SYLLABUS
Fall 2009

Chemistry 231L – Organic Chemistry I Laboratory (CRN )
San Diego Miramar College
10440 Black Mountain Rd.
San Diego, CA  92126-2910

Professor: Dr. Carl Hoeger

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Web Page  http://faculty.sdmiramar.sdccd.edu/choeger (you must be able to access this page!)

Office Hours: Immediately before and after class; you can also get me some of the time on AOL Instant Messenger (or iChat): my screen name is profcah. Others as arrainged.

Class Meets: Monday 8:15-9:50 p.m (approx.), Rm. S5-107 (Prep/theory/dry lab work)
               Wednesday 5-9:30 p.m (approx.), Rm. S5-202 (Wet lab work)

              Laboratory Notebook, 2-column format with duplicates (reqd; see examples)
              Laboratory splash goggles (reqd).
              A scientific calculator is required.

Prerequisites: Chemistry 201/201L (second semester General Chemistry), or equivalent, each with a grade of "C" or better (B or better recommended). NO EXCEPTIONS.

Co requisite: Completion and/or concurrent enrollment in Chemistry 231 or equivalent (highly recommended that you take Chemistry231 at Miramar). Exceptions will Not be made.

Advisory: ENG 101 or ENG 105, each with a grade of “C” or better, or equivalent OR Assessment Skill Level W6 and R6.

Transfer Info: Associate Degree Credit & transfer to CSU and/or private college/univ.; IGETC; UC Transfer Course list; Chemistry (CHEM) 130, 130L, 231, 231L combined; Maximum credit, one course (with lab).

Description: This is a laboratory course designed to illustrate the principles presented in Chemistry 231. The emphasis is on the determination of physical properties and the separation, purification and identification of organic compounds. The course acquaints students with the equipment, glassware, techniques and safe practices specific to the organic chemistry laboratory. Techniques such as measurements of physical constants, recrystalization, extraction, distillation and chromatography are used in the synthesis
and/or characterization of selected classes of organic compounds. These classes include, but are not limited to, alkanes, alkenes, alkynes, alkyl halides, and alcohols. The organic chemistry literature, along with spectral interpretation using techniques such as infrared and nuclear spectroscopies, are introduced to support the above topics. This course is designed for undergraduates pursuing a degree in the chemical sciences, training in chemical technology, and those students who need organic chemistry as part of the formal preparation for their major; for example, molecular biology, premedical, predental. Some lecture material will also be covered in the laboratory period.

Goals: Primary: (i) To re-enforce concepts discussed in the lecture course (Chem 231); (ii) prepare students with the basic techniques necessary for chemistry 233L; Secondary: strengthen study and work habits, as well as critical/analytical thinking skills necessary for future success at the University level.

SLO’s: Student Learning Outcomes (tentative list): Upon successful completion of the course (defined herein as a grade of “C” or better), the student will be able to:

1. Obtain and perform a basic interpretation of an IR spectra for an unknown compound;
2. Apply International Union of Pure and Applied Chemistry (IUPAC) conventions to name simple organic compounds.
3. Compare, contrast, and utilize current theories of acids and bases, relate molecular structure to acidity, basicity, and solubility, and illustrate acid-base reactions of organic compounds as they apply to the synthesis, isolation, and purification of simple organic molecules.
4. Keep an up-to-date and complete laboratory notebook, including procedural (or experimental) outline, discussion, and critique of experimental results obtained.
5. Given a written laboratory procedure, be able to construct a procedural/experimental outline in their laboratory notebook that can be followed without referring to either the laboratory textbook or experiment handout.
6. Successfully and without instructor aid perform the following basic laboratory techniques: take a melting temperature; build a reflux apparatus; perform a simple extraction (based on solubility and/or acid-base characteristics); perform a simple recrystallization; remove traces of water from an organic extract; perform a micro filtration; perform both a gravity and a vacuum filtration.
7. To provide basic theory behind the procedures and techniques in #6.
8. Propose and evaluate strategies for the isolation of selected organic compounds from one another, including, but not limited to, alkanes, alkenes, alkynes, alkyl halides and alcohols.

