

Organic Reaction Mechanisms (CHMC41H3)
Winter 2011
University of Toronto at Scarborough

Welcome to CHMC41! This course is intended for students who have completed the two-semester introductory course in organic chemistry and wish to expand their understanding of structure and reaction mechanisms in organic chemistry. The laboratory experiments are designed to complement the topics covered in lectures. Organic chemistry is a perfect combination of theory and practice, as you will experience them. CHMC41 is going to require some hard work, but you will find your efforts rewarding. Modern organic chemistry is about your daily life and your future, and CHMC41 provides the theory and practice to make you prepared to explore this fascinating field.

Students enrolled in CHMC41H must have previously successfully completed CHMB41 and

Molecular models:

Several topics in CHMC41 involve stereochemistry or conformational analysis. Molecular model kit and software are valuable tools for visualization and manipulations of compounds in three-dimensions. The molecular model kit is available to purchase from the UTSC bookstore (optional), and you will be allowed to use them as an aid during the mid-term test and final exam. In addition, you can obtain a Chem3D software as a component of the package ChemBioOffice 2010. You can download the package at <http://www.cambridgesoft.com/>. If you are a first time user, you need to get yourself registered using a valid U of T email account. More information is available at the A.D. Allen Chemistry Library homepage: <http://www.chem.utoronto.ca/facilities/chemlib/index.htm>.

Website:

CHMC41 will be using Blackboard to release and archive course-related information including: class announcements, lecture slides, contact information and occasionally some useful outside resources. In addition, class emails will regularly be sent via Blackboard. ***In order for you to receive these emails, you must have a valid “utoronto.ca” email account registered with ROSI.***

To login, go to: <https://portal.utoronto.ca/webapps/portal/frameset.jsp>. Click on “log-in to the portal” at the top left. Login using your UTORid username and password (same as what’s used for your UTORmail). Under the “My Courses” box (top right), click on the CHMC41 link.

Email Policy:

Please use a valid “utoronto.ca” account for all CHMC41 correspondence. Emails received from other accounts will not necessarily be answered. When composing your email, please use professional language. Be sure to include the course code in the subject line and sign the email with your first and last name, as well as your student ID. Your email will be answered as soon as possible (likely within 36 hours, unless it is a weekend or holiday). When emailing Dr. Lana Mikhaylichenko, please state which course you are talking about. Dr. Lana Mikhaylichenko is running multiple courses so she needs some context. Questions on the lab material should be directed to Dr. Lana Mikhaylichenko, or your TA.

Term Test:

There will be one midterm test written outside of class time, which will count as 25% of your final grade. The exact date, time, location and material to be tested will be announced as soon as they are available. ***Please note that there will be no make-up exams for a missed test.*** Should you miss a term test due to a legitimate medical illness, you will need to submit documentation. Normally this would be in the form of an official UTSC medical form completed by your doctor (http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf).

Policy on Missed Tests:

Please note that there will be no make-up exams for a missed test. Should you miss a term test due to a legitimate reason, you must submit appropriate documentation within one week of your absence. If the reason is medical, an official UTSC medical form should be downloaded from

http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf.

If no acceptable documentation is received, you will receive a grade of zero for that test.

With a validated absence, the value of the missed test will be added to your final exam. Please note that on page 329 of the 2010/2011 UTSC Calendar it states: "You cannot petition to withdraw from a course on the grounds that no work was returned to you before the last day to withdraw without academic penalty if this is the result of your having been given an extension to complete your work for reasons relating to you and not the rest of your class."

Final Examination:

There will be a *cumulative* exam written during the end of semester exam period, which will count as 45% of your final grade. The exact date, time and location will be announced as soon as they are available. ***Please note that if you miss the Final Exam, you must petition the Registrar's Office to write a make-up exam in the next formal exam period.*** Check the UTSC Calendar for instructions and deadlines.

Labs:

The laboratory component of CHMC41 is compulsory, and, ***in order to pass the course, you must also pass the lab component.***

Please arrive *on time* for your labs and come *prepared*. The experiments are designed such that a *well-prepared* student can complete the experiment in the allotted time. If you haven't read over the procedure ahead of time and made sure that you understand each step, it will likely be difficult for you to finish your work on time. As a suggestion, I recommend that you prepare a point-form version of the lab procedure before coming to each lab.

Lab Schedule: Please read the Introductory part of your lab manual.

Lab Manual:

Lab Manual for this course will be posted on-line on a Blackboard course page. The introductory part of the Lab Manual has a tentative lab schedule and all the information you need to know about these labs. Please read it before coming to the actual labs.

Lab Coats and Safety Glasses:

Lab coats and safety glasses must be worn at all times in the laboratory. Contact lenses may not be worn in the laboratory. You must bring goggles, a lab coat and a notebook to the labs by yourself. All of these can be purchased from the UTSC Bookstore. You may purchase a lab notebook from the dollar store. The smallest size would be about 6" X 8". We will provide you

Documentation should be provided as soon as possible so that a makeup lab can be scheduled, provided that room can be found in another lab section. ***If no reason for your absence is made, a mark of zero will be given for that lab.***

Lab quiz:

It will be a short 10 min quiz at the beginning of each lab. Please read a Laboratory Schedule section on a Blackboard for more information about each lab.

Lab Website:

All your lab grades for this course and any lab announcements will be on the Blackboard course page.

Oral Presentations

The assignment for the oral presentations will be given to you during lab period. The location and time for your presentations will be posted later on a Blackboard course page. Please check the Blackboard for the detailed explanation about this presentation. Do not worry – historically students do not like the idea about oral presentation at the beginning but really enjoy it at the end.

You will submit your literature assignment through Turnitin program. This is a U of T statement about this program:

"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".

We will post the detailed explanation of how to use this program later on the course Blackboard page.

Method of Evaluation:

The following grading system will be used to calculate your final grade:

Graded Work	Value
Laboratory*	30%
Term Test (NO MAKE-UP)**	25%
Oral Presentation	5%
Final Exam	40%

*You must pass the lab to pass the course.

**If you miss a test with a valid reason as described in the section "Policy on Missed Tests", its value will be added to that of the final.

Online Grades:

Individual grades will be posted on the intranet and/or Blackboard as they become available. Please check these periodically to ma0 TD.1031 Tw{ m)8(a)-1(0 TDS n pr5o[PI-4.4rd-.0002 TcD.103102

Study Hints:

Organic chemistry is a cumulative subject. As such, an understanding of new material depends on mastery of topics discussed in previous chapters, including that which was taught in Organic Chemistry I and II. **Keep up with the material –do not let yourself get behind!!!**

Academic Integrity:

UTSC anticipates that you will pursue your studies with purpose and integrity. The cornerstone of scholarship in all academic disciplines is honesty. UTSC expects that you will approach everything you do here honestly – whether solving a homework problem, or writing an exam. It is critically important both to maintain our community which honours the values of honesty, trust, respect, fairness and responsibility and to protect you, the students within this community, and the value of the degree towards which you are all working so diligently.

According to Section B of the University of Toronto's Code of Behaviour on Academic Matters

4. Study and description of organic reaction mechanisms
5. Nucleophilic substitution
6. Polar addition and elimination reactions
7. Carbanions and other nucleophilic carbon species
8. Reactions of carbonyl compounds and aromaticity
9. Aromatic substitution
10. Pericyclic reactions
11. Free-radical reactions
12. Photochemistry