



**Florida A&M University
Department of Chemistry**

CHM 1045 Lab Syllabus

COURSE SYLLABUS	
Course Number: CHM 1045L Prerequisite(s): Co-requisite:	Course Title: General Chemistry I Laboratory
Course Credit: 1	Course Hours: 2.5 per week
College: College of Science and Technology Department: Chemistry	Required Text(s): The laboratory manual, Experiments In General Chemistry, 6 th Edition by Peter Cottrell, Jesse Edwards, & Richard A. Ford, Jr.,
Faculty Name: Dr. Sanuja Pitigala	Term and Year: Fall 2023 Place and Time: 401 Jones Hall
Office Location: Dyson Pharmacy 131	e-mail: sanuja.pitigalaarach@fam.u.edu

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday
	9.15-10.15am		9.15-10.15am		By appointments

Curriculum Status: Required for chemistry, Biology, Pharmacy and engineering majors.

INTRODUCTION

General Chemistry I Laboratory (CHM 1045L) is the first course of a sequence of two laboratory courses primarily for students who are in science or science-related majors. In this laboratory course, students will have an opportunity to observe some of the phenomena of matter and obtain practical skills in using various items of laboratory equipment. Upon completion of this course students should have a deeper and more concrete understanding of the experimental science of chemistry.

There are 5 different laboratory exercises scheduled to be done during the weeks specified in the SCHEDULE section of this outline. Because of the large number of laboratory sections and the full use of time available during the semester, there will be no opportunity to make individual laboratory exercises.

Appointments for office visits other than during scheduled office hours may be made on an individual basis for the mutual convenience of the students and instructor.

Note

Students should observe signage or otherwise sit, stand, and situate themselves in the seating arrangement identified by their instructor. Disruptive students may face disciplinary action for Student Code of Conduct violations. Students may consult with the Center for Disability Access and Resources (CeDAR) for accommodations, as necessary.

Finally, students who are experiencing COVID-19 related symptoms must not attend class in person and are encouraged to contact a health care provider. Students must report their absence to the course instructor. Alternatively, students may contact Student Health Services to report their absence, who will work with the student to communicate with the course instructor.ö

LABORATORY OBJECTIVES

There are several objectives of the laboratory course. Among these are to:

- a. Train students to observe and follow the standard safety practices while doing experiments.
- b. Provide a means for students to examine, analyze, and verify chemical principles by carrying out simple exercises in the laboratory.
- c. Provide an opportunity for students to practice making careful observations and measurements, and to perform critical analyses of the observations made and data obtained.
- d. Train students to carry out laboratory exercises using standard techniques, while keeping a record of the observations made and data obtained.

Academic Learning Compact

As a result of your experience at FAMU chemistry students should be able to communicate chemical concepts in oral and written laboratory reports. Your reports should discern what you think happened from what indeed did occur based on sound chemical reasoning. You are to interpret laboratory data, measurements, procedures and results. Eventually, you should solve chemical problems and design and evaluate experiments. After taking this class you will be able to recognize potentially hazardous substances and reactions. You should be able to make effective use of information resources and use a computer to gain information about chemical compounds and reactions.

LABORATORY MATERIALS

The following materials will be required for the laboratory:

- a. Laboratory safety glasses
- b. The laboratory manual, Experiments In General Chemistry, 6th Edition by Peter Cottrell, Jesse Edwards, & Richard A. Ford, Jr., which is available at the University Bookstore.
- c. Laboratory coat
- d. Experiment In General Chemistry Lab Safety & Techniques DVD

Safety

Students must always wear eye protection and laboratory coats when they are doing the laboratory exercises. **There are no exceptions to this requirement.** Students not having eye protection and laboratory coat cannot remain in the laboratory.

- a. Wear approved eye protection at all times.
- b. Never eat, drink or smoke in a chemical laboratory
- c. If any glassware is broken, it should be cleaned up by the student.
- d. Never perform an unauthorized experiment.
- e. Never work in a chemical laboratory without proper supervision
- f. Never pipette by mouth or inhale gases or vapors
- g. Exercise proper care in heating or mixing chemicals
- h. Be careful with glass equipment

PROCEDURE

Each laboratory experiment must be read and carefully studied before coming to the laboratory. This must be done to ensure that each student is thoroughly familiar with the principles, procedures, calculations, and anything else with the exercises may be involved.

