

# Introductory Chemistry II (CHMA11) - Winter 2016

## University of Toronto at Scarborough

Welcome to CHMA11! Chemistry is an exciting subject with far-reaching applications in countless disciplines (biology, medicine, geology, environmental science, neuroscience, forensics, food science – the list goes on!). CHMA10 might have given you a taste of this, but in this course we're going to take things even further. We'll be continuing to teach you the fundamentals of the subject, but our hope is that this course will also give you an appreciation for the depth and importance of this discipline. By the end of the semester, you should be thoroughly convinced that chemistry is indeed *all around you!* Before we get started, please take a few minutes to read through this document. It contains important information, which will help make sure you have all the tools you need to succeed in this course.

### ***Staff Contact Information:***

**Instructors:** Dr. Frank Wania (weeks 1-6)  
EV448  
Email: [frank.wania@utoronto.ca](mailto:frank.wania@utoronto.ca)  
Office Hours: Mondays and Wednesdays 3:00-4:30 (Weeks 1-6)

Dr. Nirusha Tavarajah (weeks 7-12)  
ENV 402  
Email: [nirusha.thavarajah@utoronto.ca](mailto:nirusha.thavarajah@utoronto.ca)  
Office Hours: Mondays and Wednesdays 10:00-11:30 am (weeks 7-12)

**Lab Coordinator:** Dr. Scott Ballantyne  
SW155C  
Email: [sballant@utsc.utoronto.ca](mailto:sballant@utsc.utoronto.ca)  
Office Hours: Mondays and Thursdays 10:30 – 12:00 pm

### ***Email Policy:***

- Use UTSC account for all your correspondences. If other accounts (Yahoo, Gmail, Hotmail, etc.) are used, your email will be filtered out as spam and may not be received.
- Put CHMA11 in the subject line followed by the reason for the email.
- Use professional language with a formal greeting - NOT "Hey".
- Sign the email with your first and last name. Include your student ID number after your name.
- Every effort will be made to respond to student emails within 36 hours (M-F) provided that the above protocol is used.
- **A note on email content:** Please do not email questions to the instructors regarding the lecture material/assigned reading/suggested problems, exam format. These will be posted on the Blackboard. Questions on the lab material should be directed to Dr. Scott Ballantyne.

### ***Lecture Schedule:***

Session 1 lectures take place Monday, Wednesday, Friday in AC223 between 12:00-1:00 pm.  
Session 2 lectures take place Monday, Wednesday, Friday in AC223 between 1:00-2:00 pm.

### ***Required Text:***

Chemistry: Human Activity, Chemical Reactivity, 2nd Canadian Edition, by Peter Mahaffy, Roy Tasker, Bob Bucat, John C. Kotz, Gabriela C. Weaver, Paul M. Treichel, John E. McMurry

**List of Topics (Tentative\*):**

\*Subject to change. Check on Blackboard for the most up to date lecture schedule.

<b>Week</b>	<b>Topic(s)</b>	<b>Suggested Reading</b>
Jan 4-8	Intro to course and Dynamic Chemical Equilibrium	13.1-13.5
Jan 11-15	Dynamic Chemical Equilibrium cont.	13.1-13.5
Jan 18-22	Acid-Base Equilibria in Aqueous Solution	14.1-14.11
Jan 25-29	Acid-Base Equilibria cont.	14.1-14.11
Feb 1-5	Solubility, Precipitation, and Complexation	15.1-15.6
Feb 8-12	Solubility, Precipitation, and Complexation cont. and Review	15.1-15.6
Feb 15-19	Reading Week	N/A
Feb 22-26	Electron Transfer Reactions and Electrochemistry	16.1-16.8
Feb 29-4	Electron Transfer Reactions and Electrochemistry	16.1-16.8
Mar 7-11	Spontaneous Change: How far?	17.1-17.10
Mar 14-18	Spontaneous Change: How far?	17.1-17.10
Mar 21-25	Spontaneous Change: How fast?	18.1-18.9
Mar 28-Apr 1	Spontaneous Change: How fast?	18.1-18.9
Apr 4	Final Exam Review	

**Website:**

CHMA11 maintains a Blackboard web space, which archives a variety of course-related information including: grades, class announcements, lecture and lab materials (including access to recorded lectures), contact information and links to outside resources. In addition, class emails will periodically 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 CHMA11 link.

**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.utsc.utoronto.ca/~registrar/resources/pdf\\_general/UTSCmedicalcertificate.pdf](http://www.utsc.utoronto.ca/~registrar/resources/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. Odd numbered practicals (Week 1 students) have their first during week of January 11th. Even numbered practicals (Week 2 students) will have their first lab the week of January 18th.

