



# CHM2047L: One Semester Chemistry Laboratory

Fall 2018 (August 22 – December 14)

## [Course Website](#)

**Course Materials and “Manual:”** All course materials will be available through our secure course website, listed above, which is a Canvas LMS site hosted by Instructure. There is no printed textbook or lab manual.

## **Instructor: Adam Mansell**

### **Office Hours:** LEI 232

Monday: 12:00 pm – 1:00 pm

Tuesday: 11:00 am – 12:00 pm

Wednesday: 11:00 am – 12:00 pm

## **Contact:**

**Office Hours:** Individual office hours are listed above. Office hours will also be given by appointment if you have a conflict with the ones listed.

**Email:** Email should be sent through the Canvas messaging tool, and should include your section number and group designation. Occasionally, we will use the announcement tool on Canvas to disseminate information to the entire class. Please ensure that your Canvas account is configured to send notifications to your preferred communication/ email method.

## **Lab Sessions:** Room Leigh 108

Section 11920: Friday 3:00 pm – 6:00 pm

Section 11921: Friday 8:30 am – 11:30 am

Section 11922: Monday 3:00 pm – 6:00 pm

Section 11923: Monday 8:30 am – 11:30 am

- It is your responsibility to come prepared each week. The specific requirements will be unique for each experiment, which means you will need to read the material provided online in order to know what is expected of you.
- There will be pre-lab quizzes for some of the experiments throughout the semester.
- Your TAs will check your material and knowledge of the experiment at the beginning of each lab session to ensure you are adequately prepared (including proper clothing). If they are not satisfied, they may turn you away.
- Contact your instructors and group members well in advance of any anticipated absence so alternative scheduling can be made. For some weeks your lab group may be assigned a specific time of arrival.

## FALL SEMESTER 2018

	S	M	T	W	T	F	S
Aug.	12	13	14	15	16	17	18
			Registration	-----	Drop/Add	-----	
	19	20	21	22	23	24	25
		Drop/Add	-----				
	26	27	28	29	30	31	
Sept.							1
		Holiday					
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30						
Oct.		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			
Nov.					1	2	3
						Homecoming	
	4	5	6	7	8	9	10
		Holiday					
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
			Tent.				
	25	26	27	28	29	30	
Dec.							1
						Reading Days	
	2	3	4	5	6	7	8
						Commencement	
	9	10	11	12	13	14	15
		Grades Due	Deg Cert				
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
			Holiday				

IDENTIFICATION SYMBOL:

Classes

Exams

## Course Objectives

- Learn the basics of laboratory operations including:
  - Laboratory Safety
  - Experimental Techniques
  - Keeping a professional scientific notebook
- Perform data analysis
- Report findings professionally
- Use scientific literature databases

## Lab Safety

All safety procedures must be strictly obeyed. Safety glasses must be worn at all times in the laboratory. Wear long-sleeved and -legged clothes to protect your skin against spills, or bring a lab “kittel.” Closed-toed shoes are mandatory. Remove all pendant jewelry when working in the lab. If you have long hair, you may not let it hang loose but should tuck it away safely so that it doesn’t present a potential hazard for you. Refer to the [ACS safety manual](#) which regulates all safety procedures in the lab.

## Ethics

Students are expected to conduct themselves professionally in this course. This includes following the UF Honor Code (see below) and a complete understanding of academic integrity. Plagiarism and data fabrication will not be tolerated.

## Groups

Each lab section will be divided into groups of 2 or 3 students. You will work together as a team in the lab. For some labs several groups will work together. Lab reports will be submitted individually.

## Lab Notebook and Data Plotting.

Every good Chemist has a lab notebook by their side. It is a journal, evidence of discovery, a historical record, and a valuable tool. You will keep a proper lab notebook in this course. Your notebook will be checked and graded at the beginning and end of each lab period.

- Prior to the experiment:
  - Every **individual’s** notebook needs to be prepared with all tables and notes necessary for the specific experiment prior to coming to lab.
  - For some experiments, there will be quizzes which should be completed before coming to lab.
- During the lab session:
  - Your group should assess your data as it is collected, either visually with a plot, or by forming a table, or both.
  - It is your responsibility to repeat data measurements in cases where things have gone awry.
- Notebook grade: - Your TA will check your notebook both before and after the experiment, and grade it as complete (100%), incomplete (50%), or empty (0%).

