

**Organic Synthesis (CHMC42H3)**  
**Winter 2012**  
**University of Toronto at Scarborough**

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synthesis. CHMC42 offers a systematic training how to make organic molecules. 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. This course 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 CHMC42 provides theory and practice to make you prepared to explore this fascinating field.

Students enrolled in CHMC42 must have successfully completed CHMB41 and CHMB42. Please carefully read through this document before we get started. It contains important information which will help ensure you have all the tools you'll need to succeed in this course.

**Team:**

**Instructor:**

Prof. Xiao-an Zhang  
SW511  
Email: [xazhang@utsc.utoronto.ca](mailto:xazhang@utsc.utoronto.ca)  
Office Hours: Monday 2:30-5:30 pm

**Lab Coordinators:**

Dr. Lana Mikhaylichenko  
SW-633A or SW155B (Office hours will be posted on Blackboard)  
Email: [mikhay@utsc.utoronto.ca](mailto:mikhay@utsc.utoronto.ca)

***Lecture Schedule and Locations:***

Friday 9:00 am - 11:00 am in SW 128

***Textbook:***

*Modern Organic Synthesis: an Introduction*, by George S. Zweifel and Michael H. Nantz, W H Freeman & Co.

***Suggested References:***

- (1) *Organic Chemistry*, 6th Edition, by Paula Yurkanis Bruice, Pearson Education, Inc.
- (2) *Advanced Organic Chemistry Part B: Reactions and Synthesis*, 5th Ed., by Francis A. Carey and Richard J. Sundberg, Springer. The textbook is available online with free access ONLY on campus:

(5) *March's Advanced Organic Chemistry: Reactions, mechanisms and structure*

<sup>th</sup> or

6th Edition, Michael B. Smith and Jerry March, Wiley.

These recommended (not compulsory) readings are available in the UTSC Bookstore, online or the Reserves section of the UTSC Library.

***Molecular models:***

Several topics in CHMC42 involve stereochemistry and conformational analysis. Molecular modeling software and “traditional” molecular model kit are valuable tools for visualization and manipulations of compounds in three-dimensions. You can obtain a Chem3D software as a component of the ChemDraw Ultra 12.0 Suite package. You can download the package at <http://scistore.cambridgesoft.com/ScistoreProductPage.aspx?ItemID=5548>

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 40% 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 CHMC42 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 can be purchased from Chemistry Club. The time and location will be posted on Blackboard. 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 or the Environmental and Physical Sciences Student Association (EPSA). The smallest size of lab journal would be about 6" x 8". We will provide you with graph paper if needed. The notebook cannot have pages that are easily torn out. Please make sure your name is in the book as well as on your calculator. (Dr. Lana Mikhaylichenko have many left over from last term that were not picked up). *You will not be allowed to work in the laboratory unless you are wearing approved eye protection and a lab coat.*

**Absences from the laboratory:**

If you need to miss a laboratory period for any valid reason, you must immediately report it to both your TA and to the appropriate Lab Instructor, but no later than 48 hours after the lab. If the reason for your absence is medical then you must provide documentation for this. Normally, this would be in the form of an official UTSC medical note completed by your doctor

([http://www.utscc.utoronto.ca/~registrar/resources/pdf\\_general/UTSCmedicalcertificate.pdf](http://www.utscc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf));

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:

<b>Graded Work</b>	<b>Value</b>
Laboratory*	30%
Term Test (NO MAKE-UP)**	25%

is critically important both to maintain our