

CHM441L: Physical Chemistry Laboratory

Spring 2022 (January 9 – May 5)

(2 Credit Hours)

[Course Website](#)

Communication Policies:

Office Hours: Office hours will be held in person, but alternative arrangements can be made to meet over Zoom or at a different time if necessary.

Dr. Mansell – LEI 232

Monday – 12:00 pm – 1:00 pm

Wednesday – 10:30 am – 11:30 am

Friday – 10:30 am – 11:30 am

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:

4th period (10:40 – 11:30)

TUR - 2305

Our class sessions may occasionally be audio or visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Laboratory Sessions:

Periods 6-10 (12:50 – 6:00)

Room LEI 248

Course Materials and Manuals: All course materials will be available through our course Canvas site linked above. There are no 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

Illness & Make-up Policies

1. If you miss lab due to illness, inform your instructor that you will not be able to attend class or the planned in-lab activity in order to determine a plan for a make-up lab session. If you arrive to class or lab with visible signs of an active illness you will be asked to leave.
2. Situations where there are long or extended periods of absence due to illness should also be communicated with the UF Disability Resource Center.

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

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 do not show up to class or to in-person laboratory experiments and consult with your instructor on an appropriate course of actions.

Otherwise do not arrive late to your lab. Tardiness will lead to loss of points on the notebook grade. Unexcused arrival more than 15 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.

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
Pre-lab and post-lab notebook	20%
Quizzes	10%
Literature Project	10%
Written Report Activities	60%
Total	100%

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

100% - 94.0%	A
93.9% - 90.0%	A-
89.9% - 87.0%	B+
86.9% - 84.0%	B
83.9% - 80.0%	B-
79.9% - 77.0%	C+
76.9% - 74.0%	C
73.9% - 70.0%	C-
69.9% - 60.0%	D
59.9% - 0%	E

All grades will be posted in the Canvas GradeBook, as available. 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/scr/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/scr/process/student-conduct-honor-code/>.

Semester Schedule

Weeks 1 & 2	Heat Capacity Ratios
Week 3	NMR of N-Acetyl L-Proline
Weeks 4 & 5	Conjugated Dyes
Weeks 6 - 14	Rotation Experiments

List of rotation experiments:

1. Absorption and Emission of Molecular Iodine
2. Ground and Excited State pK_a of naphthols
3. Photoisomerization kinetics of azobenzene
4. FTIR
5. EPR
6. Electrochemistry

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

