



## Introductory Chemistry II (CHMA11) - Winter 2012 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:**

Prof. Jamie Donaldson (weeks 1-6)  
SW632A  
Email: [jdonalds@utsc.utoronto.ca](mailto:jdonalds@utsc.utoronto.ca)  
Office Hours: Mondays 10-11 am; Wednesdays 3-4:30 pm

Dr. Effie Sauer (weeks 7-12)  
SW640  
Email: [esauer@utsc.utoronto.ca](mailto:esauer@utsc.utoronto.ca)  
Office Hours: Mondays, Wednesdays and Fridays 3:30-4:30 pm

#### **Lab Coordinator:**

Dr. Scott Ballantyne  
SW155C  
Email: [sballant@utsc.utoronto.ca](mailto:sballant@utsc.utoronto.ca)  
Office Hours: Tuesdays, Thursdays 10:30-noon

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

Please use a valid "utoronto.ca" account for all CHMA11 correspondence. Emails received from other accounts are frequently filtered out as spam and may not be received. When composing your email, please use professional language. Be sure to include the course code as part of the subject line and sign the email with your first and last name, as well as your student ID. Your email will be answered as soon as possible (within 36 hours, unless it is a weekend or holiday)

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

Session 1 lectures take place Monday, Wednesday, Friday in AC223 between 12:10-1:00 pm.  
Session 2 lectures take place Monday, Wednesday, Friday in AC223 between 1:10-2:00 pm.

**Required Text:**

*Chemistry: A Molecular Approach*, 2nd Ed., by Nivaldo J. Tro. The text, solutions manual and the online homework program (Mastering Chemistry) can be purchased together from the UTSC Bookstore as a package. If you took CHMA10 last semester you can continue to use your text and Mastering Chemistry account for this course.

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

Week	Topic(s)	Suggested Reading
Jan 9-13	Review of chemical bonding; Intermolecular forces	(10.1-10.8) 11.1-11.4
Jan 16-20	Properties of liquids and solids, phase diagrams, covalent/ionic solids, crystal structures	11.5-11.13
Jan 23-27	Solutions and their physical properties	12.1-12.8
Jan 30 - Feb 3	Chemical kinetics	13.1-13.6
Feb 6-10	Catalysis, Introduction to chemical equilibrium	13.7, 14.1-14.6
Feb 13-17	Chemical equilibrium continued, Mid-term review	14.7-14.9
Feb 20-24	Reading week	-----
Feb 27 - Mar 2	Introduction to acids and bases	15.1-15.7
Mar 5-9	Acid-base properties of salts and polyprotic acids; molecular structure and acid strength; Lewis acids and bases	15.8-15.12
Mar 12-16	Aqueous ionic equilibria: Buffer solutions, titration curves, solubility equilibria, complex ions	16.1-16.8
Mar 19-23	Spontaneous change, entropy, free energy	17.1-17.5
Mar 26-30	Free energy and entropy changes in chemical reactions/equilibria; Introduction to electrochemistry	17.6-17.9; 18.1-18.6
Apr 2-4	Applications of electrochemistry	18.7-18.9
Apr 9	Exam review	

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

**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.

### ***Discussion Board:***

An online discussion board will be maintained through Blackboard. This online space will provide you with a place to post and answer questions related to the course material. You may post anonymously, or as yourself. The forums will be monitored by the course instructors so as to ensure that all questions are answered correctly. In addition, frequently asked questions (with their answers) may also be posted here by the instructors and/or teaching assistants. *Please note:* Posts which contain answers/solutions to the Mastering Chemistry Homework Assignments are not permitted and will be promptly removed.

### ***Mastering Chemistry Homework Assignments:***

There will be weekly online homework assignments which you will have to complete through the online program “Mastering Chemistry”. Assignments will be made available Wednesdays at 1:00 pm and will be due the following Tuesday at 9:00 am.

### **Registration instructions if you already have an active account:**

Go to: <http://www.masteringchem.com/>.

- Enter your "login Name" and "Password".
- You will now be prompted for the new course ID. Enter **CHMA11S2012**
- This will take you into the Mastering Chemistry program for this course.

