



Florida A&M University  
Department of Chemistry

CHM 1045 Lab Syllabus

COURSE SYLLABUS	
<b>Course Number:</b> CHM 1045L Sec. L05 <b>Prerequisite(s):</b> <b>Co-requisite:</b>	<b>Course Title:</b> General Chemistry I Laboratory
<b>Course Credit:</b> 1	<b>Course Hours:</b> 2.5 per week
<b>College:</b> Science and Technology <b>Department:</b> Chemistry	<b>Required Text(s):</b> The laboratory manual, Experiments In General Chemistry, 6 <sup>th</sup> Edition by Peter Cottrell, Jesse Edwards, & Richard A. Ford, Jr.,
<b>Faculty Name:</b> Dr. Madhavi Gangapuram	<b>Term and Year:</b> Fall 2022 <b>Place and Time:</b> 401/413 Jones Hall
<b>Office Location:</b> TBA	<b>Telephone:</b> TBA <b>e-mail:</b> madhavi.gangapuram@fam.edu

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
TBA						

**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 10 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. The instructor may also be reached by phone at 599-8176.

## **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**

[https://www.famu.edu/administration/strategic-planning-analysis-and-institutional-effectiveness/university-assessment/pdf/2019\\_2020current-alcs/ChemistryALCs.pdf](https://www.famu.edu/administration/strategic-planning-analysis-and-institutional-effectiveness/university-assessment/pdf/2019_2020current-alcs/ChemistryALCs.pdf)

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, 6<sup>th</sup> 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

## **PROCEUDURE**

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 instructor.

*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 EXCUSES ARE ACCEPTABLE.**

## **PUBLIC HOLIDAYS AND LABS**

IF YOUR LAB FALLS ON ANY PUBLIC HOLIDAY (EXCEPT THANKSGIVING WEEK) OR UNIVERSITY CONVOCATION, PLEASE ENDEAVOR TO ATTEND ANY OTHER SECTION OF THE LAB WITHIN THE SAME WEEK. THE MISSED LAB WILL NOT BE

REPEATED THE FOLLOWING WEEK. PLEASE ENSURE THAT THE LAB INSTRUCTOR OF THE LAB YOU ATTENDED FOR MAKEUP SIGNS YOUR WORK AS EVIDENCE OF ATTENDANCE. THEN SUBMIT YOUR LAB REPORT TO YOUR LAB INSTRUCTOR AS USUAL.

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. **There will be a mid-term and a final exam.**

### **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 an 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 – student must submit the grievance no later than March 1st (or next business day).

CIS courses – 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 – student must submit the grievance no later than October 22nd (or next business day).

CIS courses – 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:

<b><u>Lab Reports</u></b>	
<b>Report Sheet and Write</b>	<b>70 %</b>
<b>Quiz</b>	<b>10 %</b>
<b>Pre-Lab</b>	<b>10 %</b>
<b>Post Lab</b>	<b><u>10 %</u></b>
<b>Total</b>	<b>100</b>

**There will be a total of Eight (8) Labs and one Mid-term Exam worth 100 points and one Final Exam worth 100 pts. Quizzes will be given every day in the beginning of the lab.**

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 2022**

<b>Aug. 22<sup>nd</sup>, 2022</b>	<b>Classes begin (Full-Time Studies)</b>
<b>Aug. 26<sup>th</sup>, 2022</b>	<b>Last day to drop and add</b>
<b>Sept. 5<sup>th</sup>, 2022</b>	<b>Labor day</b>
<b>Nov. 4<sup>th</sup>, 2022</b>	<b>Last day to withdraw</b>
<b>Nov. 11<sup>th</sup>, 2022</b>	<b>Veteran's day</b>
<b>Nov. 23<sup>th</sup> – 25<sup>th</sup>, 2022</b>	<b>Thanksgiving holiday</b>
<b>Dec. 2<sup>nd</sup>, 2022</b>	<b>Last day of classes</b>
<b>Dec. 5<sup>th</sup> -9<sup>th</sup>, 2022</b>	<b>Final exam week</b>

