Professor:  Ned B. Bowden

Class Times:  Lectures are at 11:30-12:20 in C20 PC.
Tests are scheduled on Thursdays from 8:45 to 10:15 P.M.
No final exam is given in this course

Contact Info:  W425 Chemistry Building
335-1198
Ned-bowden@uiowa.edu

Course Website:  ICON, http://icon.uiowa.edu

IMPORTANT:  To reach me or set an appointment please send an email and I will try to respond quickly.  I rarely answer my phone, so calling me is a waste of time.  Email is a much better way to reach me.

Laboratory Sections:  
A01 MW 1:30-4:20 in W468
A02 MW 1:30-4:20 in E464
A03 TTh 9:30-12:20 in W468
A04 TTh 9:30-12:20 in E464
A05 TTh 2:00-4:50 in W468
A06 TTh 2:00-4:50 in E464
A07 TTh 5:00-7:50 in W468
A08 TTh 5:00-7:50 in W464
A09 MW 5:00-7:50 in W468
A10 MW 5:00-7:50 in E464
A11 TTh 9:30-12:20 in W475
NMR TA: In Hyun Hwang
Admin TA: Thomas Wood
Head TA: Adam Brummett

Office Hours
I reserved these times for you and am happy to meet and discuss problems you are having. If these times do not work for you, we will set an appointment by email to meet another time.

**Teaching Assistants**
The TAs for this class have office hours in the student resource center located on the second floor of the chemistry building. You can talk to your TA or any other TA for this course. I highly recommend talking to a TA for this course if you have a specific question. TAs who know less than you about organic chemistry laboratory are also in the resource center, so you will probably want to avoid them. The office hours for the TAs are posted in the chemistry center and located on line [http://www.chem.uiowa.edu/stdsrvcs/index.html](http://www.chem.uiowa.edu/stdsrvcs/index.html), or you can ask your TA when their office hours are held. Because of late scheduling due to various reasons, their office hours are not known yet but I will add them to the syllabus on ICON so you can find the information there.

Andrew Cox  
Jake Duncan  
Tyler Graf  
Abhi Gupta  
In Hyun Hwang  
Chris Kassl  
Rebecca Laird  
Krupal Maity  
Anthony Montaya  
Marcus Mueller  
Nicholas Schnicker  
John Williams  
Thomas Wood  
Andrew Zimmerman

**Head Teaching Assistant**
Adam Brummett (adam-brummett@uiowa.edu) is the head TA for this course. You should feel free to approach him with problems or issues. Adam has a lot of flexibility to run the course the way I describe it to him, and he can aid you if you have a problem. Ultimately, I am the one in charge so if Adam cannot help you, please come and see me.

**Questions**
The material can be confusing and you will have questions as the semester goes along. You can direct your questions to your TA, the head TA, or to me. We are happy to help you and make the class as straightforward as possible. Ultimately, you will get out of this class what you put into it; our roles are to guide you along your path towards an education.

**Course Administration at the Chemistry Center**
Many issues can be taken care of at the chemistry center (E225 CB). It is open from 8-12 and 1-5 on weekdays. Jessica Alberhasky runs the chemistry center and is the person to contact.

You should use the chemistry center to take care of these matters: sign drop/add forms, sign section changes, find TA office hours, and submit late lab reports. If you have any problems, you can talk to Adam or me.

**Missed Class**
If you must miss a lab course you must notify the professor ahead of time. There are very few acceptable excuses for missing a lab, so you must have an excellent reason for missing a lab or it will be an unexcused absence.

I will keep track of missed labs so that we are prepared for the last week of class when there is a make-up lab session. Please do not notify anyone else, send me an email or talk to me.