Attendance: Prompt and punctual attendance is required at all meetings as mandated by the state of California. Students with TWO unexcused absences will be dropped from my roster and will not be reinstated (please note that it is the students responsibility, NOT THE INSTRUCTORS, to be sure that they have OFFICIALLY been dropped). An unexcused absence is defined as: a) Missing an entire class period without the permission or prior knowledge of your instructor; b) Arriving to class after attendance has been taken (which is considered LATE), without the excuse of your instructor; c)
Leaving class early without the permission of your instructor. UNEXCUSED LATE ARRIVAL TO THE WET LABORATORY PERIOD MAY, AT THE INSTRUCTORS DISCRECTION, RESULT IN THE STUDENT BEING ASKED TO LEAVE THE LABORATORY AND TAKE A ZERO FOR THAT DAY’S WORK.

It is each student’s responsibility to sign the attendance roster. Your name must appear on the roster or you will be marked absent for that class period (unless you have prior permission from your instructor). Your attendance will impact your final performance evaluation/course grade.

OTHER IMPORTANT CHEM 231 LAB POLICIES, PROCEDURES AND INFORMATION

1. **Plagiarism and cheating will not be tolerated.** If you engage in either of these activities on any assignment, then you WILL receive no credit for that assignment, exam or quiz; in addition you may be dismissed from the course. You WILL also be referred to the Dean of Students for disciplinary action. For further information, please read the Miramar College catalog under the section on student responsibilities - code of conduct. See attached document.

2. You are expected to follow all safety regulations, as laid out at the first lab meeting. This includes wearing safety goggles, appropriate clothing and shoes, no involvement in horseplay, etc. IF YOU VIOLATE ANY OF THE SAFETY POLICIES YOU WILL BE ASKED TO LEAVE THE LAB, WITH THE HELP OF CAMPUS SECURITY IF NECESSARY. You will also receive a ZERO for ALL PARTS of that lab.

3. You are expected to exhibit both respectful and courteous behavior toward your instructor and classmates. IF YOU CANNOT DO THIS YOU WILL BE ASKED TO LEAVE THE LAB, WITH THE HELP OF CAMPUS SECURITY IF NECESSARY. You will also receive a ZERO for ALL PARTS of that lab.

4. You are expected to be prepared for each lab meeting. This includes completing a prelab write up (including a procedural outline) in your laboratory notebook, any assigned practice problems or activities and doing the assigned reading. Coming to lab unprepared is a safety concern; STUDENTS COMING TO THE WET LAB PERIOD UNPREPARED WILL BE ASKED TO LEAVE AND WILL TAKE A ZERO FOR THE DAY.

5. Miramar provides special services that are available to its students. These include: **Tutoring:** Free peer-to-peer tutoring will be available at the PLACe, D–106. **Disabled Student Services:** If you have a learning or physical disability which requires special accommodations for classroom participation and/or examinations, please notify your instructor and the DSPS office on campus (C–304, 619-388-7852); **ILC (Instructional Learning Center):** Located in I-130, a state-of-the-art computerized learning center with Internet access where you can use Microsoft Office and a variety of other current software.

6. You WILL be expected to write essay answers and discussions for all labs. If you do not feel prepared for this type of assignment, please see your instructor or go to the PLACe for tutorial assistance.
7. You are expected to take all exams, quizzes, and turn in on time all class work required of you. No make up or extra credit work is or will be given. Experiments are not permitted to be redone or made up.

8. The last day to add this class with an add code is 9/4/09. The last day to drop with no “W” on record is 9/4/09. Final Drop date is Oct. 30 2009. This is the last day to withdraw with a “W”. [PLEASE NOTE! If you stop attending, but you remain on the official roster after the Final Drop date, your instructor WILL assign you a grade of F. Therefore, if you want to be certain that you have been dropped from the course, it is your responsibility to drop the class through the admissions office prior to the final drop date. After the final drop date has passed a “W” will NOT be assigned.

