CHEMISTRY 1311 A – Fall 2016
Course Information and Syllabus

COURSE WEBSITE: **uottawa.blackboard.com**
Login using your student number and uoZone password

PROFESSOR:
Dr. K.-S. Focsaneanu (Fox)
D'Iorio 119
562-5800 ext. 6894
Email: kfocsane@uottawa.ca

OFFICE HOURS:

Tuesday	After class, UCU
Tuesday	13h00 – 14h30, DRO 119
Friday	After class, UCU
	*or by appointment

TEACHING ASSISTANTS (TA's)
To be announced in class…

CLASS SCHEDULE:

Monday	Tuesday	Wednesday	Thursday	Friday
DGD 1	**Lecture**	**DGD 2**		**Lecture**
(with Dr. Fox)	8:30 – 10:00	17:30 – 19:00		10:00 – 11:30
11:30 – 13:00	UCU AUD	FSS 1007		UCU AUD
DMS 1140				
				DGD 3
				14:30 – 16:00
				DMS 1150

LAB SCHEDULE:

Lab Coordinator: Dr. Rashmi Venkateswaran, vrashmi@uottawa.ca

For your lab schedule (including lab tutorials) and other details, consult the Gen Chem Lab website on Blackboard. You can download and print what you want/need at your own convenience.

IMPORTANT NOTES ABOUT THE LAB:

- You MUST purchase safety glasses ($4 - $9) and a lab coat ($20 - $30) BEFORE coming to the lab. These are available in various places, including the Kiosk on the 3rd floor of Marion, the Science Students' Association and uOttawa Bookstore.
- You can find out your lab section online. If you print your timetable in table format, the lab section is the number in brackets next to CHM LAB (x). Once you know your lab section, go to the CHM LAB website on Blackboard to see the schedule. Please bring a printout of your timetable to the lab, to verify that you are in the correct lab section.

MORE INFORMATION ABOUT THE LAB WILL BE GIVEN IN THE FIRST LECTURE

COURSE EVALUATION:

Your mark is based on two parts: the lecture portion and the laboratory portion. The lab portion is fixed at 25% and is calculated as follows:

Demonstrator evaluation	4%
Pre-lab quizzes	3%
Formal reports (2)	8%
Informal reports (3)	10%

The lecture portion counts for the remaining 75% of your final grade, but its calculation is flexible, as you may "opt-out" of the online assignments if you wish (but more on that later). Here are the two possible evaluation schemes:

	With homework	Without homework
Online Homework	10%	–
Participation	5%	5%
DGD Quiz (**week of Oct 3rd**)	4%	4%
Midterm 1 (**Oct 15**)	14%	16%
Midterm 2 (**Nov 19**)	14%	16%
Final Exam	28%	34%

Please note: In order to receive a passing grade in this course, you are required to obtain a MINIMUM of 50% in the lecture component AND 50% in the lab component of the course.

CALCULATORS:

You will need a *non-programmable* calculator for the tests and for the final exam. The Faculty of Science has approved the following calculators: Texas TI-30X, TI-30XA, TI-30SLR scientific and non-programmable calculators, and their Casio/Sharp counterparts. You may NOT use cell phones or other electronic devices in place of a calculator during tests or final exams.

Extra note, since I get asked this anyway: "Can I use my X brand name calculator? It's not on the list of Faculty-Approved calculators…" Here's my answer: for assignments and the midterms or anything else done in class, as long as it's not programmable, than it's ok with me (I'm not picky on brand names). **HOWEVER**! I *may or may not* be proctoring your final exam (in other words, it might be another professor administering it) and I can't guarantee that *they* won't be picky – they might be very strict with the rules and confiscate any "unapproved" calculators. So, proceed at your own risk!

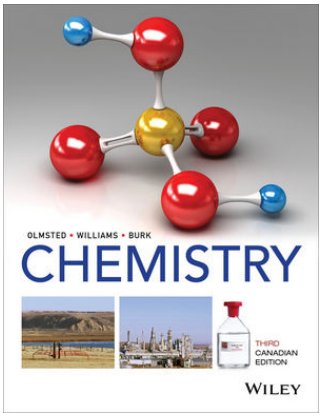
ABSENCE:

If you know in advance that you will be missing a quiz or test **for any reason**, contact me immediately to discuss the situation **BEFORE** the midterm (I will not accept non-medical excuses AFTER the tests have taken place!) If you are ill on the day of a test, please bring me a medical certificate to receive exemption from the test ASAP.

