

GENERAL INFORMATION

CHEM 2211L – Organic Chemistry Laboratory (2 credits) Room 238 Leigh Hall Fall 2011

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 Sakai site (http://lss.at.ufl.edu)
Co-/Pre-Requisites	CHM 2211 lecture is a co- or pre-requisite for CHM 2211L. In order to be enrolled in CHM 2211L, you must have already completed and passed CHM 2211, or you must be currently registered for CHM 2211. If you drop CHM2211 before completing half of this lab course, you will also need to drop the lab.

CHM 2211L meets twice a week in room 238/238A 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 2211 lecture.

LABS BEGIN ON WEDNESDAY, AUGUST 31 WITH THE 3:00PM SESSION (ATTEND YOUR REGULAR SESSION)

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

- o Lab Manual, 2011-2012 edition (Hayden-McNeil, ISBN: 978-0-7380-4739-3)
- o Lab Notebook – spiral or permanent bound with pre-numbered carbonless duplicate pages (50 pages should be plenty for most students)
- o Approved Safety Glasses/Goggles
- o 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 Sakai 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

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 and is written on the back of the index card for your workstation. Please write this combination down in both your lab manual and lab notebook. 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 other completed check-in papers 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, the laboratory summaries you prepare, and your performance on the lab practical. This experimental portion of your grade will be combined with your grades on quizzes and the lab exam, 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	30%
Quizzes	25%
Pre-Lab	15%
Lab Exam/Practical	30%

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 within 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. **Please note:** When final grades are calculated at the end of the term, the NB averages for each TA will be evaluated and if necessary, will be normalized to a common mean and standard deviation. This calculation will correct for any differences in grading of lab notebooks/reports among TAs, and grades may go up or down with the normalization.

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 Sakai site by 9:00pm on Wednesday, September 14, 2011. No extensions.**

The **Lab Exam/Practical** portion of your grade will consist of a written portion (25 points) and an experimental portion (25 points). More details about the exams will be given as the exam date

approaches. The data sheet for the Identification of an Unknown experiment (10 points) will also count as part of the lab exam/practical grade.

GRADING DISPUTES AND REQUESTS FOR RE-GRADES

Any grading disputes or requests for re-grades 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 within one week of the graded assignment being returned in the laboratory. No requests for re-grades will be honored after the one week time period 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. **Requests for re-grades will not be accepted via email.**

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 these 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 be present and prepared for lab each time that it 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 attend the makeup lab which will be held near the end of the semester (see the schedule for the specific dates). 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 makeup lab. 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 Sakai 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 three or more 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 will be permitted to take a makeup quiz at the end of the semester. If you miss the Lab exam/practical due to an excused absence, you must contact Dr. Davidson within 24 hours of the exam to request a make-up.

PRE-LAB ASSIGNMENTS AND LABORATORY NOTEBOOK

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. 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 pre-numbered with duplicate pages
- The notebook must have a table of contents that is updated regularly
- 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 neatness
- 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

ASSEMBLY EXAM CONFLICTS

Some students enrolled in evening laboratory sections may experience conflicts with their scheduled laboratory session and assembly exams in other courses. The official timeslot for assembly exams during the fall and spring terms is for periods E2-E3 (8:20-10:10 pm)**. You are expected to attend your organic lab until 8:00 pm on the evening of an assembly exam. (Many times, you may be able to finish what you need to do that day without any trouble.) Please let your TA know if you have an assembly exam coming up so he or she can assist you with planning your activities in the lab. The lab instructors for the evening sessions will discuss this further with you during check-in day. Please do not complete a request for approved absence form for an assembly exam given periods E2-E3.

**Any other exams that are scheduled for outside of their normal class time, but not in an official assembly exam block, are not considered to be assembly exams by the university. We are not required to accommodate test conflicts if they are not official assembly exams as scheduled through the registrar's office. Please discuss makeup exam options with your instructor in the other course before requesting accommodations for this lab.

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. The designated coordinator for compliance with Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) is the Assistant Dean of Students responsible for Students with Disabilities Programs, P202 Peabody Hall, 392-1261 (Voice), or 392-3008 (TDD). Also see <http://www.dso.ufl.edu/drc/>. Please speak with Dr. Davidson early in the term to make arrangements for classroom or testing accommodations.