## Course Grade Computation

Your letter grade will be derived from a simple calculation using the weighted average of your performance in:

	<b>Percentage Points</b>
<b>Quizzes (prelab and post lab feedback)</b>	20%
<b>Notebook</b>	40%
<b>Library Report</b>	5%
<b>Written Reports</b>	30%
<b>Subjective Grade</b>	5%
<b>Total</b>	100%

Your course grade will be determined from your total course performance percentage as follows:

90.0%-100%	A
88.0%-89.9%	A-
86.0%-87.9%	B+
80.0%-85.9%	B
78.0%-79.9%	B-
76.0%-77.9%	C+
70.0%-75.9%	C
68.0%-69.9%	C-
66.0%-67.9%	D+
60.0%-65.9%	D
50.0%-59.9%	D-
< 50%	E

All grades will be posted in the Canvas GradeBook, as available.

UF's Grading Policy: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

### List of Experiments:

- Lab 1.** Basics of lab Techniques and Measurements
- Lab 2.** Conductometric Determination of Potassium
- Lab 3.** Titration 1. Standardization: NaOH with KHP
- Lab 4.** Literature Exercise: Marston Science Library
- Lab 5.** Titration 2. Strong Acid - Strong Base: HCl and NaOH
- Lab 6.** Introduction to Absorption Spectroscopy: Beer's Law
- Lab 7.** Titration 3. Weak Acid - Strong Base: CH<sub>3</sub>COOH and NaOH
- Lab 8.** Titration 4. Buffers: determining pK<sub>a</sub>
- Lab 9.** pK<sub>a</sub> analysis
- Lab 10.** Fluorescence of Quinine
- Lab 11.** Atomic Spectroscopy: Determining the Rydberg Constant from the Emission Spectrum of Hydrogen

### Experiment Schedule

Week	Date	Monday Sections	Friday Sections
1	Aug 20-24	No Lab	No Lab
2	Aug 27-31	Lab 1.	Lab 1.
3	Sep 3-7	Holiday	Lab 2.
4	Sep 10-14	Lab 2.	Lab 3.
5	Sep 17-21	Lab 3.	Lab 4.
6	Sep 24-28	Lab 4.	Lab 5.
7	Oct 1-5	Lab 5.	Lab 6.
8	Oct 8-12	Lab 6.	Lab 7.
9	Oct 15-19	Lab 7.	Lab 8.
10	Oct 22-26	Lab 8.	Lab 9.
11	Oct 29–Nov 2	Lab 9.	Holiday
12	Nov 5-9	Lab 10.	Lab 10.
13	Nov 12-16	Holiday	Lab 11.
14	Nov 19-23	Thanksgiving	Thanksgiving
15	Nov 26-30	Lab 11.	
16	Dec 3-7	Reading Days	Reading days
17	Dec 10-14	Finals	Finals

### Absences and Tardiness

Excused absences are allowed in accordance with UF policy. Consult with your instructor and group members in advance. Do not arrive late to your lab. Tardiness will lead to loss of points on the 'subjective grade.' Unexcused arrival more than 30 minutes late for a lab may result in the student not being admitted to the lab. This leads to an automatic loss of all notebook points and the student may not use this lab for an oral lab report.

### Late Submission Policy

Late assignments will receive a late penalty of 10% per day past the scheduled due date. If something arises that prevents you from completing the assignment on time, contact the instructor as soon as possible to request an extension.

### Resubmission Policy

If you are unhappy with the grade of a written report, you may resubmit it with corrections. Each assignment can be resubmitted once. The resubmission must be turned in no more than one week after the original grade is posted to Canvas. The maximum score you will be able to receive is 70% (B).

### Getting Help

For quickest response, you might find posting questions to the Canvas Discussion Board might be a good choice.

Messaging the Instructor, TA, or even a classmate also works.

For Username/Password issues, such as difficulties logging into any Gatorlink-authenticated site at UF, (including our course website), please contact the UF Help Desk at: [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu), (352) 392-HELP - select option 2.

#### University Policy on Accommodating Students with Disabilities

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

#### University Policy on Academic Misconduct

This class will operate under the policies of the student honor code which can be found at:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>. The students, instructor, and TAs are honor-bound to comply with the Honors Pledge: **We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.** You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks. Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>.

#### Disclaimer for this document

Note: All aspects of course operations, including grading, course policy and policy execution, are subject to change at the discretion of the course instructor.

If you have further questions, please contact me. Have a great semester!

Sincerely,

Adam Mansell