**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” x 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). Students are allowed to reuse their lab notebook from CHMA10.

**Lab Skills Seminars:** Lab skills seminars are designed to help students prepare for their upcoming laboratories. The sessions will introduce students to important laboratory techniques (and explain why they are important) and discuss other important topics including safety and lab notebook preparation. There will be two sessions held each week; the first week will be for students registered in odd numbered practical's, the following week will be for even numbered practical's (the same material will be covered during each of the four biweekly sessions so it's recommended that students attend only one). Please see the CHMA11H3S blackboard page for the up to date schedule.

**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 following course:

Winter-2016-CHMA11H3-S-Winter-2016-CHMB42H3-S-Win: Workplace Hazardous Materials Information System (WHMIS)

As part of this course, students will be expected to watch a video (approximately 30 minutes long) and take a multiple choice quiz on the material you just learned (the quiz is different than the Fall term). Students must obtain 80% on the quiz to pass the WHMIS course. In addition, students will be required to print off their 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. All safety eyewear must meet either ANSI Z87+ or CSA Z94.3 Standard for high impact protection (if you see one of those standards stamped on

your eyewear somewhere then they meet that particular standard).

**Labs coats must be 100% cotton – no exceptions.**

Further information regarding appropriate attire please see the guidelines outlined in your lab manual.

**Note that students not wearing approved safety gear will not be allowed to participate in the lab.**

**Ancillary Fees:** Students taking CHMA11 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>

**OWL homework:**

Several on-line assignments will be administered through Online Web Learning (OWL), which allows you to practice at your own pace, receive meaningful feedback and use additional learning resources. There are three options to purchase OWL:

- In the bundle with the textbook in the bookstore (includes e-book)
- Standalone with e-book (from either bookstore or nelsonbrain.com)
- Homework only, without e-book (from either bookstore or nelsonbrain.com)

To sign up for the CHMA11 OWL course:

1. Go to the course registration website:

If you are using the option **with** e-book, go to:

<http://login.nelsonbrain.com/course/E-X7FGYMEYSS5M6>

If you are using the option **without** e-book (**homework only/no e-book**), go to:

<https://login.nelsonbrain.com/course/E-X7FG4PYPZMNX>

**Important: Only sign up under one of the CHMA11 OWL courses i.e. with or without e-book, based on which access code for OWL you purchased.**

2. As a new user, enter your UTSC e-mail address, select ‘Create a New Account’, and go to step 3. Most of you will be returning students to OWL. If that is the case, log in, and go to step 6.  
**Important: You MUST use your UTSC email account for your email address in your OWL account.**
3. Complete the Account Information form and agree to the license agreement.  
**Important: You MUST include your 10 digit U of T Student ID number in your OWL account or your grades will not transfer to blackboard and you will get “0” on your OWL assignments. This is NOT your Blackboard ID number. Also, please ensure your first and last names are included in your nelsonbrain.com “my account” profile.**
4. Select “Create My Account”.
5. If you already purchased an access code, enter code. Or purchase online access at: [www.nelsonbrain.com/shop/micro/UTSC/CHMA10](http://www.nelsonbrain.com/shop/micro/UTSC/CHMA10) (Note: This is cheaper). If you already purchased an access code for CHMA10 in the fall 2015 you do not need to re-enter your access code.
6. To access the OWLv2 course, click ‘Open’ beside the course resource

For questions related to OWL:

- Check the FAQs at: <http://www.nelson.com/support>
- E-mail: [nelson.brain@nelson.com](mailto:nelson.brain@nelson.com)
- Phone support: 1-800-268-2222 (Monday through Friday: 8:00am to 6:00pm (EST))

***Facilitated Study Groups:***

CHMA11 is supported by Facilitated Study Groups. These weekly study sessions are open to everyone in the class. Attendance is voluntary, but students who attend regularly often earn higher grades. 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.utsc.utoronto.ca/home/fsg>.

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

***Grade Calculation:***

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

<b>Graded work</b>	<b>Weight</b>
Laboratory*	25%
OWL tests	5%
Mid-Term test	30%
Final exam	40%
<b>TOTAL</b>	<b>100%</b>

\*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.

***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. 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 S302) 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 one of the cornerstones of the University of Toronto. 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 <http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> which all students are expected to know and respect, it is an offence for students to:

- 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.
- To include false, misleading or concocted citations in their work.
- To obtain unauthorized assistance on any assignment.
- To 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. This includes, but is not limited to, doctor's notes.
- To use or possess an unauthorized aid in any test or exam. There are other offences covered under the Code, but these are by far the most common. Please respect these rules and the values which they protect. Offences against academic integrity will be dealt with according to the procedures outlined in the Code of Behaviour on Academic Matters.