Chemistry
UNIVERSITY OF TORONTO

CHM 247H: INTRODUCTORY ORGANIC CHEMISTRY II

Winter 2025 Course Syllabus

I TEACHING & ADMINISTRATIVE TEAM

COURSE COORDINATOR & INSTRUCTOR (Weeks 1 – 6)
Name: Professor Andrew P. Dicks
Email: chm247h@course.utoronto.ca
Research: chemistry.utoronto.ca/people/directories/all-faculty/andrew-p-dicks
In-person student hours during Weeks 1 – 6: directly after each class for as long as there are questions. Also available by email appointment for either in-person or online meetings

INSTRUCTOR (Weeks 7 – 12)
Name: Professor Mitch A. Winnik
Email: chm247h@course.utoronto.ca
Research: https://sites.chem.utoronto.ca/chemistry/staff/MAW
Student hours: to be announced on Quercus

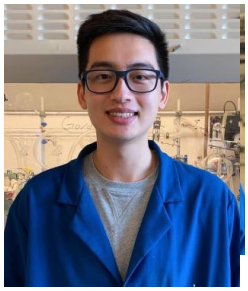
LABORATORY COORDINATOR (Weeks 1 – 6)
Name: Dr. Mima G. Staikova
Email: chm247h@course.utoronto.ca
Student hours: to be announced on Quercus

LABORATORY COORDINATOR (Weeks 7 – 12)
Name: Dr. Marvin Morales
Email: chm247h@course.utoronto.ca
Student hours: to be announced on Quercus

COURSE ADMINISTRATOR
Name: Mr. Giuseppe Bellissimo
Email: chm247h@course.utoronto.ca

TUTOR (T5, room MS 3154 starting the week of Monday 13th January)
Name: Shine Huang
Research: https://helen-t.com/members
Student hours: held in-person directly after each tutorial

TUTOR (W5, room BA 1130 starting the week of Monday 13th January)
Name: Andrew Durant
Research: https://sites.chem.utoronto.ca/chemistry/staff/ML/group.php
Student hours: held in-person directly after each tutorial



TUTOR (F3, room BA 1130 starting the week of Monday 13th January)
Name: Ben Chiu
Research: https://sites.chem.utoronto.ca/rousseaux/people/current
Student hours: held in-person directly after each tutorial

II COURSE OVERVIEW

A very warm welcome to the University of Toronto's *second* introductory organic chemistry course primarily designed for life science and health science students! CHM 247H focuses on many fundamental principles of the discipline, with particular attention paid to the applications and major reactions of organic compounds: central concepts regarding organic reaction mechanisms, synthesis, and structure elucidation via spectroscopic methodologies will be covered in detail. The course features a significant amount of problem-solving (both during and outside formal classroom, tutorial, and laboratory time). All of this builds extensively on material discussed in prerequisite first-year courses ((CHM 135H + CHM 136H), or CHM 151Y), and ***a thorough understanding of concepts covered in these courses is absolutely essential for success.*** CHM 247H is recommended for students enrolled in any science program that involves a relatively small amount of chemistry. *Students taking any Chemistry specialist program or who will be including a substantial amount of chemistry in their degree (such as those following a Chemistry major program) are either required to or strongly encouraged to take CHM 249H (Organic Chemistry) instead.* The specific 200-level courses offered by the Department of Chemistry and how they are connected to each Chemistry program are listed here: chemistry.utoronto.ca/current-students/second-year-chemistry-course-requirements.

We all sincerely hope that CHM 247H will exceed your expectations: *we are collectively here to support your learning as much as possible and are very invested in your success!* We would appreciate your comments and suggestions so that we can make the course as helpful and interesting as possible: do feel free to discuss any matters with the instructors, laboratory coordinator, tutors, and laboratory teaching assistants (TAs).

