

CHEM 2200L – Organic Chemistry Laboratory (1 credit)
Room 238A Leigh Hall
Fall 2015

Teaching Assistant	to be assigned during first laboratory meeting
Faculty Coordinator	Dr. Tammy A. Davidson, Sisler 429B (352) 392-9134, davidson@chem.ufl.edu Please use email if you need to arrange an appointment
Websites	Please see Canvas site (http://lss.at.ufl.edu)
Co-/Pre-Requisites	CHM 2200 lecture is a co- or pre-requisite for CHM 2200L. In order to be enrolled in CHM 2200L, you must have already completed and passed CHM 2200, or you must be currently registered for CHM 2200. If you drop CHM2200 before completing half of this lab course, you will also need to drop the lab.

CHM 2200L meets once a week in room 238A of Leigh Hall. The general objectives of this course are to introduce you to some common laboratory techniques and equipment used in an organic chemistry laboratory, to help you gain understanding and proficiency in their use, to help you explore the process of doing organic chemistry, and to illustrate some representative examples of the useful and important reactions you are learning in CHM 2200 lecture.

LABS BEGIN ON THURSDAY, SEPTEMBER 3
(ATTEND YOUR REGULAR SESSION)

On the first day of lab, you must have the following items with you to check into the lab:

- Lab Manual, 2015-2016 edition (Hayden-McNeil, available at local bookstores)
- Approved Safety Glasses/Goggles
- Proper Attire

You must be wearing department approved safety glasses or goggles and be properly attired to be admitted to the laboratory at all times, even on the first day of lab. Please check the display case outside of Leigh 238 or links on the Canvas site for information on attire and the types of eye protection approved for use in this lab. Anyone without the necessary materials (listed above), the proper safety glasses, or who is inappropriately attired will not be allowed in the lab.

Please read through the policy information in this syllabus before coming to the first lab
and refer to it to answer your questions throughout the semester.

FIRST DAY OF LAB – CHECKING IN

******NOTE: No students will be permitted to check into the lab after September 15.******

On the first day of lab, you will be assigned to a lab bay, meet your TA, and be assigned to your laboratory workstation. The combination to the lock on your personal workstation drawer is written on the back of the index card for your workstation. Please write this combination down in your lab manual. Complete and sign the Safety Form and the Lecture Information sheet (found in the “Forms” section of the Lab Manual), and turn them in with your index card and workstation equipment sheet at the stockroom window.

The lab fee that you pay when you register for this course covers only the expendable items that you use during the semester (chemical reagents and solvents, pipets, filter paper, pH paper, etc.) and does not cover any glassware or equipment that you break, lose, or check out from the stockroom (chromatography columns, thermometers, etc.). At the end of the semester, you will be billed the replacement cost of any items not returned to the stockroom, anything broken during the semester, or missing from your personal workstation drawer or community cabinet. Check everything

carefully during check-in – the total value of your glassware and equipment in your personal lab drawer is in excess of \$500. Look for star and hairline cracks in your glassware, and check your condensers and separatory funnel carefully. The check-in period is the only time that you can replace any broken or missing glassware and equipment in your lab drawer at no cost to you. Unfortunately, any glassware that you break during check-in is not included in the free replacement policy.

GRADING

Your grade will be determined largely by your experimental work done while in the laboratory – the data and observations that you record in your lab notebook, and the laboratory summaries you prepare. This experimental portion of your grade will be combined with your grades on quizzes and your TA's evaluation of your general work habits and attitude. Although it is natural to worry about grades, please don't let it become an obsession that ruins your experience in the lab. The average grade for this course is a B+, and any student who completes all of the assignments and shows a good attitude in the class will earn at least a C.

Grades will be determined from the following factors:

Lab Notebook/Summaries	50%
Quizzes	35%
Pre-Labs	10%
Participation	5%

Prior to assignment of final letter grades for the semester, the overall average of the course will be adjusted to 85%. The grading scale will be firmly set as follows: A \geq 90.0%, A- = 87.0-89.9%, B+ = 84.0-86.9%, B = 77.0-83.9%, B- = 73.0-76.9%, C+ = 70.0-72.9%, C = 62.0-69.9%, C- = 59.0-61.9%, D+ = 56.0-58.9%, D = 50.0-55.9%, E < 50.0%. There will not be a curve beyond that already included in the grading scale. UF policies for assigning grade points can be found on the Registrar's website.