## CHM 1045 Lab Experiments Fall 2022

Lab #	Date	Title	Exp#
	8/23-8/27	Attendance conformation	
	8/30-9/3	Laboratory Orientation and Safety Video/ MSDS	
1a.	9/6-9/10	<p style="text-align: center;"><b>First 12 Students</b></p> Basic Laboratory Techniques <p style="text-align: center;"><b>Second 12 Students</b></p> Labster: Lab Safety	1
1b.	9/13-9/17	<p style="text-align: center;"><b>Second 12 Students</b></p> Basic Laboratory Techniques <p style="text-align: center;"><b>First 12 Students</b></p> Labster: Lab Safety	1
2a.	9/20-9/24	<p style="text-align: center;"><b>First 12 Students</b></p> Identification of Substances by Physical Properties <p style="text-align: center;"><b>Second 12 Students</b></p> Labster: Ionic and Covalent Bonds	2
2b.	9/27-10/1	<p style="text-align: center;"><b>Second 12 Students</b></p> Identification of Substances by Physical Properties <p style="text-align: center;"><b>First 12 Students</b></p> Labster: Ionic and Covalent Bonds	2
3a.	10/4-10/8	<p style="text-align: center;"><b>First 12 Students</b></p> Separation of the Components of a Mixture <p style="text-align: center;"><b>Second 12 Students</b></p> Labster: Atomic Structure	3
3b.	10/11-10/5	<p style="text-align: center;"><b>Second 12 Students</b></p> Separation of the Components of a Mixture <p style="text-align: center;"><b>First 12 Students</b></p> Labster: Atomic Structure	3

4a. 10/18-10/22	<b>First 12 Students</b> Chemical Reactions of Copper and Percent Yield	4
	<b>Second 12 Students</b> <b>Labster: Solution Preparation: From salt to solution</b>	
4b. 10/25-10/29	<b>Second 12 Students</b> Chemical Reactions of Copper and Percent Yield	
	<b>First 12 Students</b> <b>Labster: Solution Preparation: From salt to solution</b>	
5a. 11/1-11/5	<b>First 12 Students</b> Stoichiometry of a Reaction	5
	<b>Second 12 Students</b> <b>Labster: Stoichiometric Calculations</b>	
11/11	<b>Veteran's Day- No labs the whole week</b>	
5b. 11/15-11/19	<b>Second 12 Students</b> Stoichiometry of a Reaction	5
	<b>First 12 Students</b> <b>Labster: Stoichiometric Calculations</b>	
11/23-11/25	<b>THANKSGIVING</b>	
11/29-12/3	<b>Final Exam</b>	

#### **Policy Statement on Non-Discrimination**

It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

#### **Academic Honor Policy Statement**

Florida A&M University is committed to academic honesty and its core values, which include scholarship, excellence, accountability, integrity, fairness, respect, and ethics. These core values are integrated into this academic honesty policy. Being unaware of the Academic Honesty Policy is not a defense for violations of academic honesty. Additional detail on FAMU Academic Honesty Violations are provided in University Policy 2.012 (10.)(s). If you have any questions, please see your Academic Advisor.

“All members of, and participants in, the academic life of the University are to be governed by academic honesty in all of their endeavors. Students and faculty are expected to uphold academic



integrity and combat academic dishonesty.”

**University Americans with Disabilities Act (ADA) Statement**

The Florida A&M University Americans with Disabilities Act (ADA) Policy Statement states that “Individuals who need a reasonable accommodation must notify the Office of Equal Opportunity Programs at 599-3076.” It is the responsibility of the FAMU Equal Opportunity Programs (EOP) Office, through the ADA Coordinator, to ensure the Florida A&M University is in compliance with the Americans with Disabilities Act. If you have any questions, please contact your Academic Advisor or the University EOP Officer, Equal Opportunity Programs, 674 Gamble Street, Tallahassee, FL 32307, (850) 599-3076.

If you have a documented disability and verification from the [Center for Disability Access and Resources](#) (CeDAR) and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student’s responsibility to provide documentation of disability to CeDAR and meet with a CeDAR counselor to request special accommodation *before* classes start.

CeDAR is located at 667 Ardelia Court, Tallahassee, FL 32307 and can be contacted by phone at (850)599-3180.