

Department of Chemistry: 305 CB, 335-1350

Instructor: Dr. Gregory K. Friestad (415 CB, 335-1364)

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Office hours: W 11:30-12:30 pm, Th 4-5 pm, or by appointment

Scheduled Lectures: Friday 11:30-12:20, C20 PC

Laboratory Sections: A01 Monday and Wednesday, 1:30-4:20 pm, 464 CB
A02 Monday and Wednesday, 1:30-4:20 pm, 468 CB
A03 Tuesday and Thursday, 8:30-11:20 pm, 464 CB
A04 Tuesday and Thursday, 8:30-11:20 pm, 468 CB
A05 Tuesday and Thursday, 1:30-4:20 pm, 464 CB
A06 Tuesday and Thursday, 1:30-4:20 pm, 468 CB
A08 Tuesday and Thursday, 1:30-4:20 pm, 424 CB
A09 Tuesday and Thursday, 1:30-4:20 pm, 469 CB

Course Goals

- introduce students to standard organic chemistry laboratory techniques
 - provide experience conducting organic reactions
 - introduce methods of separation and identification of organic compounds
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Prerequisites

4:012 (or 4:016 from old system) AND 4:121 or 4:123 AND a grade of C or higher in 4:121, 4:123, 4:122, or 4:124; Co- or Prerequisite: 4:122 or 4:124

Course Materials

Required Text: "Organic Chemistry Laboratory" by MacGillivray [download from website]

Required Equipment: laboratory goggles, laboratory notebook (with duplicate carbonless pages)

Optional: "The Organic Chem Lab Survival Manual: Students' Guide to Techniques," Zubrick, 6th ed., Wiley, New York 2004 (or earlier edition).

Course Website: ICON, <http://icon.uiowa.edu> (for assistance, contact icon-support@uiowa.edu)

Course Administration at the Chemistry Center

A majority of course business can be accomplished at the Chemistry Center, 231 CB. The following SHOULD be accomplished at the Center: drop/add forms, section changes, inquiries about TA office hours, submission of late lab reports. Please do not ask the instructor or TAs to do these; they can be handled directly by the Chem Center.

Chemistry Center Hours: 8-12 noon & 1-5 pm on M-Th (close at 4:30 PM on Friday)

Contact person: Lin Pierce (335-1341).

Teaching Assistant Office Hours

Your teaching assistant (TA) can be found in the Student Resource Center (243 CB) during his/her office hours. In addition, 4:141 students can get help from other 4:141 TAs who normally staff that room at various times between 8-12 noon and 1-5 pm on weekdays. Your TA will tell you her/his office hours; a listing of them is also available in the Chem Center (231 CB).

Grading

There will be two hour exams, 11 laboratory reports, and two TA assessments (midterm and final). Plus and minus grades will be given. An A+ is only awarded for exceptional (i.e., near perfect) performance.

CLAS Recommended Grade Distribution (% of class): A 18%, B 36%, C 39%, D 5%, F 2%

CLAS Recommended Grade Average = 2.63 / 4.0

Historical average in this course = about 3.0

A total of 685 points is possible:

- Hour exams (2 x 100) = 200 points
- TA assessments (2 x 50) = 100 points
- Laboratory reports = 385 points

Lab Reports: There will be FIVE formal lab reports (format as instructed in the lab manual) and SIX short lab reports (format as discussed in class). As indicated below, Experiments 2 and 7 will be short lab reports. For the other experiments, formal or short lab reports will be assigned by an in-class announcement on the Friday after the experimental work is completed. Only Experiments 2 and 7 have reduced credit for the short lab reports; credit for all other lab reports will remain as shown below. The short reports are intended to relieve some of the writing workload so you can focus more on understanding the chemistry. *Expect exam questions on material which might normally be included in a formal lab report (as indicated in the lab manual), even if you only wrote a short lab report.*

Expmt #	Title	Prelab Quiz	Report	Total Points
1	Literature	5	30	35
2a	Distillation and GC	10		
2b	Chromatography and Extraction	10	15 (short)	35
3	NMR Spectrometry		35	35
4	Acetaminophen	10	25	35
5	Isolation	10	25	35
6	Diels-Alder	10	25	35
7a	Grignard	10		
7b	Grignard	10	15 (short)	35
8	Wittig	10	25	35
9	Unknowns	10	25	35
10	Molecular Modeling	10	25	35
11	Green Chemistry	10	25	35
	Total			385

Late Lab Reports: These should be submitted via the Chemistry Center. They should be date and time stamped using the time clock and left in the Chem Center. A penalty of 10% of the available points per day will be assessed. Reports that are a week or more late will only be accepted with special permission from the instructor. They should be time stamped and submitted directly to the instructor.

Regrades of Lab Reports: Lab reports can only be submitted for regrade within a week after they were returned to you and should be date/time stamped in the Chem Center. A request indicating the reason for the regrade should be written on a cover page attached to the report. The ENTIRE report will be re-evaluated. Addition errors or ungraded sections are valid reasons for regrade. Negotiating for points on a report which has been correctly graded is not a valid reason for regrade.

TA Assessments: These will be based on the TAs observations of performance in the lab. Some subjectivity is inherent in this assessment. TAs will assess understanding and mastery of practical lab techniques on the basis of their daily observations of your work, including efficiency, safety, organization, and ability to follow the procedures without excessive direction. The assessments will be normalized to a constant average across all sections, so that students are treated fairly regardless of section.