Explanation of Grade Breakdown:

The **Pre-Lab (PL)** grade consists of your Pre-Lab Assignments, which are found in the lab manual for each experiment. Turn in the pre-lab to your TA at the beginning of the lab session. Anyone who has not completed a pre-lab may not do the lab that day. The pre-lab (PL) grade from each experiment will be graded on a 5 point scale.

Lab Notebook/Summaries (NB) are to be submitted to your TA for each experiment done during the semester, and will consist of the notes you take during lab and your answers to the post-lab questions from the lab manual. The duplicate pages from your notebook are due to your TA at the beginning of the lab period that immediately follows completion of the experiment. See the schedule for specific dates. Each NB will be graded on a 10 point scale.

Quizzes will be given periodically during the semester during the first 30 minutes of the lab period and will cover material both from the lab to be done that day as well as information from any previous experiments/activities. Your score on the two in-class quizzes (at 25 points each) will be added to your score on the online safety quiz (worth 10 points) to calculate your overall quiz grade. See schedule for specific dates. **Note: The online safety quiz must be completed on the Canvas site by 9:00pm on September 16. No extensions.**

The Organic Teaching Laboratory is a hands-on learning environment. The **Participation** portion of your grade will be determined based on your overall engagement in the laboratory and your contributions towards the discussion aspects of the lab.

GRADING DISPUTES AND REQUESTS FOR REGRADES

Any grading disputes or requests for re-grades of quizzes must be submitted in writing using a Re-Grade Request Form (available at the stockroom). All requests for re-grades must be submitted to the stockroom window no later than one week after your TA shows you your graded quizzes. **Requests for re-grades will not be accepted via email.** No requests for re-grades will be honored after the deadline has passed. The stockroom will forward your request on to the Head TA, who will review your paper and make a decision about the re-grade. Note that the entire assignment will be re-graded, not just the item in question, and grades may go up or down with the re-grade. Re-grade requests concerning refills or late penalties will not be accepted. **All re-grade decisions are final.**

LATE PENALTIES

You are expected to attend lab during your scheduled lab period, and leave the lab when your lab period ends. Everyone in this course is given the same amount of time to complete these experiments. If you are well prepared, you should have no problem finishing the experiments within the allotted time. **You may not stay late or come in during another lab section to do your experiments.**

You will find a schedule at the end of this syllabus that shows this semester's experiments, along with the dates of quizzes and due dates for assignments. Any student who is late leaving the lab or turning in an assignment will have the following penalties assessed:

Late leaving the lab.....	loss of 1 point on NB grade for that experiment
Any assignment turned in one lab period late.....	20% deduction (max. score 8/10)
Any assignment more than one lab period late.....	no longer accepted – grade of 0

ATTENDANCE, MISSING LAB, AND DROPPING THE COURSE

Attendance in the organic lab is critical to your success. Each laboratory period, you will learn techniques and concepts that will continue to be important throughout the semester. It is essential that you arrive at the lab on time and prepared for the activity each time that lab meets. Due to space and time constraints, **it is not possible for you to come in during a different lab period to do your experiment.** Therefore, it is important for you to attend your regularly scheduled lab session. Your TA will be taking attendance during each lab period.

Students who must miss lab due to **extreme circumstances beyond their control** may submit a request for approval to be excused from that day of lab. Please understand that personal issues with scheduling conflicts, such as work, non-emergency dentist or doctor appointments, extracurricular activities, family vacations, etc., do not justify an approval for the absence. To have an absence considered for approval, you must provide written, verifiable documentation (a doctor's note, University excuse, funeral program, etc.) along with a completed request form (available on the course Canvas site) to the stockroom window. The stockroom will forward your request on to Dr. Davidson, and she will make the final decision about the approval. Please do not email Dr. Davidson to "preview" if your absence will be approved or not. Any request that is not accompanied by proper documentation will be denied. All requests for approved absences must be made no later than 1 week after the absence – after one week, the absence will be considered unexcused. Unexcused absences from lab will result in a grade of zero for the work missed. You are responsible for any information presented in the lab even if you are absent. If you know in advance that you will have to miss a lab session, for instance due to a University-sponsored activity or observation of a religious holiday, please submit your paperwork as soon as possible.

