SYLLABUS: Organic Chemistry Laboratory **4:141 (Fall 2012)**

Department of Chemistry: E331 CB, 335-1350
Instructor: Dr. Gregory K. Friestad (E455 CB, 335-1364)
e-mail: gregory-friestad@uiowa.edu
Office hours: Monday 1:00–2:30pm, Tuesday 1:00–2:30pm, or by appointment
Scheduled Lectures: Wednesday 4:30–5:20, W290 CB
Laboratory Sections: A01 Monday and Wednesday, 1:30–4:20 pm, W468 CB
A02 Monday and Wednesday, 1:30–4:20 pm, E464 CB
A03 Tuesday and Thursday, 9:30–12:20 pm, W468 CB
A04 Tuesday and Thursday, 9:30–12:20 pm, E464 CB
A05 Tuesday and Thursday, 2:00–4:50 pm, W468 CB
A06 Tuesday and Thursday, 2:00–4:50 pm, E464 CB
SCA Tuesday and Thursday, 5:00–7:50 pm, W468 CB
SCB Tuesday and Thursday, 5:00–7:50 pm, E464 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

---

Prerequisites
4:012 and 4:121 (or 4:123)
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, E225 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.

E225 CB Chemistry Center Hours: 8–12 noon & 1–5 pm on M-Th (close at 4:30 PM on Friday)
Contact person: Jessica Alberhasky (335-1341).

Teaching Assistant Office Hours
Your teaching assistant (TA) can be found in the Student Resource Center (E208 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 M–Th 8:30a-6:30p and Fri. 9:30a–3:30p. Your TA will tell you her/his office hours; a listing of them is also available in the Chem Center (E225 CB).

Grading
There will be two exams (midterm and final), 11 laboratory reports, and two assessments of in-class laboratory performance (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
Typical Grade Average in this course = about 3.0

A total of 685 points is possible:
- Exams (2 x 100) = 200 points
- In-class performance 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	Green Chemistry	10	25	35
11	Molecular Modeling	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.

In-Class Performance 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 exams:
Exam 1: Wednesday October 24, 2012, 6:30 pm (Van Allen 70 or Van Allen LR1)
Exam 2: (final exam times will be announced after the semester is underway)
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. Shoes that expose any part of the foot are not permitted. (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.

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 those cases when the TA specifically instructs the class to work in pairs or 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 such academic misconduct will not be tolerated.

Statements of University and/or College Policy

Administrative Home. The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at http://clas.uiowa.edu/students/handbook.

Electronic Communication. University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences (Operations Manual, III.15.2, k.11).

Accommodations for Disabilities. A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Honesty. All CLAS students have, in essence, agreed to the College's Code of Academic Honesty: "I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled (CLAS Academic Policies Handbook).

CLAS Final Examination Policies. The final examination schedule for each class is announced around the fifth week of the semester by the Registrar. Final exams are offered only during the official final examination period. No exams of any kind are allowed during the last week of classes. All students should plan on being at the UI through the final examination period. Once the Registrar has announced the dates and times of each final exam, the complete schedule will be published on the Registrar's web site.

Making a Suggestion or a Complaint. Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident (CLAS Academic Policies Handbook).

Understanding Sexual Harassment. Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather. In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Department of Public Safety website.