Missing a lab class is bad. If you miss 2 or more lab periods during the semester you will get an F. If you miss a lab period, you must make it up as soon as you can. Try to plan ahead. You need to talk to the professor (not the chemistry center!) to schedule these make-up classes, do not show up to a lab without permission. If you show up to a lab period without prior permission, you will asked to leave.
Why Are You in This Class?
Organic chemistry lab should be fun. You get to go into lab, mix chemicals, play with new instruments, and discover how chemistry is performed. You will alter molecules on the size scale of atoms and then prove to yourself what you synthesized. Organic chemistry lab can make organic chemistry come alive, and that is what I hope will happen for you. I know that very few of you are in this class for fun, for most of you it is a requirement in your major. That is a fine situation, you should be able to get some knowledge out of it that will help you later in your life. Along the way, let’s try to remember that chemistry is a fun science and one that has a very real impact in your life (who do you think makes your drugs or the plastics you handle every day?!).

A smart guy put a quote in his Ph.D. thesis that is relevant for this course:

I hear and I forget
I see and I remember
I do and I understand

Goals and What You Should Take Away From This Class
1. Learn organic chemistry lab techniques
2. Learn how some organic reactions are carried out
3. Learn how molecules are characterized
4. Have fun playing with real chemicals and equipment

Exams
There will be three hourly exams held on the following days:
Thursday, February 23
Thursday, March 29
Thursday, April 26

The room assignments for these exams will be posted on the ICON website prior to the exam and announced in class.

Leave all textbooks, models, notes, etc. at home or you will be required to leave them in the front of the classroom during the exam. The exams will be closed book and the short answers should be written in blue or black ink. Exams written in pencil will not be eligible for a regrade. Exams will be returned on the first Monday following the exam in the chemistry center (E225 CB). Your grades will be posted on ICON.

Grading
The College of Liberal Arts and Sciences strongly suggests the following grade distribution.
18% A
36% B
39% C
5% D
2% F

The grade distribution will be close to these values, but it may vary based on class performance. Plus and minus grades will be given, they are left to the discretion of the instructor at the end of the semester.

You will be graded on three hourly exams, periodic quizzes, laboratory reports, and TA evaluations. Your final grade will be calculated as follows.

Hourly exams: 60%
Quizzes: 15%
Lab reports: 20%
TA evaluations: 5%
<table>
<thead>
<tr>
<th>Experiment</th>
<th>Title</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Literature</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Techniques (distillation, GC, and chromatography)</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>NMR spectroscopy</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Acetaminophen</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>Isolation</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Diels-Alder</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>Wittig</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>Unknown</td>
<td>25</td>
</tr>
<tr>
<td>9</td>
<td>Grignard</td>
<td>25</td>
</tr>
<tr>
<td>10</td>
<td>Green Chemistry</td>
<td>25</td>
</tr>
<tr>
<td>11</td>
<td>Molecular Modeling</td>
<td>25</td>
</tr>
</tbody>
</table>

The TA evaluations will be based on their observations of proper use of the lab notebooks, prelab write-ups, and effective mastery of lab techniques. They will also note whether you followed the safety guidelines.

I will not require you to write eleven lab reports during the semester; rather, you will write five to six lab reports. I will announce in class on the Friday following completion of the experiment if you have to write a report for it and I will post the information on ICON that Friday too. If I get flooded with emails asking if we have to write a lab report about an experiment before that Friday, I may choose to dock points from your grade! I may also provide additional information about how I want the lab report written up on ICON and you must follow all guidelines that I will place on ICON. I will post any additional guidelines on ICON at the same time as I post whether you have to do the lab report and I will announce them in class.

I require only five to six lab reports (past years did 11 lab reports), but I require all prelabs and experimental data to be place in your notebook for all experiments. Failure to do this will result in a loss of all TA evaluation points and require a discussion with the professor.

The quizzes will be taken in the beginning of lab sections. You need to show up on time to take the quiz! If you arrive late and the quiz is complete, you will not be given a chance to take it. A quiz will not be given before every lab, they will be spread throughout the semester. The quizzes will be based mostly on the experiments that you are working on. I want to test that you read the lab manual for the experiment you are working on and understand what was described.

Your test scores will be posted on ICON. I will post the grade distributions for each exam on line so that you know how you did on each exam. I will also periodically post overall grade distributions so that you know exactly where you sit in this course. If you are confused about what grade you have, please come and talk to me.

