

# Introductory Chemistry II — CHMA11 Winter 2020

## University of Toronto Scarborough

Welcome to Introductory Chemistry II! Chemistry is an exciting subject with far-reaching applications in countless disciplines (biology, medicine, geology, environmental science, materials science, food science, neuroscience, forensics—the list goes on!). CHMA10 might have given you a foretaste, but in CHMA11 we're going to take things further. We'll continue to tackle the fundamentals of the subject, with the goal to make you appreciate the depth and importance of this discipline. Take a few minutes to read through this document, which contains important information and the tools you need to succeed in this course.

### Instructors

Alex Voznyy, EV564 (weeks 1–6)

Email: [o.voznyy@utoronto.ca](mailto:o.voznyy@utoronto.ca)

Office Hours: Wednesdays 4–5 PM and Fridays 3–5 PM

Ruby Sullan, EV566 (weeks 7–12)

Email: [ruby.sullan@utoronto.ca](mailto:ruby.sullan@utoronto.ca)

Office Hours: Wednesdays 3–5 PM and Fridays 3–4 PM

### Lab Coordinator

Nirusha Thavarajah, EV544

Email: [nirusha.thavarajah@utoronto.ca](mailto:nirusha.thavarajah@utoronto.ca)

Office Hours: Mondays 12:30–2 PM and Wednesdays 12:30–2 PM

### Required Textbook

*CHEMISTRY: A Molecular Approach*, 3rd Canadian Edition, by Nivaldo J. Tro, Travis D. Fridgen, Lawton E. Shaw, Pearson Canada Inc.

### Lecture Schedule

**LEC01:** Monday, Wednesday, Friday in AC223, 12:00–13:00

**LEC02:** Monday, Wednesday, Friday in AC223, 13:00–14:00

## Course Schedule

Week	Dates	Topic(s)	Suggested Reading
1	Jan 6–10	Solutions	12.1–12.7
2	Jan 13–17	Chemical Equilibrium	14.1–14.8
3	Jan 20–24	Acids and Bases	15.1–15.6
4	Jan 27–31	Acids and Bases cont.	15.7–15.11
5	Feb 3–7	Aqueous Ionic Equilibria	16.1–16.4
6	Feb 10–14	Aqueous Ionic Equilibria cont.	16.5–16.8
7	Feb 17–21	<b>Reading Week</b>	N/A
8	Feb 24–28	Gibbs Energy and Thermodynamics	17.1–17.5
9	Mar 2–6	Gibbs Energy and Thermodynamics cont.	17.6–17.9
10	Mar 9–13	Electrochemistry	18.1–18.4
11	Mar 16–20	Electrochemistry cont.	18.5–18.8
12	Mar 23–27	Chemical Kinetics	13.1–13.4
13	Mar 30–Apr 3	Chemical Kinetics	13.5–13.7
14	Apr 4–7	<b>Study Break</b>	
15	Apr 8–25	<b>Final Exam Period</b>	

## Website

Check Quercus (<https://q.utoronto.ca>) for important announcements, updates to readings, assignment topics, requirements, and evaluation, etc. Students are responsible for checking the course website regularly. Make sure that your ".utoronto" emails can accept the course announcements.

## Examinations

**Midterm:** There will be one 90-minute mid-term test written outside of class either just before or just after Reading Week. The exact date, time and location will be announced as soon as they are available. If you miss the mid-term due to a legitimate reason, you must submit appropriate documentation **within one week of your absence, then, the weight of the midterm mark would be transferred to the final exam.** If the reason is medical, an official UTSC medical form should be downloaded from the Registrar's website: <http://www.uts.utoronto.ca/~registrar/resources/>

[pdf\\_general/UTSCmedicalcertificate.pdf](pdf_general/UTSCmedicalcertificate.pdf) and completed and signed by your physician. Students will not be permitted to write a make-up exam. **If no acceptable documentation is received, you will receive a grade of zero for that test.**

**Final Examination:** There will be a 3-hour, **cumulative** exam written during the end of semester exam period. 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.** E.g. for a missed April Final Exam, the make-up Exam is in August. Your documentation is crucial for a successful petition and must be submitted by the last day of the exam period. Check the UTSC Calendar for instructions and deadlines.

## Laboratories

**Labs:** The laboratory component of CHMA11 is compulsory. **In order to pass the course, you must also pass the lab component.**

**Lab Schedule:** Laboratory periods are three hours in length and run every other week. Students with odd numbered practicals (Week 1 students) have their first during week of January 13th. Those with even numbered practicals (Week 2 students) will have their first lab the week of January 20th.

**Lab Manual and Notebook:** A lab manual must be purchased from the UTSC Bookstore before your first lab. You may not use a lab manual from a previous semester: the experiments and course requirements will be different.

**DO NOT** wait to purchase your lab manual as it contains a host of important information:

- Lab Schedules and other important dates
- Late and absence policies
- Rules regarding safety
- Appropriate attire for the labs
- Marking schemes
- Guidelines on how to properly prepare for the lab

The bookstore **DOES NOT** stock enough lab manuals for everyone. If they run out, you **MUST** preorder a copy through the bookstore—this takes time. Failure to adhere to the rules and policies outlined within the lab manual will adversely affect your lab mark—in some instances the impact will be severe. In addition, students will be required to purchase their own lab notebook. The book must be hard-cover, permanently bound (not spiral or loose leaf) with the approximate dimensions 8.25" × 10.5" inches. They can be purchased at the UTSC bookstore; however students are free to purchase their books at a merchant of their choice (so long as they meet the above requirements).

