

Chemistry 343 & 344 Laboratory in Organic Chemistry

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Office Hours: by appointment

Text: *The Organic Lab Survival Manual*
5th ed. or later by James W. Zubrick
Packets (available from the
stockroom, B-38)

This is an introduction to the laboratory techniques used by organic chemists. The first semester (Chem 343) concentrates on the techniques themselves, while the second semester (Chem 344) is directed primarily toward synthesis and identification of organic compounds using instrumental and other techniques. Chem 343 requires the simultaneous or previous enrollment in Chem 341, while Chem 344 requires the successful completion of Chem 341 and 343 and registration in or successful completion of Chem 342.

The laboratory will be taught by qualified Graduate Teaching Assistants (GTA) as selected by the Department of Chemistry or by a UTA. These persons are responsible for the instruction, supervision and grading of the laboratory course. If problems arise you may contact the Senior Instructor. The grading of the laboratory is based upon the successful completion of the experiments, written lab reports and the evaluation by the TA of the students' performance and skills exercised throughout the semester.

A tentative schedule of the laboratory experiments is provided in this syllabus. The student is expected to be familiar with the experiments by reading the appropriate materials before hand and completing any pre-lab assignments. Since this is a laboratory course, **attendance is required**. One experiment will be dropped. This would seem to allow one absence but, this presupposes that all the experiments will receive an equal grade. This also implies that there will be **NO** make-up labs. **The first experiment that is missed will be the dropped experiment.** **Except for very compelling reasons, absences will not be excused. Any excused absence must be approved by the Senior Instructor and not the TA and must be accompanied by a valid reason, e.g. doctor's statement, etc.**

At the initial check-in the student will be assigned a locking drawer. The student will check each item on the check-in list and will replace any missing or broken items, free of charge, from the stockroom (B-38). After the initial check-in the student is responsible for replacing any missing or broken item. Furthermore, since many experiments during the semester require the use of "**microscale equipment**" the student will be asked to check-out this equipment at the beginning of the lab period by signing a separate check-out sheet. All this equipment must be returned "**in one piece, clean and ready for the next student**" at the end of each lab period. In addition to the equipment assigned directly to the student, many items must be **shared** by all who use the laboratory. Anything broken or missing from the microscale or shared equipment must be purchased **immediately**. **Any shared item found locked in a drawer will result it the loss of a number of points for the experiment. (WE DO CHECK THE DRAWERS!!!)**

Safety is of primary concern to us! The safety rules will be discussed at the first meeting and will be brought up again at the beginning of each experiment. As an example, eye protection is required at all times in the laboratory. Failure to abide by this rule will result in one of the following:

**THE POSSIBILITY OF TOTAL BLINDNESS
OR
THE LOSS OF ANY AND ALL CREDIT FOR THE EXPERIMENT**

PRELAB: In addition to reading the pertinent material, a pre-lab write-up including the title, purpose, overall reaction (for synthesis experiments) and the procedure to be followed, must be completed **before entering the laboratory**. The guidelines for the pre-lab write up are in the back of the experimental packet which is available from the Chemistry Stockroom. The answers to the prelab questions (30 points of the 40 points for prelab write-up) must be turned in before the lab begins. Typewritten lab reports are accepted **but** do not supersede the necessity of writing observations in your lab notebook.

NOTEBOOKS: All recording must be done in black ink in bound notebooks. The material that should be written in the notebook during the course of the experiment includes all applicable parts of the guidelines at the back of your packet.

GRADING OF WEEKLY LABORATORY: The scoring of each experiment and the written report will be divided as follows (total 100): *A sample of a typical laboratory write-up for a synthesis experiment is posted on the bulletin board in the lab.*

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| 1. Pre-lab write-up and questions from the packet | 40 points |
| 2. Observations & data (each observation made during the experiment should be entered immediately in the notebook). | 5 points |
| 3. Laboratory techniques | |
| a) knowledge of technique (do you know what you are doing) | |
| Written quiz | 20 points |
| b) apparatus set-up, safe handling of chemicals & glassware | 5 points |
| c) product yield, m.p. or b.p., appearance, spectroscopic results, conclusions, etc. NOTE! m.p./b.p. are subject to spot checks by the T.A with concomitant loss of points for over or under values. | 20 points |
| d) explanation of low yields, unusual m.p. or b.p or other variations from expected results | 5 points |
| 4. Clean-up and equipment return | 5 points |

FAILURE TO TURN IN THE PREVIOUS WEEKS LAB REPORT AT THE NEXT SCHEDULED LAB WILL RESULT IN THE LOSS OF 5 POINTS PER DAY THAT THE REPORT IS LATE.

Note: The TA must return the weekly lab reports by the next lab session!!!! Please report failure to do so to the Senior instructor.

Note that cell phones, beepers, devices that require ear phones, etc. can not be used in the laboratory. Please turn them off!!!

GRADING (Chem. 343 and 344):

1100 - 990 points	90 - 100%	A
989 - 880 points	80 - 89%	B
879 - 770 points	70 - 79%	C
769 - 660 points	60 - 69%	D
less than 660 points	less than 60%	F

A curve on the grades may be necessary, but under no circumstance will the grades go higher than noted above.

NOTICE!!! Incompletes(I) will be assigned only for the reasons given in the Student Handbook. Failure to check-out and replacement of broken/missing equipment will earn an incomplete since this is part of the course. It is also important to save all graded results in case disputes arise involving the final grade. The last day to withdraw is February 27. Failure to withdraw will result in a grade of F.

BAD WEATHER SCHEDULE FOR LABS

<u>DAY</u>	<u>REGULAR TIME</u>	<u>DELAYED TIME</u>
Tuesday	8:00 - 11:50 a.m.	10:00 a.m. - 1:20 p.m.
Mon. - Fri.	1:00 - 4:50 p.m.	1:45 - 5:05 p.m.
Saturday & Nights	Usually no change from regular times	

IF CLASSES ARE CANCELLED THE LAB WILL ALSO BE CANCELLED FOR THAT/THOSE DAYS

