



# CHM4413L: Biophysical Chemistry Laboratory

Fall 2021 (August 23 – December 8)  
(2 Credit Hours)

## [Course Website](#)

### Instructors: Dr. Adam Mansell and Dr. Matthew Eddy

**Office Hours (AM):** In-person & online: Tue 10:00 – 11:00 am and Thu 11:00 am – 12:00 pm in LEI 232 and via Zoom <https://ufl.zoom.us/j/94259398284>

**Office Hours (ME):** In-person & online: Fri 7:30 – 9:30 am in the 3<sup>rd</sup> floor faculty office area of CCB or via Zoom <https://ufl.zoom.us/j/96668312610>

Online only: Tue 3:00 – 4:30 pm via Zoom <https://ufl.zoom.us/j/96668312610>

### Teaching Assistants

**Arka Prabha Ray:** Office Hours: Mon 3:00 pm – 4:00 pm

<https://ufl.zoom.us/j/98721603926?pwd=VzICU2Q5QlhYU0ZPNUxrUktYNnNwQT09>

**Lakshitha Perera** Office Hours: Fri 6:15 pm – 7:15 pm <https://ufl.zoom.us/j/96730174549>

**Beining (Kim) Jin:** Office Hours: Thu 9:00 am – 10:00 am <https://ufl.zoom.us/j/95553697105>

**Jirui Jin:** Office Hours: Mon 1:00 pm – 2:00 pm <https://ufl.zoom.us/j/8491430832>

**Mingwei Zho:** Office Hours: Mon 5:00 pm – 6:00 pm

<https://ufl.zoom.us/j/94001133192?pwd=djUxZHNIbDdlWUJxYWZnRWZPaE1Kdz09> (Links to an external site.)

### Communication Policies:

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

**Email:** communication with all instructors and TAs should be sent through Canvas and should include your section number and group designation. Please ensure that your Canvas account is configured to send notifications to your preferred email address. We will make a consistent effort to respond to emails within 24 hours if sent Monday through Friday. Do not wait until the last minute to email regarding questions for an assignment, as you may not receive a response until after the deadline.

### Weekly Lectures and Attendance Policies

Sections 11341 and 11342 lecture periods are held on Wednesdays, 4<sup>th</sup> period (10:40 – 11:30 am), FLI 0109.

In-class attendance of lectures is entirely optional and will not be factored into your grade. Lectures will be simultaneously broadcast online via Zoom, and all presented material will be recorded and made available online via Canvas.

Some lectures will be accompanied by additional recorded presentations made available online through Canvas. The instructors will communicate with the class when students are expected to review the accompanying online material in preparation for laboratory activities.

Students who participate orally in recorded lectures are agreeing to have their voices recorded.

### **Laboratory Sections:**

**27852/2710:** Friday 6<sup>th</sup> - 10<sup>th</sup> periods (12:50 – 6:00 pm)

**11421/2715:** Friday 6<sup>th</sup> - 10<sup>th</sup> periods (12:50 – 6:00 pm)

**11341/P431:** Thursday 6<sup>th</sup> - 10<sup>th</sup> periods (12:50 – 6:00 pm), LEI 0248

**11342/P433:** Thursday 6<sup>th</sup> - 10<sup>th</sup> periods (12:50 – 6:00 pm), LEI 0204

**Course Materials and Manuals:** All course materials will be available through our course Canvas site linked above. There are no required printed textbooks or lab manuals.

### **Learning Objectives**

The overall learning objective of this course is to develop critical thinking through laboratory experiments, analysis of experimental data, and communication of that knowledge. More specifically, objectives include:

- Create quality scientific reports that accurately and professionally communicate your results
- Analyze and present experimental data graphically, cogently, and succinctly
- Maintain a professional scientific notebook
- Interpret and expand scientific protocols and experimental design
- Use and optimize instrumentation for data collection
- Describe various physical chemistry concepts
- Evaluate models for explaining experimental results

### **COVID-19 Related Policies**

In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment: <https://coronavirus.ufhealth.org/vaccinations/vaccine-availability/>. Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.
- You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
  - Sanitizing supplies are available in the classroom and lab if you wish to wipe down your desks prior to sitting down and at the end of the class.
  - Hand sanitizing stations will be located in every classroom and lab.
- If you sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect

website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email [covid@shcc.ufl.edu](mailto:covid@shcc.ufl.edu)) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the [UF Health Screen, Test & Protect website](#) for more information.

- You will be given opportunities to make up any work or laboratories that you have missed due to illness. Please see the Absence Policy for further information.
  - If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office.
- Continue to regularly visit [coronavirus.UFHealth.org](https://coronavirus.UFHealth.org) and [coronavirus.ufl.edu](https://coronavirus.ufl.edu) for up-to-date information about COVID-19 and vaccination.

### **In-Lab Expectations**

In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-lab interactions.

1. In addition to the generally required personal protective equipment for in-lab activities (see below, you are also expected to wear approved face coverings at all times during in-person labs and within buildings. Following and enforcing these policies and requirements are all of our responsibility.
2. This course has been assigned physical laboratory spaces. Utilize designated benches and please do not switch spaces.
3. Sanitizing supplies are available in the lab. At the beginning and end of each lab you must wipe down your lab bench and any equipment used during the experiment.
4. Guidance will be provided to you on how to enter and exit the laboratory.