STUDENT LEARNING OUTCOMES:
Upon successful completion of CHM 247H, students will be able to:

- demonstrate an understanding of and apply the structural elucidation techniques of infra-red spectroscopy and nuclear magnetic resonance spectroscopy *in order to* determine the atom connectivity of unknown molecules
- recognize important classes of functional groups and use knowledge of their reactivity patterns to predict the products of organic transformations
- demonstrate an understanding of the fundamental principles underlying the behavior of organic compounds as nucleophiles and electrophiles
- formulate fundamental organic reaction mechanisms by appropriately describing electron flow *in order to* write reasonable mechanisms for new reactions
- apply organic reactions and their conditions *in order to* propose synthetic pathways for given target compounds of interest
- safely conduct experimental work in the laboratory using a variety of classical techniques and modern instrumentation
- collect, record, and interpret laboratory results
- use problem solving and critical thinking skills to combine theoretical knowledge with laboratory results in order to solve scientific problems
- develop effective scientific communication skills through written laboratory reports

Through these learning outcomes, successful students will appreciate the pivotal roles that organic chemistry principles play in the life and health sciences by understanding their connections to biologically- and industrially important substances. They will also value the contributions of chemists from diverse backgrounds to the development of organic chemistry as a scientific discipline, through the highlighting of achievements made by workers from underrepresented groups.

PREREQUISITE COURSES:
This course assumes you have a fundamental and thorough understanding of content presented in CHM 135H (Chemistry: Physical Principles) and especially CHM 136H (Introductory Organic Chemistry I). CHM 151Y (Chemistry: The Molecular Science) is a suitable alternative prerequisite course. CHM 247H may be counted towards certain Chemistry programs of study, although as noted previously it is either required or highly recommended that students enrolled in such programs take CHM 249H instead. *It is very strongly recommended that you interact with material available in the CHM 247H Quercus "First-Year Resources" module if you feel you need to brush up on first-year course content.*

REFERENCE MATERIAL:
The *required* course textbook is "Organic Chemistry: Mechanistic Patterns" (2nd Edition) by Ogilvie, Ackroyd, Browning, Deslongchamps, Lee, and Sauer. The textbook is only available in an electronic format. **IMPORTANT: if you previously purchased this e-textbook when taking CHM 136H or CHM 151Y, you will still have access and can use it for this course: there is no need to purchase the e-textbook again.** Recommended textbook readings and problems are available at the CHM 247H Quercus site.

If you do not already have the e-textbook, use the following instructions to purchase it. This e-textbook is only available through Top Hat (www.tophat.com). You will be able read content and submit answers to practice questions using Apple or Android smartphones, tablets, or laptops. Your responses to problems will **not** be graded, despite contents being in Homework Mode. They are simply set up that way so you can complete practice questions before seeing the ideal answers. Once the

semester is over, you will have access to the entirety of the textbook for future use. For more information, please refer to Top Hat's My Library article. For instructions on how to create a Top Hat account, purchase the e-textbook, and access materials, please refer to the invitation sent to your University of Toronto email address or consult Top Hat's Getting Started Guide. If you already have a Top Hat account, go to https://app.tophat.com/e/966744 to be taken directly to our course. If you are new to Top Hat, follow the link in the email invitation you received, or:

1. Go to https://app.tophat.com/register/student
2. Click "Search by School" and input "University of Toronto"
3. Search for our course with the following join code: 966744

Should you require assistance with Top Hat at any time please contact their Support Team directly by way of email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491. Specific user information may be required by their technical support team when troubleshooting issues.

A molecular model kit will be very useful for most of the course. The "Molecular Visions" kit by Darling Models is recommended for this, as well as other undergraduate organic chemistry courses at U of T, although other model kits are helpful too. Models may be used as an aid in all online and in-person assessments.

III HOW THE COURSE IS ORGANIZED

OVERVIEW:
CHM 247H has three instructional components to it: classes, tutorials, and laboratories, as well as a Piazza course discussion board. **As per the Faculty of Arts & Science timetable, all instruction will be delivered in-person as of Monday 6th January.** An announcement will be made if the delivery mode of any or all instructional components needs to change for any reason.

