

**CHEMISTRY 136H1 F COURSE INFORMATION**  
**INTRODUCTORY ORGANIC CHEMISTRY I**

**Fall 2017**

**E-MAIL:** chm136h@chem.utoronto.ca (for questions regarding course administration)

**LECTURERS**

**Day time Sections (L0101 & L0201)**

Professor Andy Dicks  
(Course Coordinator)  
Lash Miller Laboratories, Rm. LM 118  
416-946-8003  
adicks@chem.utoronto.ca

Professor Datong Song  
Davenport Chemical Laboratories, Rm. DB 343  
416-978-7014  
dsong@chem.utoronto.ca

Professor Dwight Seferos  
Lash Miller Laboratories, Rm. LM 616  
416-946-0285  
dseferos@chem.utoronto.ca

**Evening Section (L5101)**

Professor Andy Dicks  
(Course Coordinator)  
Lash Miller Laboratories, Rm. LM 118  
416-946-8003  
adicks@chem.utoronto.ca

Dr. Loise Perruchoud  
Lash Miller Laboratories  
loise.perruchoud@mail.utoronto.ca

Professor Mitch Winnik  
Lash Miller Laboratories, Rm. LM 520  
416-978-6495  
m.winnik@utoronto.ca

Lectures will be held at the following times/locations:

Section L0101: **MTR 9** Earth Sciences Building, 5 Bancroft Avenue, room ES 1050

Section L0201: **TRF 12** Mechanical Engineering Building, 5 King's College Road, room MC 102

Section L5101: **T 7 – 9 p.m. (weekly) and specific R 7 – 9 p.m.** Lash Miller Chemical Laboratories, 80 St. George Street, room LM 159

**LAB CO-ORDINATORS** Professor Cecilia Kutas Chisu (**Wednesday & Thursday sections**)  
Lash Miller Laboratories, Rm. LM 217a/LM 221 416-978-8796  
ckutas@chem.utoronto.ca

Dr. Sandra Cabrera (**Monday, Tuesday & Friday sections**)  
Lash Miller Laboratories, Rm. LM 217a

**ADMINISTRATOR** Mr. Kenneth Chen  
Lash Miller Laboratories, Rm. LM 219 416-978-3604  
chm136h@chem.utoronto.ca

***INTRODUCTION***

On behalf of the Department of Chemistry, we would like to welcome you to your first-year course in introductory organic chemistry. This outline is designed to provide you with information about the course, to let you know what we intend to do and to emphasize what we expect from you.

The two chemistry courses CHM 136H (Introductory Organic Chemistry I, formerly CHM 138H) and CHM 135H (Chemistry: Physical Principles, formerly CHM 139H) are designed to jointly provide a general introduction to chemistry for students who intend to follow a science program, primarily in the Life or Health Sciences. They are also the recommended courses for those applying for entry into professional programs. CHM 136H and CHM 135H are also acceptable in the Chemistry specialist, major and minor programs of study, although CHM 151Y (Chemistry: The Molecular Science) is the highly recommended course for entry into these programs. For more information, consult Chemistry Department's web site:

[www.chem.utoronto.ca/undergrad/courseinfo.php](http://www.chem.utoronto.ca/undergrad/courseinfo.php)

CHM 136H provides an introduction to the fundamental principles of structure, bonding and reactivity of organic molecules. In this course, a working knowledge of chemistry at the Grade 12/OAC level will be assumed. We trust that you will find this course both interesting and challenging. We maintain that CHM 136H, along with CHM 135H, will prepare you well for other chemistry courses in later years. If these are to be your only courses in chemistry you will have gained some understanding of the breadth of the subject and of its importance in a wide variety of other areas of science.

### *TEXTBOOKS FOR CHM 136H*

The required textbook for CHM 136H is "Organic Chemistry, 9th Edition" by John McMurry (Nelson, 2015). There is also a supplement to this text: Study Guide with Solutions Manual by Susan McMurry that contains complete solutions to the problems found in the main text. While you are not required to purchase the supplement, we highly recommend you use the Solutions Manual with the main text. Please note that any previous editions of the course textbook (e.g. 8th, 7th, 6th) are NOT supported in CHM 136H.

**The purchase of a molecular model kit is also very strongly recommended.** All of these items are available from the University of Toronto Textbook Store at 214 College Street.

### *ARRANGEMENTS FOR THE COURSE*

#### LECTURES

BRIEF course lecture notes will be available at the CHM 136H course website on Blackboard ahead of each class. *These notes do not represent all the concepts and problems discussed in lecture, and as such you should attend all CHM 136H classes* since it is here that fundamental course content will be presented and elucidated. **Be prepared to make notes in lecture on the material discussed, as this is a key component of active learning.** Since the capacity of the lecture theatre must not be exceeded due to fire regulations, you must attend only your **timetabled** lecture section. Proof of registration in your timetabled lecture section may be required and only students registered for the lecture section will be permitted to remain in class.