Unless otherwise directed to do so, students should work alone in doing in the laboratory exercises. Take extreme care when using the analytical balances, thermometers, and other items of equipment that are expensive and/or may be easily broken. When the laboratory exercise is completed, all equipment should be cleaned and put in its proper place or in the locker in an orderly way. The bench top and common work areas should also be cleaned.

LABORATORY REPORTS

The pre-laboratory assignments of each laboratory experiment must be turned in to the instructor before the beginning of the laboratory. Laboratory Reports are to be completed and turned in as directed by the instructor along with a **lab write up sheet**. The laboratory report will usually consist of the Data Sheet from the laboratory experiment and a Questions and Calculations Sheet that will be available from the lab manual.

Students who do not actively participate in the laboratory experiment will be subject to point reduction.

There will not be any make up labs scheduled when labs are missed. One lab will be dropped to compensate for not having make up labs. All other labs missed will count against your grade. No late report will be accepted. NO EXCUSES ARE ACCEPTABLE.

PUBLIC HOLIDAYS AND LABS

LABs FALLS ON ANY PUBLIC HOLIDAY (Like THANKSGIVING WEEK) OR UNIVERSITY CONVOCATION will be canceled.

The total score for the course will be based on laboratory reports, write up, and exam. Each laboratory report will have equal value but not necessarily the same number of points. The laboratory reports will count between 80-90% of the total score. The laboratory examinations will count between 10-20% of the total score.

INTENT TO GRIEVE FORM

Intent to Grieve Form. Students must submit Intent to Grieve Forms, online, within two weeks of grades being made available for students to view in accordance with the University Registrar's calendar. Students cannot submit an Academic Grade Grievance without submitting Intent to Grieve Form unless they receive an exception from the Associate Dean.

Grievances submitted to the College of Science and Technology Grievance Committee for fall semester grade disputes must be communicated to the College of Science and Technology Dean's Office by the deadlines listed below. These will only be reviewed if an Intent Grieve Form was filed by the stated deadline or an exception is provided by the Associate Dean allowing the student to submit a grievance without filing an Intent to Grieve form.

Biology, Chemistry, Math, Physics courses ó student must submit the grievance no later than March 1st (or next business day).

CIS courses ó No later than three weeks after the student receives notification of the outcome of the Academic Complaint Process (ACP) from the CIS chairperson.

Grievances submitted to the College of Science and Technology Grievance Committee for spring and summer semester grade disputes must be communicated to the College of Science and Technology Dean's Office by the deadlines listed below. These will only be reviewed if an Intent Grieve Form was filed by the stated deadline or an exception is provided by the Associate Dean allowing the student to submit a grievance without filing an Intent to Grieve form.

Biology, Chemistry, Math, Physics courses ó student must submit the grievance no later than October 22nd (or next business day).

CIS courses ó No later than three weeks after the student receives notification of the outcome of the Academic Complaint Process (ACP) from the CIS chairperson.

Chemistry Lab Attire Requirements

Eye Protection

Eye protection must be worn at all times in the undergraduate laboratories. Splash goggles with splash proof sides are required eye protection in all undergraduate laboratories. Avoid use of contact lenses in the laboratory; if you wear contact lenses, notify the laboratory supervisor.

Lab Coats

Contaminated personal clothing may spread hazards to family and friends, as well as contaminate public areas such as doors, hallways, elevators and food services. Everyone working in an undergraduate laboratory is required to wear laboratory coats at all times. The correct style of lab coat for undergraduate laboratories: button or snap in front; long to at least mid-thigh.

Shoes

Shoes with closed toes and backs are required for everyone working in an undergraduate laboratory. No shoes with cut-outs or vents that leave skin exposed and unprotected are allowed.

Clothing

Appropriate leg coverage by long pants without any tears or holes is required for everyone working in the undergraduate laboratories. Shorts, capri pants, or any other lower-body coverings that leave skin exposed or unprotected are not allowed. Also prohibited are nylon panty hose and tights. Skirts are appropriate if they are not too loose and are long enough to fully cover the leg.

All loose clothing should be confined to avoid easily catching fire, being dragged through chemicals, or becoming entangled in moving machinery. Clothing cannot drag on the floor. It is recommended that anyone working in undergraduate laboratories remove jewelry to prevent collecting chemicals, contacting electrical sources, catching on laboratory equipment, and/or damage to the jewelry itself.