CLASSES:
Classes will be offered in-person ONLY throughout the semester. **Please note that you MUST ONLY ATTEND THE CLASSES FOR THE SECTION YOU ARE ENROLLED IN (LEC0101: MWF from 2–3 p.m. in room ES 1050; LEC0201: MTR from 4–5 p.m. in room BA 1160).** Be sure to come prepared by having done some textbook reading (getting an overview of what will be discussed in class ahead of time is highly recommended!) and having access to the class notes posted on the Quercus course website in advance. *Please note that merely reading the posted class notes and/or textbook material is no substitute for attending live classes! It is essential that you attend the in-person classes to solidify your understanding of the fundamental course material* (planned class content and timing is described on p. 8 of the syllabus). *Recordings of the MWF 2-3 p.m. classes are made available for support if you cannot attend a class in-person due to illness or other extenuating personal circumstances, but please do be aware that these recordings absolutely cannot replace the classes as a mechanism to help you learn*. Recordings will be available for seven days after the corresponding content has been taught in the live classes and will not be accessible to students after that.

TUTORIALS:
Tutorials begin the week of Monday 13th January and will be offered in-person ONLY throughout the semester (tutorials will not be recorded). **The tutorials are an integral part of the CHM 247H instruction and regular attendance is VERY STRONGLY RECOMMENDED**. They are run by experienced graduate student teaching assistants and have a problem-solving format. Questions will be posted on Wednesdays throughout the semester (starting on 8th January) which will form the primary basis of each tutorial session. **Active student participation in problem-solving through completion of tutorial questions is linked to success in learning organic chemistry**: these questions, as well as the assigned textbook problems, will provide you with an important opportunity

for self-assessment, help you make sure you are keeping up with the course materials, and are essential preparation for tutorials. **Please be aware that the "model" answers to tutorial questions will NOT be posted**, so that you are encouraged to problem-solve and to attend each tutorial where you may ask questions or seek clarification of fundamental concepts. You are welcome to attend any of the three tutorial sections that fit your schedule as follows: T5–6 p.m. (room MS 3154, directly following class); W5–6 p.m. (room BA 1130); F3–4 p.m. (room BA 1130, directly following class). **Throughout the semester, each tutor will be available immediately following each tutorial session for as long as there are student questions. However, you should refrain from emailing course content questions to tutors and instructors (such questions should be posted on the Piazza discussion board, see p. 7 of the syllabus).**

LABORATORIES:
The laboratories are a mandatory aspect of CHM 247H and **students are expected to attend all laboratory sessions.** The purpose of the laboratory activities is to introduce you to some fundamental techniques in the context of organic reactions that you will learn about in the classroom component of the course. The laboratories include four "wet" organic experiments (offered in-person throughout the semester) and one computational experiment, which is conducted virtually.

The laboratories run biweekly, with the computational experiment being the first one. It is scheduled during the week of Monday 13th January for PRA section numbers ending in "1", and during the week of Monday 20th January for PRA section numbers ending in "2". The "wet" in-person laboratory experiments will begin during the week of Monday 27th January. By this date each student must have acquired the necessary personal protective equipment that can be purchased from the departmental ChemClub store.

Each student will be assigned to a demonstrator group number and a bench number for all "wet" experiments. The detailed schedule of the laboratories and the demonstrator group numbers/bench numbers will be posted on the Quercus course website in Laboratory Information page. *If you have not yet registered for a practical section on ACORN, please do so as soon as possible. If ACORN registration is no longer available, please* ***immediately*** *contact the course administrative email address* chm247h@course.utoronto.ca.

Logistics for Experiment 1: When the Computational Laboratory module becomes available on the Quercus course website you will work independently on the experimental tasks, performing computations of compound properties on WebMO, the Department of Chemistry computer server. Each student will use their own user ID and password (details in the Experiment 1 module) and will have their own WebMO directory where the computational jobs will be executed and collected. Students will have one week to finish as many of the required calculations as possible (during this period, students can do them in their own time). At the end of the week, students will have a mandatory one-hour virtual meeting with a teaching assistant (TA) to discuss the experiment and details of the report, as well as any issues that arose during the calculations. The reports are to be uploaded on the Quercus course website and are due two weeks after the TA virtual meeting.