9. Occasionally conflicts arise between a student and instructor; these almost always arise out of a lack of clear communication. For my part, I will make as clear as I can to you what I expect and how I expect this to be accomplished. If you feel for some reason that you are being or have been treated unfairly, or you feel that some aspect of your performance in the course was unclear, there is a designated path available to you at Miramar for conflict resolution. This path starts with me! If you have any concerns, PLEASE see me ASAP (this will be private and confidential) and let me see if we can work it out. If this fails, or you would rather not talk to me, you are welcome to discuss your concerns with the department chair (Dr. Linda Woods). The department chair can then lay out for you the path by which conflict resolutions can be escalated (Dean to Vice President to President). Please, come to see me first; I don’t bite!

Your enrollment in Chemistry 231L requires you to follow these policies. If you do not intend to follow the policies outlined in this syllabus, please drop the course and allow someone else to fill your slot.

Your professor is committed to providing a safe and tolerant classroom environment and will do everything within his ability and authority to assure that you can succeed in this class. Your responsibility is to maintain an acceptable attendance record and perform your assignments at the minimum performance standards (grade of C), or above. Please feel free to talk to your instructor at any time regarding this course or any concerns you may have about it or your ultimate career goals.

It is a pleasure to have you enrolled in Chemistry 231L!
CHEMISTRY 231L

PERFORMANCE REVIEW POLICIES (GRADING & EVALUATION)

You will be evaluated based on the following (point values are approximate and MAY change):

1. **Group Activities**: FOUR to SIX Group activities will be done, each worth 10 points. Some/most will require out-of-classroom work. Make-ups will not be given and late assignments will not be accepted. (Total: 40-60 pts.)

2. **Lab Exams**: TWO or THREE Exams/quizzes will be given, each worth 50 points; the quizzes will cover theory and practice regarding the labs you have been performing. With the exception of the final the timing of these will be up to the discretion of your instructor. Make-ups will not be given. (Total: 100-150 pts.)

3. **Prelab Notebook Check**: Pre-lab may be checked at any time; carbon copies of pre-lab will be turned in Wednesday at the beginning of each experimental lab. Each is worth 10 points. You are expected to have work in your notebook for EVERY wet-lab scheduled. Make-ups labs will not be given and late assignments will not be accepted UNLESS permitted by instructor. (These points are part of your score for each lab.)

4. **Experimental Summaries and Post-lab Questions**: You will be required to turn in for ALL experiments your original data, observations, etc and, EXCEPT for Labs #6 (formal report lab), an experimental summary. This will consist of a form (available on the web, different for each experiment) that will be filled out and turned in with your notebook pages. These will be due at the BEGINNING of the WED class lab period FOLLOWING completion of the lab. Some labs will have questions to answer; they will be worth more. Grammar and spelling will be part of your score (50 points each (this includes the prelab), Total: approx 450 pts)

5. **Formal Reports**: For Labs #6 you may be required to turn in a formal report. If done, the format will be discussed on the first day of class, as well as just before the first one is to be started. It will be typed and submitted in BOTH electronic and paper format. (Total: 100 points)

**Grading Scale**: (Approximate Percentage of Total Points Possible)

- A = 88% and up
- B = 78-88%
- C = 65-78%
- D = 50-65%
- F = less than 50%

You WILL lose points at the unannounced discretion of the instructor for unsafe behavior in the lab, not following lab procedures and protocols, not keeping a correct notebook, or not following directions.

The grade that you receive will reflect a percentage of your cumulative point total for the semester. Although these grade cut-offs will not be raised, they MAY be lowered depending on class performance. Plus and minus grades will not be awarded. It is recommended that you keep track of your point total and percentage throughout the semester. You may ask your instructor for a progress report at any time during the semester. A FULL EXPLANATION OF THE GRADING PROCEDURES IN THIS COURSE WILL BE EXPLAINED ON THE FIRST DAY AND YOU ARE RESPONSIBLE FOR EVERYTHING SAID THAT DAY.