UNIVERSITY OF OKLAHOMA  
College of Arts and Sciences  
Department of Chemistry & Biochemistry  
SYLLABUS: Organic Chemistry Laboratory: CHEM 3152, Summer 2011  

I. COURSE: CHEM 3152  
**Prerequisite:** CHEM 3053, Organic Chemistry I (grade of C or better recommended)  

II. INSTRUCTOR INFORMATION  

<table>
<thead>
<tr>
<th>Head Teaching Assistant:</th>
<th>Mr. Rahul Kadam</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Office:</td>
<td>PHSC 308</td>
<td></td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:rahulskadam@ou.edu">rahulskadam@ou.edu</a></td>
<td></td>
</tr>
<tr>
<td>Desire2Learn</td>
<td><a href="https://learn.ou.edu/index.asp">https://learn.ou.edu/index.asp</a></td>
<td></td>
</tr>
<tr>
<td>Podcast</td>
<td><a href="https://casapps.ou.edu/podcasts/chem3152/podcast/podcast.html">https://casapps.ou.edu/podcasts/chem3152/podcast/podcast.html</a></td>
<td></td>
</tr>
<tr>
<td>Office Hours:</td>
<td>Monday/Wednesday, 10-11 am; Tuesday/Thursday, 1-2 pm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supervising Professor:</th>
<th>Dr. Mark C. Morvant</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Office:</td>
<td>PHSC 308</td>
<td></td>
</tr>
<tr>
<td>Telephone:</td>
<td>(405) 325-9011</td>
<td></td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:mmorvant@ou.edu">mmorvant@ou.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

III. TEXTBOOK AND OTHER MATERIALS:  

Student Lab Notebook with Permanent Binding, Hayden McNeil **(Required)**  
NOTE: The 100 page Student Lab Notebook is recommended. The 50 page version will work but a significant number of students have had to buy a second 50 page Student Lab Notebook.  


Other Materials: Safety Goggles **(Required)**  
Nitrile Gloves (at least 1 pair per lab) **(Required)**  
A black marker (Sharpie) **(Required)**  
Laboratory Coat **(Optional)**  

IV. COURSE DESCRIPTION:  
Selected experiments designed to illustrate the fundamental techniques used in organic research, to develop familiarity with the properties of organic compounds and to demonstrate the application of the scientific approach to laboratory work.  

V. OBJECTIVES:  

By the end of this course, the student should be able to  
• manipulate synthetic apparatus and glassware
- carry out mathematical procedures necessary in organic synthesis and analysis.
- interpret analytical data (MP, BP, GC, IR, NMR) to verify the product/composition of a reaction.
- explain the procedures and concepts of basic organic laboratory, separatory, and synthetic techniques.

VI. EVALUATION:

The course grade will be determined by the average of Lab Notebook, Lab Quizzes, Mid-term Exam, and Final Exam. The final letter grading for the lecture course will be as follows: A ≥ 90%, B = 89-80%, C = 79-70%, D = 69-60%, F = <60%.

<table>
<thead>
<tr>
<th>COURSE GRADE:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Notebook</td>
<td>Best 16 out of 17 (20 point lab drop)</td>
<td>355</td>
</tr>
<tr>
<td>Laboratory Quizzes</td>
<td>Best 10 out of 11</td>
<td>100</td>
</tr>
<tr>
<td>Mid-term Exam</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Final Exam</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Total Points Possible</td>
<td></td>
<td>705</td>
</tr>
</tbody>
</table>

Exams:

The Exams will cover material from the online lecture material, the background in the laboratory manual, and the laboratory experiments. Therefore, it will test the students’ understanding of both the theoretical knowledge of the conceptual material and the practical knowledge of the actual techniques and operations of the laboratory techniques. The exams will be prepared by the supervising Faculty and will be uniformly graded.

Once the exams are graded and returned to the students, students should review their exams in the presence of their TA and bring any possible errors to their attention immediately. The TA will re-grade the exam using the original exam key. It is possible that a student’s grade may either decrease or increase from the original grade based on the TA re-grade. Once the student takes possession of their exam and left the supervision of their TA, only errors in calculating the total points on an exam will be corrected.

Lab Notebook and Quizzes:

See the Laboratory Notebook Guidelines for a description of lab notebook grading procedures. The lab grade will be based on a percentage of actual points possible. Each experiments is worth a set number of points as listed in the rubric in the Laboratory Notebook Guidelines based on the number of days for the experiment. The pre-lab for each experiment may take a couple of hours to prepare properly and it is important that the student understand the intent and purpose of the experiment before attending the lab.