Logistics for Experiments 2 – 5: Starting the week of Monday 27th January with Experiment 2, all four in-person "wet" experiments are performed in room LM 217. Each student will undertake all of the experiments in the same demonstrator group and at the same assigned bench space on the weekday of your PRA section in biweekly intervals. Make sure that you have all your personal protective equipment and the required laboratory notebook sufficiently in advance of your first in-person laboratory session. *Please note that the ChemClub store is only open during the first two weeks of classes. Information regarding the location and the opening hours of the ChemClub store is available on the Laboratory Information Quercus page.*

If you are absent from a laboratory session due to illness or other reasons beyond your control and unable to complete graded course work (e.g., a laboratory quiz or report) then a piece of written documentation is required. The four recognized forms of documentation are listed on p. 11 of the syllabus. To request consideration, **please complete the "Missed Lab" form** on the Laboratory Information Quercus page and attach your document to the form within three days of the missed laboratory session. Students must additionally notify the course administrator of their absence at *chm247h@course.utoronto.ca*. If consideration is granted, you will see EX listed at the Quercus "Grades" page and you will be excused from the missed experiment. Your grade for it will be assigned as an average of your other laboratory grades. **Note: if you miss a laboratory session for Experiments 2 – 5, you cannot write a report for this experiment. All data for the reports must be collected by you during your laboratory session.**

If you happen to miss a second laboratory session for reasons beyond your control, you will need to meet with Dr. Staikova (Weeks 1 – 6) or Dr. Morales (Weeks 7 – 12) for special arrangements. In such a case your grade for the missed experiment will be tied to your performance in all graded components of CHM 247H. **To pass the course a personal attendance at a minimum of three "wet" experiments is required. All cases of a missed laboratory session must be reported and documented and consideration requested as applicable.** ***No make-up laboratory sessions will be offered*****.**

As part of your preparation for each laboratory session, you are required to read and understand all materials posted in the appropriate Quercus Experiment module, watch the relevant videos, and complete a pre-laboratory quiz. *Furthermore, before you come to each laboratory session you are required to write the necessary experiment information for each laboratory in a dedicated notebook that has your name and demonstrator group number on the front cover.* Only the laboratory notebook specified on the Quercus Laboratory Information page is acceptable for this purpose. These entries will be checked at the beginning of each laboratory session and you will not be able to perform experimental work if you have not completed them.

After each laboratory session, you will prepare a written report with the collected data and submit it through the Quercus course website. NO reports or part of reports will be accepted as email attachments. Reports are due two weeks after the day that you performed the corresponding experiment and can only be submitted with data collected by you in-person during your laboratory session. Please note that your TA will not handle a request for a laboratory report extension due date or for assistance regarding incorrectly submitted reports: please contact the appropriate laboratory coordinator with such requests. Questions or concerns about any aspect of the laboratory activities are to be directed to Dr. Staikova (Weeks 1 – 6) or Dr. Morales (Weeks 7 – 12) through the course administrative email address: *chm247h@course.utoronto.ca.*

Information Regarding Use of Artificial Intelligence Tools in the Writing of Laboratory Reports:

Generative Artificial Intelligence (AI) technology is evolving quickly, and it is necessary to specifically address this within the context of CHM 247H laboratory reports. AI tools such as ChatGPT (GPT stands for Generative Pre-trained Transformer) are large language models that have been trained on a limited dataset to generated content based on prompts and the data it has been trained on. **It is important to recognize there are major limitations to these tools, particularly in more specialized subjects such as chemistry.** Currently, ChatGPT and many similar models are only trained on freely available data and will not include information that is only accessible through payment, which includes much of the scholarly literature, textbooks, etc. (There is a lot of reliable information on the internet, but there is also a lot of junk, and ChatGPT does not know how to tell the difference: it has no concept whatsoever of scientific accuracy). In addition, ChatGPT does not cite its sources: when asked to include citations, it will routinely reference papers that do not exist. By using ChatGPT to generate text,

you run the risk of accidentally plagiarizing one of the many sources that are included as part of its training data.