**Pre-labs**
You must turn in a prelab for each set of experiments prior to starting that experiment. For instance, you need to write a prelab for the Isolation experiment for the first day of class that you are going to work on that experiment. On the first day of the week you have class (i.e. Monday or Tuesday), you must write a prelab for the entire Isolation experiment that will cover all of the work you will do that week. It is important to be prepared in this class.

**Regrades**
If you feel that your test has been graded unfairly, you can ask for a regrade. Write the reason for your regrade on the front of the test and **submit it to the chemistry center within one week after the exam was available to be returned**. I will not regrade exams after that one week has passed so be sure to turn them in on time. I reserve the option to regrade the whole exam. Regrades are not possible on tests written in pencil or erasable ink.
Make-up exams
Make-up exams will only be provided under exceptional circumstances. A valid, written excuse must be provided prior to a missed exam to the instructor. If you are ill, you must provide a written excuse signed by a doctor. If you anticipate having a conflict with an exam, please see me ahead of time. If you miss an exam for unforeseen reasons and have not provided a valid, written excuse to the instructor prior to the exam, you have one week after the exam to provide me with a valid, written excuse. The dates for the make-up exams will be announced at the appropriate time. There will only be one make-up exam for each hourly exam. I handle make-up exams differently than other chemistry profs, so do not bother the chem center because no one there can approve excuses for you to take a make-up exam. Failure to contact the professor with a valid excuse is the same as not having a valid excuse and will result in a zero for that exam.

Cheating
Our scientific environment is maintained through the actions of its members and the trust we place in one another. Scientists are expected to remain honest in their words and actions. When this trust is broken, the results are often severe and career threatening. One should not cheat on the false assumptions that 1) no one is harmed if no one is aware of the cheating or 2) it is alright to cheat if you are not caught. A good scientist will hold themselves to a higher standard where cheating, even if it isn't discovered, is wrong.

With this important responsibility comes the privilege of being a member of a community that values openness and truth. As you are all scientists in training I will expect you to act accordingly and with an upright manner. Anyone caught cheating will be reported to the administration and punished by me according to how I see fit.

I want to clarify what is encouraged and what I consider to be cheating. When you take an exam you can not cheat (look at someone else’s exam, bring in material that is not allowed, write notes on your body, etc…). For the prelab reports, I strongly encourage you to talk to others so that you understand the experiments. You must write your own prelab report independent of others, you are not allowed to copy a prelab report. During the lab experiments, you are encouraged to talk to others and your TA, you may even work in groups. If you are required to work alone, we will make it clear that you are not to discuss matters with your fellow students, but these times will be rare. Go ahead and talk during lab. The laboratory reports must also be in your own words and not copied or plagiarized in any way. You can talk to others about your lab report, but ultimately you must write your own report.

If there is any confusion please see me and I will try to clear it up.

Attendance
Attendance at lecture is not mandatory but encouraged. I may introduce material outside of the course text, you are responsible for learning that material as it may appear on an exam.

Safety
Safety in the organic chemistry lab is critical and I will take it very seriously. Reactions have the annoying habit of blowing up when you don’t expect them to and showering the immediate area with small pieces of glassware. A Nobel Laureate in chemistry is blind in one eye because a small piece of glassware blew up when he got close to it to see what was inside (he wasn’t wearing goggles). This course is designed to be safe much like car are designed for safety, still, you must follow safety procedures as accidents can not be predicted.

• You must pass the safety quiz with 100% and sign it 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.

Textbook
Required text: “Organic Chemistry Laboratory” (download this from ICON)
Required equipment: Laboratory goggles or safety glasses, gloves, laboratory notebook with duplicate carbonless pages

Disabilities
I would like to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please contact me during my office hours.

Complaints
The faculty handbook includes this item for how to deal with complaints about the class.

- The student should ordinarily try to resolve the matter with the instructor first.
- If the complaint is not resolved to the student's satisfaction, the student should discuss the matter further with the course supervisor (if the instructor is a teaching assistant), the departmental executive officer, or, in some departments, another faculty member designated to receive complaints.
- If the matter remains unresolved, the student may submit a written complaint to the Associate Dean for Academic Programs, 120 Schaeffer Hall (335-2633). (Graduate students should be directed to the offices of the Graduate College, 205 Gilmore Hall, 335-2137.)