*****Any student who misses more than two lab sessions (excluding religious observances), whether excused or unexcused, will receive a grade of E in the course.*****

If you decide to drop the course before the end of the term, please arrange to check out of your lab drawer **BEFORE** you drop the class. Check with your teaching assistant or the stockroom manager for a good time to check out.

Please note: If you miss a quiz for an excused absence, you should contact your TA as soon as possible about scheduling a makeup quiz.

A NOTE ON TEAMWORK AND PARTICIPATION

Teamwork is an integral component of doing science. In today's world, researchers depend on collaboration with their colleagues to share ideas, spark creativity, maximize strengths, troubleshoot problems, and share limited resources. The days of a lone scientist toiling away in lab by himself are over. Teaching labs are no exception. The organic lab is an ideal place to exemplify the benefits of working together towards a common goal. Teamwork allows us to explore more sophisticated chemistry and develop a deeper understanding of what is happening in our experiments through active discussion.

You will see that our pre-lab discussions will be done in small teams, and many of our experiments are conducted while working with a partner. The goal of this approach is that everyone participates in the process, and that can only happen if you are prepared when you come to lab. Members of the team are expected to contribute equally, and both you and your TA will be evaluating the participation of your teammates throughout the course.

PRE-LAB ASSIGNMENTS AND LABORATORY NOTEBOOK/SUMMARIES

Before you come to lab, carefully read through the assigned experiment and complete your Pre-Lab Assignment (the colored sheet found after each experiment in the lab manual). These Pre-Lab Assignments are designed to ask you to think about the lab procedure to be performed, understand how it relates to other aspects of chemistry, and guide you in your preparation for the experiment. You may need to refer to your lecture text to help you answer some of the questions. Don't wait until just before lab to get prepared – instead, work on your Pre-Lab ahead of time so you can ask your TA for help if you are confused about anything. Turn your pre-lab assignment in to your TA at the beginning of the lab period. No one will be permitted to do the lab without a completed Pre-Lab assignment – your TA will ask you to leave the lab. Additionally, you will find that the labs will go much smoother if you have read through everything ahead of time, so be sure to do a good job in getting organized. (Please don't sit in the hallway outside the lab and copy the pre-lab from your classmates. It just makes you look extremely unprepared and not very serious about your coursework.)

Your laboratory notebook is meant to be an accurate, legible, permanent record of everything that you do in the laboratory. Use the carbonless duplicate sets at the back of your manual, and start each new experiment on a fresh page. Include the title of the experiment, the chemical reaction that is being performed (if applicable), any physical data that is needed in the experiment (such as molar masses, melting points, boiling points, and densities), and any important safety alerts. While you are conducting an experiment, write everything in your notebook. Record your activities (a brief procedure – does not need to be complete sentences) and all data (weights, volumes, reaction times, melting or boiling points, calculations, etc.) and observations (colors, textures, odors, visual indications of reaction, etc.) directly into your notebook as you do your experiment. When you have finished the experiment, you should include a brief summary of your results and make any conclusions that can be drawn from your data. Also, be sure to answer the post-lab questions in your notebook. You will turn in the duplicate pages from your notebook to your TA at the beginning of the lab period immediately following completion of the experiment.