Two important learning outcomes from the laboratory component of CHM 247H are (i) development of effective scientific communication skills through written laboratory reports; and (ii) use of scientific literature to understand and evaluate experimental procedures and results. The practice and repetition of writing on your own has been shown in numerous scientific reports to lead to deeper and longer lasting learning. *In this course, the use of ChatGPT and/or other generative AI tools is permitted within the limitations of reviewing your own written work for additional suggestions of grammar, punctuation, etc*. In this manner, the tool is educational and can help you develop better writing skills when used critically and for self-analysis. **However, it is both ill-advised and prohibited to solely use these tools to attempt to write or analyze components of pre-laboratory quizzes and/or laboratory reports.** As mentioned previously, the capabilities of the systems are limited, and you will not develop the scientific communications skills needed for future studies or careers. **In summary, it is well established that these tools will misuse and fabricate information and referencing, which will be noticeable by your TAs and laboratory instructors and will leave you susceptible to academic discipline violations (see the "Academic Integrity" section on p. 11 - 12 of the syllabus).**

COURSE DISCUSSION BOARD:
In addition to instructor and tutor student hours, we will be using the Piazza discussion board platform through Quercus that facilitates online questions and answers. Information about the platform will be made available as an announcement at the CHM 247H Quercus course website. You are strongly encouraged to ask your content questions on this discussion board where all students can benefit. **The teaching team will be monitoring the discussion board and providing input as needed, although we expect students to be helping each other as much as possible.** Please note that posting assessment/laboratory report questions and/or sharing solutions to these questions is in violation of the University of Toronto's Code of Behaviour on Academic Matters (see the Academic Integrity section of the syllabus for more details).

OTHER AVAILABLE SUPPORTS:
The Victoria College Peer Tutoring program supports our introductory organic chemistry courses (whether you wish to solidify your understanding of concepts from CHM 136H/CHM 151Y or to ask more advanced questions pertaining to CHM 247H material). Days and times that a tutor is available are listed here: www.vic.utoronto.ca/current-students/registrars-office/tutor (click on "Vic Chemistry Tutors"). If you would like further support in a small-group online environment, you are also highly encouraged to investigate the Recognized Study Group (RSG) Program (https://sidneysmithcommons.artsci.utoronto.ca/recognized-study-groups/join). These are small, student-led study groups of up to eight classmates enrolled in the same course within the Faculty of Arts & Science. RSGs meet either in-person or online through Zoom each week: more information will be announced during early January about this initiative.

IMPORTANT WINTER 2025 SESSIONAL DATES:
First Day of S Classes: Monday 6th January 2025
Family Day: Monday 17th February 2025
Winter Reading Week (no classes): Monday 17th – Friday 21st February 2025
Last Day to Drop S Courses: Monday 10th March 2025
Last Day of S Classes: Friday 4th April 2025
Study Days: Monday 7th & Tuesday 8th April 2025
April Final Assessment Period: Wednesday 9th – Wednesday 30th April 2025
Good Friday: Friday 18th April 2025

PLANNED CLASS CONTENT* & ASSESSMENT SCHEDULE (WEEKS 1 – 6: Professor Dicks):