#### TUTORIALS

You chose a weekly tutorial time on ROSI/ACORN when you enrolled in CHM 136H. On the basis of your time selection, you will be assigned to a tutorial group by the Chemistry Department. **Tutorials begin on Thursday 14<sup>th</sup> September.** A class list, confirming the day and time of your scheduled tutorial class meeting, will be posted outside room LM 217 and on Blackboard to inform you of your assigned tutorial group number and the tutorial classroom location.

Throughout the semester, questions that will help you to assess and improve your understanding of the course material will be posted on the course web site. The majority of these questions will be selected from the end of each chapter of the textbook. Do the questions for your next weekly tutorial class. At that class, your teaching assistant (TA) will answer any questions that you may have concerning the assigned exercises and assist you in understanding the important concepts of the course material. At the tutorial classes, you will write 10-minute quizzes that count for credit towards your final mark. **You must attend your Chemistry Department-assigned tutorial group to receive credit for your quizzes. No exceptions are made to this policy.** The quiz questions will be very closely based upon the assigned questions of that week and the previous week.

## LABORATORIES

You will attend your first laboratory class on the date indicated below, according to the P-section you chose when you enrolled in CHM 136H on ROSI/ACORN:

for students in	labs begin on	for students in	labs begin on
<b>P0101</b>	Monday 18 <sup>th</sup> September 2 - 5:00 p.m.	<b>P0102</b>	Monday 25 <sup>th</sup> September 2 - 5:00 p.m.
<b>P0201</b>	Tuesday 19 <sup>th</sup> September 2 - 5:00 p.m.	<b>P0202</b>	Tuesday 26 <sup>th</sup> September 2 - 5:00 p.m.
<b>P0301</b>	Wednesday 20 <sup>th</sup> September 2 - 5:00 p.m.	<b>P0302</b>	Wednesday 27 <sup>th</sup> September 2 - 5:00 p.m.
<b>P0401</b>	Thursday 21 <sup>st</sup> September 2 - 5:00 p.m.	<b>P0402</b>	Thursday 28 <sup>th</sup> September 2 - 5:00 p.m.
<b>P5401</b>	Thursday 21 <sup>st</sup> September 6:30 – 9:30 p.m.		
<b>P0501</b>	Friday 22 <sup>nd</sup> September 2 - 5:00 p.m.		

By 12:00 p.m. on the day of your first laboratory a list will be posted outside of room LM 217 and on Blackboard. Next to your name will be indicated your laboratory group number and your lab station number. Consult the posted list on your P-section start date, and make a note of this information - you will need it for future reference. **That same afternoon, at 2:00 p.m., please attend your first lab class to perform Experiment I.**

Each student must purchase a copy of the CHM 136H Lab Manual (**2017 Fall Edition**) from the Chem Club (office: Lash Miller Laboratories, room 203) during posted hours. You will need the lab manual to prepare for the first class. *You cannot perform experiments without the 2017 Fall CHM 136H Lab Manual!*

**A reminder: all students will perform Experiment I at the first lab class. Please arrive prepared!**

*As part of your preparation, be sure to read the "Policy Regarding Laboratory Academic Discipline" on page policy-1 of the CHM 136H Lab Manual. Detailed preparation instructions are posted on the Blackboard CHM 136H site – under the "Laboratory Information" link.*

Remember to bring the following items to your first laboratory class:

- a laboratory notebook (hard cover; ruled sheets stitched into binding, 22 x 28 cm)\*
- CHM 136H Lab Manual (2017 Fall edition);
- indirectly vented chemical splash safety goggles\*;
- a lab coat\*;
- nitrile rubber gloves\*.

\*The laboratory coat, lab notebook, safety goggles and gloves may be purchased from a variety of sources, including the Chemistry Club office (room LM 203); a schedule of sales hours is posted beside the office door and on Blackboard. Note that the office, staffed by graduate student volunteers, will be open for sale of these items only during the first few weeks of the semester. It is essential that you buy the Lab Manual well in advance of your first chemistry lab, and that you prepare to perform Experiment I. Please contact the appropriate laboratory instructor if you have any questions concerning the academic material covered in laboratories.

### GENERAL ASSISTANCE

For assistance with administrative issues (e.g. requests to change tutorial sections, or lab sections, please contact the course administrator, Mr. Kenneth Chen (chm136h@chem.utoronto.ca). For information concerning lecture material, please contact the appropriate lecturer. They have set aside specific times when they are available to discuss the course material with you. **These "office hours" will be posted on the CHM 136H Blackboard course website and announced in lecture.** Your tutorial teaching assistants, the laboratory instructor and laboratory demonstrators will also help as much as they possibly can. They do have other things to do, however, and cannot be available at all times. Try to be reasonable, make appointments (and keep them!) and you will find that a LOT of extra help is there. You can contact your instructors via email at the address provided on the first page. When you email them, please remember to:

1. include your full name and student number;
2. use common sense and courtesy in constructing your email, keeping the language and tenor of your email appropriately professional;
3. use proper sentences to help ensure that your email content is unambiguous;
4. address your enquiry only to one instructor, making sure to send it from your UTORid email address.