Gloves

Use of gloves may be recommended, or even required, in the undergraduate laboratories based on the chemicals being used. The scientific instructional technician or the TA supervising the laboratory will provide specific instructions for the lab session.

Inspect gloves before each use and discard if you see discoloration, punctures, and tears.

Take off gloves before leaving the laboratory.

Hair

Any long hair should be tied back or confined when in the undergraduate laboratories to avoid it catching fire, being dragged through chemicals or becoming entangled in laboratory apparatus.

Medical Alert

In laboratory course, students will use wide range chemicals (solids, liquids and gases).

Therefore they are responsible for informing their instructor of any special medical conditions or allergies before beginning any laboratory class work. It is at the discretion of the student if he or she will decide to participate in a chemistry laboratory setting.

The various parts of the lab exercises and reports will contribute towards the final grade as follows:

Lab report 50%
Labster 20%
Quizzes 10%
Final exam 20%

Lab Reports

Write –up, Data and Calculation	80 %
Pre-Lab	10 %
Post Lab	<u>10 %</u>
Total	100

There will be a total of five (5) experiments, five Laster assignments, five quizzes and final Exam. Quizzes will be given in Canvas every week.

At the end of the semester, an overall fractional score will be calculated. It is anticipated that the grade will be based on the following scale for fractional scores:

A-	(90% or above)	(990-1200)
B-	(80-90%)	(880-989)
C-	(70-80%)	(770-879)
D-	(60-70%)	(660-769)
F-	(Below 60%)	(659 & Below)

Some general items to be considered in grading the reports will be the neatness and legibility of the report, the correct use of English, and the proper use of significant figures and units. Other items that may be considered, depending on the specific exercise, will be the closeness of a result obtained to what the result should be the correctness of any calculations, and the completeness of any observations that may be expected. A subjective evaluation will also be included of the student's attitude toward the laboratory exercised and the correct use of the laboratory equipment.

Academic Calendar: Fall 2023

August 28	Classes begin (Full-Time Studies)
September 1	Last day to drop and add
September 4	Labor Day
November 9	Last day to withdraw
November 10	Veteran's Day
November 22- 24	Thanksgiving -No classes for the week
December 8	Last day of classes
Final Exam	Dec 11-15

CHM 1045 Lab Experiments Fall 2023

Lab #	Date	Title	Exp#
	8/28-9/1	Attendance conformation	
	9/4-8	Laboratory Orientation and Safety Video/ MSDS	
1a.	9/11-15	<p>Group 1 Students Basic Laboratory Techniques</p> <p>Group 2 Students Labster: Lab Safety</p>	1
1b.	9/18-22	<p>Group 2 Students Basic Laboratory Techniques</p> <p>Group 1 Students Labster: Lab Safety</p>	1
2a.	9/25-29	<p>Group 1 Students Identification of Substances by Physical Properties</p> <p>Group 2 Students Labster: <u>Ionic and Covalent Bonds</u></p>	2
2b.	10/02-6	<p>Group 2 Students Identification of Substances by Physical Properties</p> <p>Group 1 Students Labster: <u>Ionic and Covalent Bonds</u></p>	2
3a.	10/09-13	<p>Group 1 Students Separation of the Components of a Mixture</p> <p>Group 2 Students Labster: Atomic Structure</p>	3
3b.	10/16-20	<p>Group 2 Students Separation of the Components of a Mixture</p> <p>Group 1 Students Labster: Atomic Structure</p>	3
4a.	10/23-27	<p>Group 1 Students Chemical Reactions of Copper and Percent Yield</p> <p>Group 2 Students</p>	4

4b.	10/30-11/3	Labster: <u>Solution Preparation: From salt to solution</u> Group 2 Students Chemical Reactions of Copper and Percent Yield Group 1 Students Labster: <u>Solution Preparation: From salt to solution</u>	4
	11/6-10	Veterans Day Week	
5a.	11/13-17	Group 1 Students Ideal Gas Law Group 2 Students Labster: <u>Ideal Gas Law: Build Temperature Scale</u>	10
	11/20-24	Thanksgiving Week	
5b.	11/27-12/1	Group 2 Students Ideal Gas Law Group 1 Students Labster: <u>Ideal Gas Law: Build Temperature Scale</u>	10
	12/4-8	Final Exam	