Week #	Dates	Topics & Ogilvie Chapter References
1	Jan. 6th – 10th	Introductory Course Information Infrared (IR) Spectroscopy (Chapter 13) *Start* Nuclear Magnetic Resonance (NMR) Spectroscopy (Chapter 13)
2	Jan. 13th – 17th	*Finish* Nuclear Magnetic Resonance (NMR) Spectroscopy *Start* Nucleophilic Substitution Reactions (S_N2 & S_N1, Chapter 11)
3	Jan. 20th – 24th	*Finish* Nucleophilic Substitution Reactions
4	Jan. 27th – 31st	Elimination Reactions (E2 & E1, Chapter 12)
5	Feb. 3rd – 7th	Organic Synthesis & Retrosynthesis (no specific textbook chapter)
Quiz 1: Monday 3rd February, 9:00 a.m. – 9:00 p.m. (30 minutes)		
6	Feb. 10th – 14th	Aromaticity (Chapter 9) *Start* Aromatic Substitution Reactions (Chapters 10 & 15)
Term Test 1: Wednesday 12th February, starting at 6:10 p.m. (75 minutes) Test "Debrief" Session (online): Friday 14th February, starting at 4 p.m.		
WINTER READING WEEK: Monday 17th – Friday 21st February (no classes)		

PLANNED CLASS CONTENT* & ASSESSMENT SCHEDULE (WEEKS 7 – 12: Professor Winnik):

Week #	Dates	Topics & Ogilvie Chapter References
7	Feb. 24th – 28th	*Finish* Aromatic Substitution Reactions
8	Mar. 3rd – 7th	Pi Bonds as Electrophiles (Chapters 7 & 16)
9	Mar. 10th – 14th	Pi Bonds as Nucleophiles: Addition to Alkynes (Chapters 7 & 8) Carbonyl Based Nucleophiles: Introduction to Enolate Chemistry (Chapters 17 & 18)
Quiz 2: Monday 10th March, 9:00 a.m. – 9:00 p.m. (30 minutes)		
10	Mar. 17th – 21st	Aldol & Claisen Condensations (Chapter 17)
Term Test 2: Wednesday 19th March, starting at 6:10 p.m. (75 minutes) Test "Debrief" Session (online): Friday 21st March, starting at 4 p.m.		
11	Mar. 24th – 28th	Carbonyl Based Nucleophiles: Wittig Reactions & 1,3-Dicarbonyl Chemistry (Chapter 17)
12	Mar. 31st – Apr. 4th	Carbonyl Based Nucleophiles: Direct and Conjugate Addition Reactions, Michael & Stork Reactions (Chapter 18) Review prior to final examination (if time permits)

***timings of when specific class content will be taught are approximate**

IV EVALUATION/GRADING SCHEME

OVERVIEW:
Quizzes (x2): 10%
Term Tests (x2): 35%
Final Examination: 30%
Laboratory: 25% (breakdown of grades to be provided on Quercus)

FORMAL ASSESSMENT DATES & MARK BREAKDOWN:
1. Quiz 1 (5%*, Monday 3rd February): 30 minutes, to be written online through Quercus anytime within a 12-hour window between 9 a.m. – 9 p.m.

2. Term Test 1 (20% or 15%**, Wednesday 12th February): in-person, starting at 6:10 p.m., 75 minutes. **Online "debrief" session to be held on Friday 14th February starting at 4 p.m.**

3. Quiz 2 (5%*, Monday 10th March): 30 minutes, to be written online through Quercus anytime within a 12-hour window between 9 a.m. – 9 p.m.

4. Term Test 2 (20% or 15%**, Wednesday 19th March): in-person, starting at 6:10 p.m., 75 minutes. **Online "debrief" session to be held on Friday 21st March starting at 4 p.m.**

5. Final Examination (30%, April Final Examination Period: Wednesday 9th – Wednesday 30th April, in-person, three hours). The actual date of the final examination will be set by the Faculty of Arts & Science and could occur on the last date of the Examination Period.

*note that **if both quizzes are completely attempted**, the highest grade earned on the two quizzes will count as the total quiz grade out of 10%. Each quiz will be multiple-choice in nature.

**note that the highest test grade earned on Term Tests 1 and 2 will be weighted at 20%, with the other test weighted at 15%. Each test will not be explicitly cumulative. For students missing one term test for a valid reason, the remaining term test will be worth 20% and the final examination will be worth 45%. If you have a University of Toronto course conflict with either or both term tests you will be given an opportunity to write a test at an alternative time.