Please keep expectations concerning a reply to your enquiry reasonable: do not expect a detailed answer, and allow one school day for a reply. **It is not recommended that you ask detailed course content questions by email... organic chemistry is much better discussed in person!**

### ABSENCES

If you miss a test or a significant period of class work through illness or a related reason, you should request consideration by submitting a completed University of Toronto Verification of Student Illness or Injury Form which is available at the Faculty of Arts and Science web site:

[www.illnessverification.utoronto.ca](http://www.illnessverification.utoronto.ca)

The document must be presented within one week of the date of absence. Only serious illness (or equivalent reasons) will be accepted as justification for absence (note: the U of T Verification of Student Illness or Injury Form, filled out by your doctor, stating that you saw him/her on a given day is not adequate. Your doctor must certify that *you were too sick to attend the test*, etc.). The form of consideration extended for a particular item of missed work will be

explained to you when you submit the form; however, no make-up tests can be offered. For more information regarding missed work, consult the 2017-18 Arts & Science Calendar. **If you miss a laboratory, follow the procedure outlined in the CHM 136H Lab Manual.**

#### ACCESSIBILITY NEEDS

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible:

accessibility.services@utoronto.ca or <https://www.studentlife.utoronto.ca/as>

#### ANNOUNCEMENTS

Official announcements regarding test locations, material covered for each test and other important announcements will be posted on the wall outside LM 217 and also on the CHM 136H Blackboard course website. **It is ABSOLUTELY YOUR RESPONSIBILITY to check these postings regularly for important announcements - it is essential university practice to access Blackboard daily!**

#### TESTS, EXAMS, MARKING SCHEME

Two tests will be held according to the schedule below. The test dates may be changed. Any change in the schedule will be announced in the lectures, posted outside LM 217 and on the CHM 136H Blackboard course website. The final examination will cover the entire course work, including laboratory work.

#### *TENTATIVE TEST SCHEDULE:*

First Test: Wednesday October 18<sup>th</sup> 2017 6:00 p.m. - 7:00 p.m.  
Second Test: Wednesday November 22<sup>nd</sup> 2017 6:00 p.m. - 7:00 p.m.  
Final Examination: To be scheduled during the examination period, December 9<sup>th</sup> – 20<sup>th</sup>.  
The actual date of the exam will be set by the Faculty of Arts & Science and could occur on the first or the last date mentioned.

#### *COURSE MARKING SCHEME:*

	<b>A</b>	<b>B</b>
‡ laboratory	20%	20%
best three of four tutorial quizzes	5%	5%
two tests	40%	25%
final examination	<u>35%</u>	<u>50%</u>
final mark	100%	100%

‡

A bonus of 2 marks will be added to the lab mark of every student who participates in the Chemistry Department's on-line evaluation of BOTH the lab and the tutorial TA's. Details will be announced near the end of session. All assigned marks will be scaled to fit into this scheme.

## COURSE OUTLINE

The following outline gives a brief overview of the textbook material which will be covered\*:

<u>Chapter</u>	<u>Topic</u>	<u>Approx. No. of Lecture Hrs.</u>
1	Structure and Bonding	3
2	Polar Covalent Bonds; Acids and Bases	3
3	Organic Compounds: Alkanes and Their Stereochemistry	3
4	Organic Compounds: Cycloalkanes and Their Stereochemistry	3
5	Stereochemistry at Tetrahedral Centers	3
6	An Overview of Organic Reactions	3
7	Alkenes: Structure and Reactivity	3
8	Alkenes: Reactions and Synthesis	3
10	Organohalides	2
11	Reactions of Alkyl Halides: Nucleophilic Substitutions and Eliminations	4
15	Benzene and Aromaticity	2
17/12	Alcohols and IR Spectroscopy	3

\*Please note that you are responsible not only for the material covered in the textbook but also for additional material presented in lecture and the accompanying Blackboard web notes.

## CHM 136H COURSE WEBSITE

The course website will serve as the primary source for updated information that every CHM 136H student requires. Some course lecture notes, tutorial assignments, test information, and other course material will be posted frequently on the website as the course progresses. **Visit the course web site on a daily basis!** To access the CHM 136H website, or other Blackboard-based course sites, go to the U of T Portal at

<http://portal.utoronto.ca>

and log in using your UTORid and password. Once you have logged in, you'll find, under 'My Courses', the link to the CHM 136H course website as well as to your other course sites that use Blackboard. If you have not activated your UTORid account, please do so via the UTORid website ([www.utorid.utoronto.ca](http://www.utorid.utoronto.ca)): click on the appropriate link under 'First Time Users'.

## ACADEMIC INTEGRITY

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. Familiarize yourself with the University of Toronto's *Code of Behaviour on Academic Matters* ([www.governingcouncil.utoronto.ca/policies/behaveac.htm](http://www.governingcouncil.utoronto.ca/policies/behaveac.htm)). It is the rule book for academic behaviour at the U of T, and you are required to know the rules. If you have any concerns or need for clarification about aspects of the *Code*, please contact Professor Dicks, the course coordinator.