### **Registration instructions if you don’t have an account:**

- Go to: <http://www.masteringchem.com/>
- Under the section for “Register” click on the "Students" button.
- Select "Yes I have an access code" and click “continue”
- Click “I accept” to the License Agreement and Privacy Policy
- Select “No” to indicate that you do not have an account and set up your login and password.
- Enter your Access Code (comes with your textbook package) in the field provided.
- Complete the requested account information page. **To ensure that you receive credit for your work, make sure that the name you enter is the same as the name on file with ROSI.** Under School Name, select University of Toronto - Scarborough.
- Click on Login Now and follow the instructions above to enroll in the Mastering Chemistry account for this course.

### ***Midterm:***

There will be one 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. Any student who misses the mid-term for a legitimate reason must submit appropriate documentation *within one week of their absence*. If the reason is medical, an official UTSC medical form should be downloaded from the registrar’s website and completed by your doctor ([http://www.utsc.utoronto.ca/~registrar/resources/pdf\\_general/UTSCmedicalcertificate.pdf](http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf)). Students with a validated absence will be permitted to write a make-up exam. Students without a validated absence will receive a grade of zero for the missed 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.

### ***Labs:***

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

#### **Lab Schedule:**

Odd numbered practicals (“week 1 students”): Your first lab will be in the week of Jan 16th

Even numbered practicals (“week 2 students”): Your first lab will be in the week of Jan 23rd

#### **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. A hard-cover, permanently bound notebook (not spiral or loose leaf) with dimensions of approximately 21 x 26 cm must also be purchased – either from the UTSC bookstore or any other merchant of your choice.

#### **Lab Coats and Safety Glasses:**

Lab coats and safety glasses must be worn at all times in the laboratory. These items can all be purchased from the UTSC Bookstore. *You will not be allowed to work in the laboratory unless you are wearing approved eye protection and a lab coat.*

#### **Lab Rules:**

- *Be punctual:* The introductory explanations for the experiments and/or quizzes will begin at 10 minutes past the hour.
- *Be prepared:* Each student will be expected to have a good knowledge of the assigned experiment before entering the laboratory. It will be helpful to prepare a point-form pre-lab procedure before coming to the lab.
- *Be there:* Your term mark from the lab is worth a large percentage of your mark. It is based not only on the reports which you submit, but also on your ability to answer, with competence, the questions of the demonstrators and instructor.

#### **Absences from the laboratory:**

If you need to miss a laboratory period for any valid reason, you must contact the lab coordinator (Dr. Scott Ballantyne) as soon as possible. In order to be considered eligible for a make-up lab, you must provide appropriate documentation (e.g. doctor's note/medical certificate). Make-up labs are not guaranteed and they will not be scheduled once an experiment is no longer in rotation. If no make-up lab is possible, alternative arrangements will be made in order to make up the missing grades (see lab manual for details).

If a student misses a lab and provides no reasonable explanation or supporting documentation, a mark of zero will be assigned.

**Tutorials:**

On weeks when you don't have a lab, there will be an hour-long tutorial. You do not need to register for the CHMA11 tutorials on ROSI as they are linked to your lab section. Your tutorial section number is the same as your lab section number (e.g. if you are in PRA001, your tutorial section is TUT001). Please check the UTSC timetable to confirm the time and location for your tutorial section. Note that attendance at the tutorials is mandatory and tutorial quizzes will count towards your final grade (see grading scheme below).

**Method of Evaluation:**

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

Graded Work	Weight
Online Homework/Tutorials	5%
Laboratory*	25%
Mid-Term Test	25%
Final Exam	45%
TOTAL	100%

Note: To pass the course, you must pass the laboratory and *either* the term test or the final exam (and receive an overall 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). The following specific models available at the UTSC bookstore are acceptable for this course:

Texas Instruments:	TI-30X IIS (SKU# 10048306)
Sharp:	EL-520WB (SKU# 10048016), EL-531WB (SKU#10047965), EL-546WB (SKU# 10047880)
Casio:	FX-260 (SKU# 10009994)

Invigilators have the authority to check calculators during tests and exams. 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 me and/or the AccessAbility Services Office as soon as possible. I 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.