**Lab Safety:** Safety in the laboratory is an extremely important element in the chemistry program at this University. Failure to follow safe practices can cause laboratory accidents which may result in the loss of time, damage to clothing and other property, and most importantly personal injury. By following suitable precautions, you can anticipate and prevent situations that would otherwise lead to accidents. Students registered in CHMA11H3S will be automatically enrolled in the WHMIS Training course for the Winter 2020 semester. **All students must complete the Winter 2020 course and your WHMIS results from the Fall 2019 course will not be accepted.**

Once the course is made available, an email announcement will be made and a link to the course will appear in your Quercus home page. As part of this course, you will be expected to watch a couple of videos (approximately 90 minutes long in total) and take a multiple choice quiz on the material you just learned. You must obtain 80% on the quiz to pass the WHMIS course. **In addition, you will be required to print off your quiz results and present them to your TA before you will be allowed to enter the lab.**

**Safety Equipment:** Students will be required to purchase approved indirect vented chemical splash safety goggles, and a lab coat before attending their first lab. These items can be purchased from both the Environmental and Physical Sciences Student Association (EPSA) and the Biology Student Association (BioSA) or through the bookstore. All safety eyewear must meet either ANSI Z87+ or CSA Z94.3 standard for high impact protection (this standards must be stamped on your eyewear ). While you can wear your safety glasses during quizzes and pre-lab discussion, you are required to wear their indirect vented chemical splash goggles once the experiment begins.

**Labs coats must be 100% cotton—no exceptions.** Further information regarding appropriate clothing, please see the guidelines outlined in your lab manual. **Students not wearing approved safety gear will not be allowed to participate in the lab.**

**Ancillary Fees:** You will be assessed a \$20.00 ancillary fee which will cover the cost of chemicals, filter paper, Pasteur pipettes and other items consumed over the course of the lab. For more information regarding ancillary fees students are encouraged to visit the following website: <http://www.planningandbudget.utoronto.ca/tuition.htm>

**Peer Facilitator Program:** Facilitated Study Group (FSG) is being run through the Centre for Teaching and Learning. These weekly sessions are open to all students taking this course who want to improve their understanding of course material, improve their study techniques, and improve their grade. Attendance is voluntary. In these sessions you will compare notes, discuss important concepts, develop study strategies, and prepare for exams and assignments on course material. Course material is NOT re-lectured. The FSG's are led by a trained facilitator who has previously taken the course. A survey will be taken during the first week of class to determine the best days and times for most students, and they will begin probably the 2nd or 3rd week of class. Please be sure to fill out the survey in the first week of class to help ensure the study groups are

scheduled at optimal times. If you have any questions, please ask your facilitator, or visit the FSG website at <http://ctl.utoronto.ca/home/fsg>.

Please note that FSGs will NOT give out answers to any lab assignments.

## Evaluation

Your final grade in the course will be calculated according to the grading scheme below:

Course Component	Percentage
Laboratory*	25%
Mastering Chemistry Tests	5%
Mid-Term Test	30%
Final Exam	40%

**\*Note: To pass the course, you must pass the laboratory and either the term test or the final exam (and receive a final grade of 50+, of course!)**

**Calculators:** Only non-programmable, non-communicating calculators are allowed in tests and exams for this course (both lecture and lab). Invigilators have the authority to check calculators and to confiscate illegal models. Students who have illegal calculators confiscated during a test/exam will be supplied with an allowed calculator but an immediate penalty of 10% will be imposed for that test/exam. Students without a calculator will also be allowed to borrow an allowed model, but at the cost 10% off their mark on that test/exam.

**Cell Phones:** During lectures and labs please put your cell phones in silent mode to avoid disruption. If circumstances warrant use of your cell phone and you must receive an emergency call, please inform the Course Instructor at the beginning of the session in advance and then excuse yourself from the session to respond to the call outside the lecture hall or laboratory.

**Academic Calendar:** Further information about academic regulations and course withdrawal deadlines can be found in the UTSC Calendar. You are encouraged to read this material.

**Centre for Teaching and Learning:** If you need assistance with effective writing skills, study skills, exam preparation, note taking, or time management, free workshops and advice are available from the Centre for Teaching and Learning, which can be reached at: <https://www.utoronto.ca/ctl/student-support>

**Math & Statistics Learning Centre** is now offering help with any sort of questions you may have related to mathematics and statistics. The CHMA11 course involve advanced math skills. If you are having difficulties or need some refresher, you are encouraged to drop in at AC312 and use the

available general help hours. The schedule can be viewed at the link: <http://ctl.utsc.utoronto.ca/mslc/>

**Accessibility:** Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach us and/or the AccessAbility Services Office as soon as possible, <https://www.utsc.utoronto.ca/~ability/>. We will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in AA142) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca).

**Academic Integrity:** Academic integrity is important to maintain our community which honours the values of honesty, trust, respect, fairness and responsibility and to protect you and the value of the degree towards which you are all working so diligently.

It is an offence for students to:

- Use someone else's ideas or words in their own work without acknowledging that those ideas/ words are not their own with a citation and quotation marks. i.e. to commit plagiarism
- Include false, misleading or concocted citations in their work.
- Obtain unauthorized assistance on any assignment
- Provide unauthorized assistance to another student. This includes showing another student completed work.
- To submit their own work for credit in more than one course without the permission of the instructor.
- To falsify or alter any documentation required by the University.- eg: doctor's notes.
- To use or possess an unauthorized aid in any test or exam.

There are other offences under the Code, but these are the most common. Please respect these rules. Offences will be dealt with according to the procedures outlined in the Code of Behaviour on Academic Matters.

**MasteringChemistry homework:** Several on-line assignments will be administered through MasteringChemistry, which allows you to practice at your own pace, receive meaningful feedback and use additional learning resources. To sign up for MasteringChemistry, please refer to the posted instructions on Quercus. For questions related to MasteringChemistry, contact Pearson 24/7 support: <https://support.pearson.com/getsupport>