SCHEDULE OF EXPERIMENTS – FALL 2011[†]

Date	Activity	Quizzes/Items Due
Aug. 31p [§] , Sept. 1, 2	Check-in, Safety/Policy Lecture (read pgs. v-xv and 9-11 in manual before coming to lab) <i>Chapter 2: Introduction to Melting Point</i>	
Sept. 5, 6, 7a [§]	Labor Day holiday – ALL SECTIONS – No Labs	
Sept. 7p, 8, 9	<i>Chapter 3: Synthesis of Acetophenetidin, Part 1</i>	Acetophenetidin Pre-Lab
Sept. 12, 13, 14a	Acetophenetidin, cont., Parts 2 and 3	
Sept. 14	*Online Safety Quiz #1 Due at 9:00 pm – All Sections	
Sept. 14p, 15, 16	Acetophenetidin, cont., Part 4 Spectroscopy worksheet and TA practice session	Spectroscopy worksheet due (handed out in lab, due at end of lab)
Sept. 19, 20, 21a	<i>Chapter 4: Extraction (Parts 1, 2, and 3)</i>	Acetophenetidin NB due Extraction Pre-Lab
Sept. 21p, 22, 23	Extraction, cont. (Part 4)	
Sept. 26, 27, 28a	Isolation of Eugenol from Cloves by Distillation	Handout on Sakai Extraction NB due
Sept. 28	ALL SECTIONS – Online Spectroscopy Module due at 2:00pm (counts as a Notebook grade)	
Sept. 28p, 29, 30	<i>Chapter 5: Nucleophilic Addition to a Carbonyl: The Grignard Reaction</i>	Grignard Pre-Lab Distillation NB due
Oct. 3, 4, 5a	Nucleophilic Addition to a Carbonyl: Grignard Reaction (cont.)	QUIZ #1
Oct. 5p, 6, 7	<i>Chapter 10: Making Polymers</i>	Polymers Pre-Lab Grignard NB due
Oct. 10, 11, 12a	<i>Chapter 6: Identification of an Unknown Aldehyde/Ketone (part 1 only)</i>	Aldehyde/Ketone Pre-Lab Aldehyde/Ketone DS, Grignard NB due
Oct. 12p, 13, 14	<i>Chapter 8: Acetylation of Ferrocene</i>	Ferrocene Pre-Lab
Oct. 17, 18, 19a	Acetylation of Ferrocene (cont.)	
Oct. 19p, 20, 21	<i>Chapter 9: Synthesis and Reduction of Substituted Chalcones, Part 1</i>	Chalcone Pre-Lab Ferrocene NB due
Oct. 24, 25, 26a	Chalcones continued, Part 2	
Oct. 26p, 27, 28	Chalcones continued, Part 3	
Oct. 31, Nov. 1, 2a	<i>Chapter 7: Electrophilic Aromatic Substitution (EAS)</i>	QUIZ #2 EAS Pre-Lab
Nov. 2p, 3, 4	UF Homecoming – no classes	
Nov. 7, 8, 9a	<i>Chapter 11: The Diels-Alder Reaction</i> Chalcone data discussion during reflux period	EAS NB due Diels-Alder Pre-Lab
Nov. 9p, 10, 11	Veterans Day holiday – ALL SECTIONS – No Labs	
Nov. 14, 15, 16a	Lab Exam, Practical Portion	Chalcone NB due
Nov. 16p, 17, 18	Lab Exam, Written Portion	
Nov. 21, 22, 23a	Makeup Lab Day (for students with approved absence)	
Nov. 23p, 24, 25	Thanksgiving Holiday – ALL SECTIONS – No Labs	
Nov. 28, 29, 30a	Checkout	

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

[§]NOTE: An “a” indicates labs beginning before noon on Wednesdays, while the “p” indicates labs beginning after noon on Wednesdays.

[‡]Available on the Sakai website beginning Wednesday, August 31. You must complete this quiz by **9:00pm on Wednesday, September 14**. No extensions.