Students in need of additional information may contact staff in the Chemistry Center during normal business hours.
Weekly Schedule for Chem 141, Fall 2007

If any adjustments are made, I will announce them in lecture and on ICON.

<table>
<thead>
<tr>
<th>Week of</th>
<th>Sections 1, 2, 9, 10</th>
<th>Sections 3, 4, 5, 6, 7, 8, 11</th>
<th>Lecture or Lab Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 16</td>
<td>M T</td>
<td></td>
<td>No class</td>
</tr>
<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Check-in/syllabus</td>
</tr>
<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#1 Literature/ #2 Techniques</td>
</tr>
<tr>
<td>January 23</td>
<td>M T</td>
<td></td>
<td>Literature</td>
</tr>
<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Distillation and GC</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#2 Techniques</td>
</tr>
<tr>
<td>January 30</td>
<td>M T</td>
<td></td>
<td>Distillation and GC</td>
</tr>
<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Chromatography</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#3 NMR</td>
</tr>
<tr>
<td>February 6</td>
<td>M T</td>
<td></td>
<td>Extraction</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Extraction</td>
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<td></td>
<td>F F</td>
<td></td>
<td>#4 Acetaminophen</td>
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<tr>
<td>February 13</td>
<td>M T</td>
<td></td>
<td>Acetaminophen</td>
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<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Acetaminophen</td>
</tr>
<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#5 Isolation</td>
</tr>
<tr>
<td>February 20</td>
<td>M T</td>
<td></td>
<td>Isolation</td>
</tr>
<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Isolation</td>
</tr>
<tr>
<td></td>
<td>F F</td>
<td></td>
<td>Exam #1 on 2/23</td>
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<tr>
<td>February 27</td>
<td>M T</td>
<td></td>
<td>Diels-Alder</td>
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<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Diels-Alder</td>
</tr>
<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#6 Diels-Alder</td>
</tr>
<tr>
<td>March 5</td>
<td>M T</td>
<td></td>
<td>Wittig</td>
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<td>W Th</td>
<td></td>
<td>Wittig</td>
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<td></td>
<td>F F</td>
<td></td>
<td>#8 Unknown</td>
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<tr>
<td>March 19</td>
<td>M T</td>
<td></td>
<td>Unknown</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Unknown</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>Review for test</td>
</tr>
<tr>
<td>March 26</td>
<td>M T</td>
<td></td>
<td>Unknown</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Unknown</td>
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<td></td>
<td>F F</td>
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<td>Exam #2 on 3/29</td>
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<tr>
<td>April 2</td>
<td>M T</td>
<td></td>
<td>Grignard</td>
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<td>W Th</td>
<td></td>
<td>Grignard</td>
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<td></td>
<td>F F</td>
<td></td>
<td>#9 Grignard</td>
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<td>April 9</td>
<td>M T</td>
<td></td>
<td>Grignard</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Grignard</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#10 Green chemistry</td>
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<td>April 16</td>
<td>M T</td>
<td></td>
<td>Green chemistry</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Green chemistry</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>#11 Molecular modeling</td>
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<tr>
<td>April 23</td>
<td>M T</td>
<td></td>
<td>Molecular modeling</td>
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<td></td>
<td>W Th</td>
<td></td>
<td>Molecular modeling</td>
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<tr>
<td></td>
<td>F F</td>
<td></td>
<td>Exam #3 on 4/26</td>
</tr>
<tr>
<td>April 30</td>
<td>M T</td>
<td></td>
<td>No class</td>
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<tr>
<td></td>
<td>W Th</td>
<td></td>
<td>Make-up</td>
</tr>
<tr>
<td></td>
<td>F F</td>
<td></td>
<td>No class</td>
</tr>
</tbody>
</table>

Syllabus-7
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.

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. Scroll down to 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 date and time of every final examination is announced during the fifth week of the semester; each CLAS student will receive an email from the Registrar stating the dates and times of the student's final exams. 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.

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 Public Safety web site.