On most labs, it should be possible to complete the lab notebook and turn in the copy pages by the end of the lab. If the experiment requires spectral analysis that may not be complete by the end of the lab, the spectra most often will be provided to the student at the next lab. In this case, the student should complete the lab and submit the copy pages to the TA during this lab. The TA will determine when the lab notebook pages are due based on the need for spectral analysis for the experiment. The latest possible due date is two lab days after the completion of the experiment. No late lab notebook pages will be accepted. Typed or “Original” Notebook pages will also not be accepted. The individual laboratory TAs will grade lab notebook assignments.

Lab quizzes may test material from previous laboratory experiments, from the background and pre-lab for the current experiment, and from the online lecture material. Most quizzes will consist of theoretical, practical, and calculation questions. The individual laboratory TAs will grade lab quizzes.
Grade Adjustments:

Large differences in grading from one TA to another are, in fact, rare. However, the supervising Faculty will review the grades for the individual laboratory sections and reserve the right to make appropriate grade modifications to address any significant variations which may occur in the grading practices from one lab section to another.

The lab grades may be normalized (positive or negative) based on comparing the section’s average on lab notebook, lab quizzes, mid-term exam, and final exam. More emphasis will be placed on the mid-term/final exam averages since these exams will be uniformly graded across all sections of the lab. The purpose of normalization of the lab grade is to compensate for slight grading differences among the laboratory sections. The supervising Faculty members will decide if normalization is necessary and the value of the normalization of the lab grades. The following are some examples of possible normalization scenarios: 1. A section with a high lab notebook/quiz average and a high mid-term/final exam average would most likely receive no normalization; 2. A section with a low lab notebook/quiz average and a low mid-term/final exam average would most likely receive no normalization; 3. A section with a high lab notebook/quiz average and a low mid-term/final exam average would likely receive a negative normalization; 4. A section with a low lab notebook/quiz average and a high mid-term/final exam average would likely receive a positive normalization.

NOTE:

Success requires not only completion of the laboratory procedures and lab notebook, but also a demonstration that the theoretical material is well understood as evidenced by exam results. Students will often have an “A” average on their lab reports, but an insufficient demonstration of an understanding of the material on the exams, which often lowers the overall grade. All aspects of the course must be completed at a high level to earn an “A” in the course.

VII. EXAM SCHEDULE

Mid-Term Exam: Thursday, July 7, (During Lab Time)
Final Exam: Thursday, August 4, (During Lab Time)

VIII. GENERAL POLICIES:

Questions:

For most questions about this laboratory, see your laboratory TA. They can handle the majority of your questions directly. For questions about the laboratory grades, the exams, or the administrative aspects of the laboratory, please contact Dr. Morvant. For questions about the lecture material or concerning the D2L site and materials, please contact Dr. Morvant.

Make-up Policy:

Labs

No make-up labs will be offered and switching lab sections is not allowed. Due to space and safety concerns, it is not feasible to schedule make-up labs or allowing students to switch lab sections. Therefore, no make-up labs will be offered. The possible need for an excused missed lab is built into the grading scheme by dropping the lowest lab notebook and lab quiz grade. If only one lab day is missed, then the assignments missed would be dropped. The dropping of a lab notebook and lab quiz is not intended as a grade improvement mechanism or to allow students to miss a lab for a non-excused reason.

If a student misses two lab experiments for a University-sponsored or legally required activity, the student must provide written documentation for the reason for the absence for both days that the student was absent. The student that misses two lab days due to a documented acceptable reason will have their
grade scale adjusted by removing that day’s lab experiment from the total points. The missed lab will not have an impact on the student’s grade, but this will increase the impact of the remaining grades on the final average and grade. If a student has missed two lab days but only one of the days was for a document University-sponsored or legally required activity, then the assignments for the excused day will be dropped and the other days assignments will receive a grade of zero, 0.

Examples of the Provost-approved university-sponsored activities are scholarly competitions, fine arts performances, and academic field trips. It is also the policy of the University to excuse absences of students that observe religious holidays. Examples of legally required activities are emergency military service and jury duty. The instructor also reserves the right to excuse an absence to a lab or exam in cases of immediate medical emergencies and family deaths.

Students who misses two lab experiments and do not have an excused absence as stated above for both days will receive a zero, 0, for one laboratory notebook assignment and be allowed to drop the other. If a student misses more than two lab experiments, it is recommended that the student contact the supervising Faculty to discuss the situation. A student cannot receive a grade for a lab experiment that they did not attend and complete.