IMPORTANT: if an unexpected technical issue occurs with a university system (e.g., Quercus services, network outage) that affects availability or functionality, it may be necessary to revise the timing or weighting of the online quizzes.

V IMPORTANT COURSE POLICIES

- Each member of this course is expected to maintain a:
    - professional and respectful attitude during all course components, including classes, laboratories, tutorials, assessments and any online activity
    - personal calendar/schedule/organizer to ensure that all course activities are completed, and due dates are met
    - collection of notes recorded independently based on concepts covered in course activities (students registered with Accessibility Services requiring a class note-taker will have access to this accommodation)
    - familiarity with the university policy on Academic Integrity (overleaf)

- CHM 247H Quercus course website: q.utoronto.ca (in your Quercus Dashboard, click on "CHM 247H Winter 2025"). **Please check the Quercus course website regularly (daily!) for**:
    - general course information
    - class notes
    - tutorial questions
    - all important announcements related to assessments, laboratories, and tutorials
    - access to the Piazza course discussion board
    - other useful resources to help support your success

- Once the course commences on Monday 6th January, all email correspondence needs to be sent to the CHM 247H course email account: chm247@course.utoronto.ca. The appropriate member of the instructional/administrative team will respond to you based upon the nature of your message. Email will generally be responded to within 24 hrs. on weekdays. Email will only be accepted if: (1) You send it from your utoronto.ca account; (2) You identify yourself in the email subject line as a student in CHM 247H (i.e. "CHM 247H: XXX") and include your name and University of Toronto student ID number; (3) No attachments are sent, unless official university correspondence is being forwarded (e.g., a letter detailing academic accommodations); (4) You are aware that organic chemistry can be talked about much more effectively through tutorial sessions, in-person student hours or via the Piazza course discussion board rather than by email, and that sending emails is not a substitute for attending classes. **To re-emphasize this final point: please note that you are very highly encouraged to post logistical and content questions on the Piazza discussion board unless you have an individualized question or concern of a personal nature.** If you post a discussion board question about an assigned textbook problem, please be sure to include a screenshot of the problem so that all students can benefit from the response. The finalized student hours for each instructor will be announced to students and each instructor is additionally available by appointment. **Please do not send emails through the Quercus internal email system (they will not be responded to).**

- The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. As members of the course teaching team, we will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. If you have any questions, comments, or concerns, we encourage you to reach out to the staff in our Equity Offices.

- Aspects of this course, including your participation, may be recorded on video and if so will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright: for questions about recording and use of videos in which you appear please contact your instructor. *Students may not create audio or video recordings of classes with the exception of those students requiring an accommodation for a disability, who should contact the instructor prior to beginning to record classes for written permission.* Students creating unauthorized audio recording of classes violate an instructor's intellectual property rights and the Canadian Copyright Act. Students violating this agreement will be subject to disciplinary actions under the Code of Student Conduct. Course videos may not be reproduced or posted or shared anywhere other than the official CHM 247H Quercus course website and should only be used by students currently registered in the course.

- Laboratory reports and all online assessment responses are to be submitted through the CHM 247H Quercus course website only. Late laboratory reports will be deducted at 10% per day, and assessment responses will not be accepted at all after the due date/time. Please be aware that completed laboratory reports will not be accepted once graded work has been distributed to the rest of the class.

  There are no make-up quizzes or term tests in CHM 247H, and there are no make-up laboratory sessions. If you are absent from your studies due to illness or other reasons and

are unable to complete course work (e.g., a term test or a laboratory report) then a piece of written documentation is required. The following four items are the recognized forms of documentation:

1. Absence Declaration via ACORN (please note that this Declaration can be used for health reasons, personal or family emergencies, or bereavement and can only be used once per semester for a maximum of seven consecutive days: see website for full details)
2. U of T Verification of Illness or Injury Form
3. College Registrar's letter
4. Letter of Academic Accommodation from Accessibility Services

Students who complete the ACORN Absence Declaration form and miss either a scheduled quiz or a term test must additionally contact chm247@course.utoronto.ca to discuss their situation within five business days of the missed assessment. This is essential action for any consideration to be granted.