### **Illness & Make-up Policies**

1. If you are experiencing COVID-19 symptoms, have tested positive for COVID-19, or are otherwise sick, do not attend class or in-lab experiments and inform your instructor that you will not be able to attend class or the planned in-lab activity. If you arrive to class or lab with visible signs of an active illness you will be asked to leave.
2. All students who miss an in-person planned experiment will be given the opportunity to make up the assignment, either by scheduling a later date and time to complete the experiment or by receiving data that can be used to complete the laboratory report. Discuss the missed lab with your instructor to receive guidance on how to proceed. Situations where there are long or extended periods of absence due to illness should also be communicated with the UF Disability Resource Center.

3. Additionally, the lowest grade for one laboratory report for all students will be dropped at the end of the semester prior to calculating final grades (see below).

### **General Expectations:**

1. It is your responsibility to be prepared each week. The specific requirements will be unique for each experiment, which means you will need to attend the weekly lecture and read the material provided online in order to know what is expected of you.
2. All wet lab experiments require pre-lab notebook activities that will be graded as on-line submissions.
3. Proper attire is required for each lab period. Closed toed shoes, safety goggles, no tank tops and no shorts.
4. 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 and wearing personal protective equipment. If you do not follow the expected safety guidelines, they will turn you away.
5. Contact your instructors and TAs in advance of any anticipated absences so alternative scheduling can be made.

### **Lab Safety**

In addition to the expectation that an approved mask is worn (see COVID-19 policies above), safety glasses are required to 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. Being prepared is an important aspect of safety.

### **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.

### **Absences and Tardiness**

Excused absences are allowed in accordance with UF policy. If you are feeling ill or have received a positive test result for COVID-19, do not show up to class or to in-person laboratory experiments and consult with your instructor on an appropriate course of actions. See “COVID-19 Policies” above.

Otherwise do not arrive late to your lab. Tardiness will lead to loss of points on the notebook grade. Unexcused arrival more than 20 minutes late for a lab may result in the student not being admitted to the lab.

### **Late Submission Policy**

Assignments received past posted due dates will receive a late penalty of 10% per day unless the late submission is approved through prior communication with course instructors. If something arises that prevents you from completing the assignment on time, contact the course instructors right away to request an extension.

## **Regrade policy**

If you believe a mistake has been made on the grading, please notify the professor and your TA through Canvas within 1 week of receiving the assignment. We will look at it and evaluate on a case-by-case basis.

## **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.

## **Assignment Drop Policy**

At the end of the semester, the lowest grade for a written report activity will be dropped for every student and the final grade calculated after the lowest grade is dropped.

## **In-Class Recording Policy**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code

## Course Grade Computation

Your letter grade will be derived from weighting the following components of your performance in the class:

	Percentage Points
<b>Pre-lab and post-lab notebook</b>	20%
<b>Quizzes</b>	10%
<b>Literature Project</b>	10%
<b>Written Report Activities</b>	60%
<b>Total</b>	100%

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

>90%	A
83% - 89%	A-
74% - 82%	B+
66% - 73%	B
60% - 65%	B-
55% - 59%	C+
50% - 54%	C
45% - 49%	D
< 45%	E

All grades will be posted in the Canvas GradeBook, as available. Final grades will include rounding. Please note, Canvas does NOT round. Example: If you earn an 89.5 or greater, we will round your final grade up when submitting grades. There is no “curving” grades for the class.

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

### 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/>.

## Semester Schedule

Week	Date	Lecture & Experiments	Group 1	Group 2
1	Aug 22 - 28	Introduction & Statistics Workshop	Safety Quiz	Safety Quiz
2	Aug 29 – Sep 4	Specific Heat Lab	Wet Lab 1	Dry Lab 1
3	Sep 5 – 11	Specific Heat Lab	Dry Lab 1	Wet Lab 1
4	Sep 12 – 18	Conjugated Dyes	Wet Lab 2	Dry Lab 2
5	Sep 19 – Sep 25	Conjugated Dyes	Dry Lab 2	Wet Lab 2
6	Sep 26 – Oct 2	pKa of neutral red	Wet Lab 3	Dry Lab 3
7	Oct 3 – 9	Library Workshop	Homecoming Oct 9-10	Homecoming Oct 9-10
8	Oct 10 – 16	pka of Neutral Red	Dry Lab 4	Wet Lab 3
9	Oct 17 – 23	Enzyme Kinetics	Wet Lab 4	Dry Lab 4
10	Oct 24 – 30	Enzyme Kinetics	Dry Lab 4	Wet Lab 4
11	Oct 31 – Nov 6	NMR Spectroscopy	Wet Lab 5	Dry Lab 5
12	Nov 7 – 13	NMR Spectroscopy	Dry Lab 5 – Veterans' Day Nov 11	Wet Lab 5
13	Nov 14 – 20	In-Lab Make-up Week		
14	Nov 21 – 27	Thanksgiving Break Nov 24 – Nov 28		
15	Nov 28 – Dec 4	Research Project		
16	Dec 5 - 11	Research Project		
17	Dec 12 - 18	Finals		

### **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 us. Have a great semester!**

**Sincerely,**  
**Matthew Eddy and Adam Mansell**