Examinations

There are two hour exams:

Exam 1: Tuesday, March 11, 5:30 pm (100 Phillips Hall)

Exam 2: Wednesday, May 14, 2:15 pm (location TBA)

Exams will ONLY be given at the designated times. A makeup exam will only be given in the case of an excused absence for University-approved reasons. Personal or family travel is NOT an excused absence.

Safety

The course is designed to be safe when students follow appropriate, defined procedures and use the lab materials in the designated way. Safety is enhanced when all students are properly prepared and alert:

- You must pass the safety quiz with 100% before you are allowed to work in the lab.
- Show up and leave on time. Do not enter the lab until a TA or instructor is present. Come prepared in every aspect (content preparation, goggles, clothing)
- Wear safety glasses or goggles at ALL times. The TA may make a few introductory comments before any equipment or materials are out. Glasses must be worn from that point until you leave. Group discussion may be best convened in the hall. Wearing contact lenses is discouraged.
- Feet, legs, and the midriff should be covered. (You can carry a pair of sweats and tennis shoes during warm weather.)
- Eating, drinking, and smoking are prohibited in the lab at ALL times. No flames are allowed in the lab. Wash your hands right before you leave.
- Report ALL injuries of any kind to the TA. You should even report a minor cut or burn to the TA before you go to the bathroom to wash it.
- Solvents, solids, and sharp items must be disposed of properly. NOTHING goes down the sink.
- An organic chemical may pose a different level of hazard to an adult than to an unborn fetus. Students who are pregnant or think that they might become pregnant during the course should discuss their enrollment in this course with their physician(s). Material safety data sheets MSDS are available and the chemical materials used are listed in the manual or via additions/corrections provided during the lecture portion.
- Safe practice in the lab requires that students be able to hear warnings or announcements. Lab computers MAY NOT be used to play music; personal music devices even with headphones (i.e., tape, CD, or MP3 players) are not appropriate for labs. You should remove them and shut off cell phones before lab starts.

A student will be asked to leave the laboratory for the entire lab period (and will receive NO credit for that day's activities or any report or assignment derived from the work) for the following behaviors:

- Repeated refusal to wear safety glasses (or goggles) or to conform to the safe lab dresscode (i.e., covered feet, legs and midriff)
 - Conducting experiments or activities using equipment and chemicals other than the assigned activities. The course wishes to promote independent thinking; independent experiment design and performance is NOT allowed.
 - Improper behavior that puts oneself or another individual at risk. Egregious improper behavior is grounds for dismissal from the course.
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Academic Misconduct: Representing scientific or professional work of others as your own is unethical, dishonest, and unacceptable. The University has specific policies which govern academic misconduct. Students who are found to be engaging in academic misconduct will be given an F in the course and the case will be reported to the Office of Academic Affairs.

How to Avoid Academic Misconduct in This Course:

Exams: Individuals must work alone.

Laboratory experiments: All work in the lab must be conducted independently by each student, except in specific cases when the TA instructs the class to work in groups. Open discussion before, during and after the lab is encouraged.

Laboratory reports: Individuals must write their own lab reports, using their own words. Discussion is encouraged while preparing to write, but all students must ultimately do their own writing. Copying the work of others, whether they are current or prior students in this course, is plagiarism, and will not be tolerated.

Statements of University and/or College Policy

Administrative Home of the Course

The administrative home of this course is the College of Liberal Arts and Sciences, which governs academic matters relating to the course such as the add/drop deadlines, the second-grade-only option, issues concerning academic fraud or academic probation, and how credits are applied for various graduation requirements. Different colleges might have different policies. If you have questions about these or other CLAS policies, visit your academic advisor or 120 Schaeffer Hall and speak with the staff. The CLAS Academic Handbook also contains important CLAS academic policy:
www.clas.uiowa.edu/students/academic_handbook/index.shtml

Academic Fraud

Plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. Academic fraud is reported to the departmental DEO and then to the Associate Dean for Academic Programs and Services in the College of Liberal Arts and Sciences who deals with academic fraud according to these guidelines: www.clas.uiowa.edu/students/academic_handbook/ix.shtml

Making a Suggestion or a Complaint

Students have the right to make suggestions or complaints and should first visit with the instructor, then with the course supervisor if appropriate, and next with the departmental DEO. All complaints must be made within six months of the incident. www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5

Accommodations for Disabilities

A student seeking academic accommodations first must register with Student Disability Services and then meet with a SDS counselor who determines eligibility for services. A student approved for accommodations should meet privately with the course instructor to arrange particular accommodations. See www.uiowa.edu/~sds/

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit www.sexualharassment.uiowa.edu/ for definitions, assistance, and the full policy.

Reacting Safely to Severe Weather

The University of Iowa Operations Manual section 16.14 outlines appropriate responses to a tornado (i) or to a similar crisis. If a tornado or other severe weather is indicated by the UI outdoor warning system, members of the class should seek shelter in rooms and corridors in the innermost part of a building at the lowest level, staying clear of windows, corridors with windows, or large free-standing expanses such as auditoriums and cafeterias. The class will resume, if possible, after the UI outdoor warning system announces that the severe weather threat has ended.