For extended absences and for absences due to non-medical reasons, make sure to contact your College Registrar's Office. They can help you decide between a request for an extension or other types of academic consideration.

- If you suspect or know that you have a disability that is affecting your studies, learn about the services and supports available through Accessibility Services. A disability can be physical disability, sensory disability, a learning disability, mental health disorder or a short-term disability like an injury. If you are not sure whether you have a disability, you can confidentially contact Accessibility Services with your questions.

VI TECHNOLOGY REQUIREMENTS & ADVICE

- Specific technology requirements are required to participate and learn effectively in CHM 247H. Some guidance from the U of T Vice-Provost, Students regarding this is available here: viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning
- Advice for students writing online assessments (quizzes etc.): https://studentlife.utoronto.ca/task/online-exams-and-tests/
- This course requires the use of computers, and technical issues are possible. When working on a piece of work such as a laboratory report, students are responsible for scheduling enough time to allow for reasonable delays due to technical difficulties to be overcome, so such issues will not be acceptable grounds for deadline extension. Particularly, maintaining an up-to-date, independent backup copy of your work is strongly recommended to guard against occurrences such as hard-drive failures, corrupted files, lost computers, etc. *We encourage you to spend a moment at the start of the semester to plan for what you would do if you lost access to the computer that you primarily intend to use, which will help ensure that you are prepared for this unlikely possibility.*

VII INSTITUTIONAL POLICIES AND SUPPORT

ACADEMIC INTEGRITY:
Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019)

outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In laboratory reports:

1. Using someone else's ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any report. **Please note that the use of websites (such as Chegg.com or the Piazza course discussion board) to post laboratory report material/questions or to post/access answers to questions is an academic offence under the University of Toronto's Code of Behaviour on Academic Matters. Alleged instances of this nature are forwarded to the Faculty of Arts & Science Student Academic Integrity office.**

On quizzes and term tests:

1. Using or possessing unauthorized aids. **Please note that the use of websites (such as Chegg.com or the Piazza course discussion board) to post quiz or other assessment questions, or to post/access answers to questions is an academic offence under the University of Toronto's Code of Behaviour on Academic Matters. Alleged instances of this nature are forwarded to the Faculty of Arts & Science Student Academic Integrity office.**
2. Looking at someone else's answers or collaborating/discussing answers during a quiz or other assessment.
3. Misrepresenting your identity.

In general academic work:

1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required by the University.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see www.academicintegrity.utoronto.ca).

PLAGIARISM DETECTION:

Normally, students will be required to submit their course essays and tests to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their work to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site: https://uoft.me/pdt-faq.

ACCESSIBILITY NEEDS:

Students with diverse learning styles and needs are welcome in CHM 247H. The University of Toronto is committed to accessibility: if you require accommodations for a disability, or have any other accessibility concerns about the course, please contact Accessibility Services as soon as possible. If possible, please submit your accessibility letter at the beginning of the course and not right before an assignment is due.

ACCOMMODATIONS FOR RELIGIOUS OBSERVANCES:

Following the University's policies, reasonable accommodations will be made for students who observe religious holy days that coincide with the due date/time of an assignment, class or laboratory session. Students must inform the instructor **before** the assignment date to arrange accommodations.

ADDITIONAL SERVICES & SUPPORT:
The following are some important links to help you with academic and/or technical service and support:

- General student services and resources at Student Life
- Full library service through University of Toronto Libraries
- Resources on conducting online research through University Libraries Research
- Resources on academic support from the Academic Success Centre
- Learner support at the Writing Centre
- Information for Technical Support/Quercus Support

ACKNOWLEDGEMENT OF TRADITIONAL LANDS:
We wish to acknowledge this land on which the University of Toronto operates. For thousands of years, it has been the traditional land of the Huron-Wendat, the Seneca and, most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.