The following are not reasons for an absence to be excused for a lab or exam: over sleeping, transportation or parking difficulties, scheduled doctors/dentist appointments, professional/graduate school or job interviews, being assigned to work by your employer (nonmilitary), non-emergency medical concerns (those that do not require immediate medical attention), and not remembering the scheduled time/date of the lab or exam.

For multiple-day experiments, students must attend all days of an experiment to receive full credit for the experiment. If a student attends the first day of a multiple-day experiment but then misses the second for an excused reason (e.g. an emergency) as listed above, the student should submit a complete laboratory notebook assignment and TA will subtract the 5 points for the second day of the experiment and grade the laboratory notebook using the grading rubric. If a student must miss the first day of a multiple-day experiment for an excused reason as listed above, the student should contact the supervising Faculty member to discuss dropping the lab and having the grade adjusted. A student who misses the first day of a multiple-day experiment cannot attend the final days of the lab due to the safety and supply concerns.

Exams

A make-up Exam may be offered. If a student misses an exam for a University-sponsored or legally required activity, the student should contact the instructor before the exam and provide documentation of the activity. An equivalent exam will be prepared and a time to take the exam will be scheduled once the instructor has evaluated the documentation for the absence. The instructor also reserves the right to excuse an absence to a lab or exam in cases of immediate medical emergencies and family deaths. Make-up exams will not be offered unless the instructor is contacted by phone or e-mail before the exam time.

Laboratory Dress and Conduct:

Proper attire in the lab is important for your safety. Therefore, a student will be asked to leave the lab if they are not dress appropriate for the lab. In general, all the student’s skin should be covered except for the lower arms and hands (up to mid-bicep) and the neck and head. A good description of what would be acceptable dress would be tennis shoe, full-length jeans, and a short sleeve T-shirt. Shoes should contain and cover the full foot. Pants/Skirts/Dress should cover all the legs to the ankle and up to the shirt/top. Shirts/Tops should cover from the pants/skirt to the neck and mid-bicep.

Laboratory goggles should be worn at all times in the lab. A student will be asked to leave the lab if they are not wearing safety goggles.
There are several experiments where gloves are required and will be supplied. Students should wear gloves during all experiments although the Department may not supply gloves for experiments in which they are not deemed essential.

The students should be focused on the experiment being performed during the lab. Therefore, the use of a cell phones, audio devices, or video devices are prohibited during the lab. The students should also not be reading course material unrelated to the laboratory or completing assignments from other courses. The TA has the right to ask the student to put away any material not related to the lab or to leave the lab room (this will impact the student’s grade).

All students are expected to follow proper classroom behavior and treat other students and the instructor with respect. If the instructor deems a student’s actions or behavior disruptive to the class, the students will be asked to leave the class for that day.

Accommodations:

Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities. Students requiring academic accommodation should contact the Office of Disability Services for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Office of Disability Services website http://www.sa.ou.edu/ods/index.html.

Use of Electronic Devices during Exam:

Any use of an electronic device (iPod, PDA, Cell Phone, MP3 player, CD player, computer…) during an exam is strictly prohibited. Any use of such a device will be considered an attempt to cheat on the exam and will result in a 0 on the exam although more severe actions may be considered.

Calculators may be allowed on exams when needed, but only for mathematical operations. The use of programmable calculators to store or retrieve information during an exam will be considered an attempt to cheat on the exam. Also, if a calculator is discovered to have saved programs or information that could be used as an unfair advantage on the exam, this will be considered an attempt to cheat on the exam. Programs or operators that aid in mathematical operations such as a quadratic equation calculator may be used.

Academic Integrity and Honesty:

All students are expected to conform to college-level standards of ethics, academic integrity, and academic honesty. By enrolling in this course, you agree to be bound by the Academic Misconduct Code published in The University of Oklahoma Student Code (www.ou.edu/studentcode/OUStudentCode.pdf). For further clarification please see: www.ou.edu/provost/integrity-rights/.

All members of the community recognize the necessity of being honest with themselves and with others. Cheating in class, plagiarizing, lying and employing other modes of deceit diminish the integrity of the educational experience. None of these should be used as a strategy to obtain a false sense of success. The need for honest relations among all members of the community is essential.

Copyright:

All handouts and lecture materials are ©2010 by M. C. Morvant. The online streaming video and supplements are ©2006 by R. L. Halterman. Free (no-cost) copying and distribution of these materials among OU CH3152 students is allowed. Any other distribution, including distribution for a fee (e.g., commercial note services) is not allowed without our written consent.
Changes in the Syllabus:

As the course develops, it might be desirable/necessary to make appropriate changes in aspects of this syllabus. The instructors reserve the right to do so.