Be sure to consider the following items when preparing your notebook:

- The notebook must be kept in non-erasable, waterproof ink (preferably ballpoint)
- All errors must be crossed out with a single line – no scribbles or white-out!
- Do not skip or tear out pages – cross out with an X if the entire page is incorrect
- Experiments must have titles and include the dates that they are performed
- Include the names of your teammates (if applicable)
- There should be enough detail so that someone with a reasonable understanding of organic chemistry (like your TA) could repeat your work using only your notebook
- Accuracy and truth are more important than a “pristine” entry
- All entries must be made while the experiment is conducted and the duplicate pages must be turned in to the TA for grading after completion of the experiment – see the schedule for due dates

CELL PHONES, CALCULATORS, AND OTHER ELECTRONIC DEVICES

Cell phones, i-Pods, MP3 players, and any other personal electronic devices are not permitted for use in the laboratory at any time. All cell phones and other devices must be silenced and stored in your storage drawer in the lab entryway. If you must make an emergency call during the lab period, please take your phone into the hallway outside of the lab. When you finish, please return your phone to your drawer. **NOTE:** You will need to use a calculator many times during this course. You should bring a calculator with you to class – we will not let you use the calculator on your cell phone.

ACADEMIC HONESTY GUIDELINES

The academic community of students and faculty at the University of Florida strives to develop, sustain, and protect an environment of honesty, trust, and respect. Students are expected to pursue knowledge with integrity. Exhibiting dishonest behavior in academic pursuits and violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions outlined in the Code of Student Conduct. You can find more information about UF's Academic Honesty Policy from the Dean of Students Office website at <http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>.

INFORMATION FOR STUDENTS WITH DISABILITIES

The Dean of Students Office provides individualized assistance for students with documented disabilities. Services are based upon student need and the impact of their specific disability. There is no requirement for any student to self-identify as having a disability. However, students requesting classroom accommodations must register with the Dean of Students Office and provide the appropriate documentation verifying their disability. See the website for Disability Resources for more information: <http://www.dso.ufl.edu/drc/>. Please speak with Dr. Davidson early in the term to make arrangements for classroom or testing accommodations.

CHM2200L SCHEDULE OF EXPERIMENTS – FALL 2015[†]

Date	Activity	Quizzes/Items Due
Sept. 3, 8	Check-in, Safety/Policy Lecture (read pgs. v-xv and 1-7 in manual before coming to lab) <i>Chapter 2: Introduction to Melting Point</i> – view video in “Lessons” folder before lab	
Sept. 10, 15	<i>Chapter 4: Synthesis of Acetophenetidin</i> , Parts 1 and 2 (will work in teams)	Acetophenetidin Pre-Lab
Sept. 15	**** <i>No students will be permitted to check in after this date</i> ****	
Sept. 16	[‡] Online Safety Quiz #1 Due at 9:00 pm – All Sections	
Sept. 17, 22	Acetophenetidin, cont., Parts 3 and 4	
Sept. 24, 29	<i>Chapter 5: Extraction</i> (Parts 1, 2, and 3)	Acetophenetidin NB due Extraction Pre-Lab
Oct. 1, 6	Extraction, cont. (Part 4) Biodiesel Synthesis	Biodiesel Handout on Canvas
Oct. 8, 13	Biodiesel Workup and Testing	QUIZ #1 Extraction NB due
Oct. 15, 20	<i>Chapter 6: Isolation of Eugenol from Cloves</i> by Distillation	Distillation Pre-Lab Biodiesel NB due
Oct. 22, 27	<i>Chapter 8: Electrophilic Aromatic Substitution</i> (EAS)	EAS Pre-Lab Distillation NB due
Oct. 29, Nov. 3	<i>Chapter 7: Nucleophilic Addition to a Carbonyl: The Grignard Reaction</i> (no recrystallization)	Grignard Pre-Lab EAS NB due
Nov. 5	<i>No labs - Homecoming</i>	
Nov. 10, 12	<i>Chapter 11: Making Polymers</i>	Polymers Pre-Lab Grignard NB due
Nov. 17, 19	Checkout – Note: If you arrive late and your bay has already finished the checkout process, you will be billed a checkout fee.	QUIZ #2 Polymers NB due

[†]Schedule may change due to unforeseen events – see course Canvas site for any updates.

[‡] Available on the Canvas website beginning Wednesday, September 2. You must complete this quiz by **9:00pm on Wednesday, September 16**. No extensions.