Chemistry 29a Organic Chemistry Laboratory I
Fall 2015 Syllabus
Brandeis University

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Office: SSC 00-18 (Telephone: 6-2575)

Course description:
Chemistry 29a is an experiential learning course where you are introduced to laboratory techniques used by chemists in the synthesis, isolation and purification of organic compounds. Various methods of determining compound identity and analyzing purity will be studied, and experimental procedures reported in current literature will be adapted in the lab to prepare molecules of biological significance. 

Prerequisite: A satisfactory grade (C- or better) in Chem 18b or Chem 19b or the equivalent. Co-requisite: Chem 25a. Dropping Chem 25a necessitates written permission from the lab instructor to continue with the lab. May yield half-course credit toward rate of work and graduation. Two semester hour credits.

Learning goals and objectives:
Understand organic chemistry in context of scientific literature. Connect textbook reactions with practical laboratory techniques. Read, follow and adapt literature procedures for a reaction goal. Complete reaction sequence to a target molecule with research applications. Develop scientific writing skills through lab reports.

Class times:
- Lectures: Fri 11:00 am – 12:20 pm in Gerstenzang 123.
- Lab sections: Mon, Tues, Wed, Thurs, Fri 1:00 – 5:20 pm in Shapiro Science Center 00-08. A brief prelab lecture will be given by your TA at the beginning of each lab.

Attendance:
Attendance at all labs and lectures is mandatory. You are expected to arrive on time to each lab section so that the prelab lecture and experiment can begin promptly. If you are more than five minutes late to lab, both your prelab and lab report will be considered late and you will lose 10 points on each.

Office Hours:
- Mon, Tues, Wed, Thurs 12:00 – 1:30 pm in SSC 00-08B, and other times by appointment.
- Your lab TA will hold office hours at a time determined during your first lab session.

Required materials:
- Duplicate page spiral bound laboratory notebook.
- Safety goggles –purchased from the stockroom at the first lab session ($10, cash only).
Online resources:
- LATTE course website: http://latte.brandeis.edu. All course handouts will be available on LATTE.
- Compound structures, physical data, spectra, etc. can be found at http://sigmaaldrich.com.

Grading:
Grades will be distributed as follows:
- Laboratory reports: 60%
- Two examinations: 30%
- Lab performance: 10% (evaluated by your TA)
Course grades will be determined based on the class average and student distributions around the average.

Examinations:
Examinations will be held during Friday lecture times 11:00 am – 12:20 pm in Gerstenzang 123.
Exam 1 (October 9), Exam 2 (November 20)
There is no final examination for this course.

Preparation for lab:
Prepared students make for a safer and more efficient lab experience. Lab preparation includes familiarizing yourself with techniques relevant to the experiment (assigned chapter readings and any handouts), and completing the prelab. **You will not be allowed to begin the experiment with an incomplete prelab write-up.**

Laboratory reports:
Each experiment will require a preliminary laboratory report (prelab) and a final laboratory report. Please see the Report Information handout for information to always include in each section of your lab report.

Download the appropriate lab report file from the LATTE, and **do not modify any formatting.** Chemdraw software is available for drawing structures if desired (see online resources above). Each section of the prelab/final report is limited to one page. **Information presented on the wrong page or exceeding the 1-page section limit will not receive any credit.**

Prelabs: See the Report Information handout for prelab requirements. Your TA will check your prelab at the beginning of the lab before you begin the experiment. You will lose 10 points if your prelab is incomplete, and you will not be allowed to begin the experiment until the prelab is completed.

During lab: A duplicate page notebook is required to record your lab procedure, observations, and data. The carbon copy pages must be turned in with the final lab report.

Final laboratory reports: See the Report Information handout for report requirements. Your prelab and carbon copy notebook pages are part of your final report. You may revise prelab information as needed, but only submit one version for grading. Printed data such as GC traces or spectra are always required with the final report. Reports are due by the beginning of the lab period following experiment completion. Late reports lose 10 points per day (24 hr period). Graded reports will be returned by your
TA at the lab following the session when the report was due. Lab reports are graded out of 100 points. The point distribution is as follows:

- Prelab: 25
- Notebook pages: procedure, observations, etc.: 25
- Results (including wt, yield, mp, etc.), discussion, conclusions: 30
- Questions: 20

**Makeup labs and exams:**

There will be no makeup examinations. If you arrive late to an exam, you must complete the exam in the allotted time. **Makeup labs will be allowed only with a documented medical excuse.**

**Regrades:**

If you suspect errors in grading, first discuss it with your TA, then with the instructor as needed. Please note that your TA cannot adjust grades once the graded document has been returned. Any regrades must be submitted to Dr. Mascall with a note explaining the nature of the grading dispute **no later than two days after the document is returned.** The entire document will be regraded. Examination regrades must be submitted with a note **no later than a week after the exam is returned.**

**Laboratory safety:**

You will not be allowed to begin a lab without acceptable attire. No skin should be exposed, except for face and hands. Open-toed shoes, shorts, short skirts, and sleeveless or midriff-baring shirts are not proper laboratory attire. **Safety goggles are to be worn at all times while in the lab.** Eating, drinking, smoking and chewing gum are strictly forbidden in lab. Long hair should be tied back. At Check-In, you will be asked to read and sign a Laboratory Safety handout.

**Use of electronics:**

The use of electronic devices (cellular phones, laptops, tablets, etc.) is strictly prohibited in labs and exams. If you require special accommodations for electronic use, please see me.

**Disabilities:**

If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please present your letter of accommodation to Dr. Mascall as soon as possible. Questions about documenting a disability or requesting academic accommodations should be directed to Beth Rodgers-Kay in Academic Services (6-3470 or brodgers@brandeis.edu). Please note that accommodations cannot be granted retroactively. The instructor will not be accountable for providing an accommodation when a student has not presented a letter of accommodation before a given exam or assignment in question.

**Academic Integrity:**

You are expected to be familiar with, and to follow, the University’s policies on academic integrity. Please consult the Brandeis University Handbook on Rights and Responsibilities for all policies and procedures (pay particular attention to section 4). All policies related to academic integrity apply to in-class and take home assignments, exams and quizzes. Any work submitted by a student for academic credit will be the student’s own work. Students may only collaborate on assignments with permission from the instructor. Allegations of alleged academic dishonesty will be reported to the Brandeis Student Rights and Community Standards Office. A first offense may result in zero assignment credit for all involved, and a repeat offense may result in suspension or dismissal from the University.
Course schedule:

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<tr>
<th>Mon</th>
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<td>27 First day</td>
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<td>Check-in Lab 1</td>
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<td>23 Yom Kippur Lab 3</td>
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<td>Lab 3 No lab Exp. 3 – Who else has my compound?</td>
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<td>Lab 4 Exp. 4 – Extraction</td>
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<td>5 Shmini Atzeret</td>
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<td>Lab 5 Exam 1 Lab 5 Reaction 1 setup – Glucal benzylation (S_{N}2) IR Spectroscopy</td>
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<td>Lab 6 Reaction 1 purification – Glucal benzylation (S_{N}2) Literature and spectroscopy</td>
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<td>21 Lab 7</td>
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<td>28 Lab 8</td>
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*Experiment schedule subject to change. Any changes will be announced in class and LATTE.