculations

General Outcome:

2.0 The student shall: be able to apply appropriate mathematical tools in arriving at calculated results from experimental data.

Specific Measurable Learning Outcomes:

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

- 2.1** Set up problems and perform calculations related to chemical concepts such as density, stoichiometry, gas laws, thermochemistry, solution chemistry, etc.
- 2.2** Apply the rules of significant figures and rounding as they apply to laboratory data.
- 2.3** Average laboratory data correctly.
- 2.4** Graph laboratory data and evaluate the results.
- 2.5** Perform a percent calculation.
- 2.6** Evaluate the results of a calculation in terms of reasonableness.

Common Course Number: CHM 1032

Unit 3 Laboratory Skills

General Outcome:

- 2.0 The student shall:** be able to demonstrate laboratory skills in the performance of an experiment.

Specific Measurable Learning Outcomes:

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

- 3.1** Identify common laboratory glassware, select the appropriate glassware, and use it to perform a given laboratory task.
- 3.2** Select, dispense, handle, dilute and dispose of laboratory chemicals safely and properly.
- 3.3** Operate specific pieces of equipment including balances, burets, barometers, thermometers, bunsen burners, etc.
- 3.4** Properly assemble laboratory apparatus as required by an experiment.
- 3.5** Perform certain laboratory tasks including determining melting and boiling points, titrations, filtrations, calorimetry, colorimetry, qualitative tests for functional groups, etc.
- 3.6** Discriminate between objective observation and subjective interpretation.
- 3.7** Perform chemical and physical tests to identify an unknown compound by drawing logical conclusions from the observed