THERE ARE NO RETESTS: the weight of the missed activity will be redistributed to the other components of the course.

If you miss the final exam due to illness, please bring a medical certificate to the Faculty of Science to have your final exam deferred to the study week in February. (For more information on final exam deferral, go to www.science.uottawa.ca) If you miss a lab due to illness, please obtain a medical certificate, inform your demonstrator and see Dr. Rashmi.

RECOMMENDED TEXT:



The text that we will be using as an official reference for this course is **Chemistry, 3rd Canadian Edition by Olmsted, Williams, and Burk**. Please note that, while purchasing a textbook is not mandatory, it is *strongly recommended*, especially for students in the Faculty of Science, since you can use it as a reference for multiple courses (for example, I use it when teaching CHM2313: Environmental Chemistry, and you can use it to prepare for CHM1321: Introductory Organic Chemistry next semester and CHM2353: Descriptive Inorganic Chemistry next year as well).

The university Bookstore will have 3 packages available:

1. Hardcover textbook + access to online content **($143.50)**
2. Looseleaf version + access to online content **($131.25)**
3. Access code to online content **($101.25)**

The online content mentioned above includes:

- access to the eBook for 2 years
- WileyPLUS homework system (for our weekly assignments)
- ORION adaptive learning system (to help you fine-tune your studying)
- a *huge* bank of other resources (including videos, animations, simulations, etc.)

This past summer, all the CHM1311 instructors got together and spent a lot of time looking at the various books available on the market and we truly feel that this text is a worthwhile investment. We also worked very hard to negotiate a fair price with the publisher, and made sure it included access to all the available online content (to give you an idea, Amazon.ca is currently selling the hardcover textbook alone (no add-ons) for $151.50).

However, we realize that not every student will want or need to invest in a new textbook, and so of course there are alternatives. For example, there will be lots of used textbooks floating around campus (in the past, we used Silberberg, 1st Canadian edition and Petrucci, 10th edition, and these are excellent books too) that you could pick up instead; or you could use the copies kept on reserve at the library; or you could look into online lending vendors, etc. Finally, I've got a variety of different textbooks in my office, so feel free to drop by and look at them in person in you're curious (or if you're buying a copy online and what to check it out first). *It is up to you to consider the various options and come to a decision that best suits your financial and educational needs.*

IMPORTANT: It's likely you'll find cheaper copies of our past books (Silberberg and Petrucci) floating around (especially used copies). If you want to follow along with me in class, my official notes will be referring to pages/problems in Olmsted. However, if you've picked up a copy of Silberberg or Petrucci, there are pdfs available on the course website with the appropriate readings and suggested problems for the relevant chapters of these books.

COURSE SYLLABUS

Below is a general sequence for the course; for a more detailed syllabus (with specific readings and suggested problems), please consult the relevant textbook pdf's on the course website.

The ordering of material differs from previous years (and from the

Lecture	Date	Topic
1	Sep 9	Introduction
2	Sep 13	Stoichiometry and Equations
3	Sep 16	Stoichiometry and Equations
4	Sep 20	Stoichiometry and Equations
5	Sep 23	The Behaviour of Gases and KMT
6	Sep 27	The Behaviour of Gases and KMT
7	Sep 30	Principles of Chemical Equilibrium
		Week of Oct 3 – DGD Quiz
8	Oct 4	Principles of Chemical Equilibrium
9	Oct 7	Kinetics: Mechanisms and Rates of Reactions
10	Oct 11	Kinetics: Mechanisms and Rates of Reactions
11	Oct 14	Kinetics: Mechanisms and Rates of Reactions
		Oct 15 – Midterm 1
12	Oct 18	Acid-Base Equilibria
13	Oct 21	Acid-Base Equilibria
14	Nov 1	Energy and Thermochemistry
15	Nov 4	Energy and Thermochemistry
16	Nov 8	Energy and Thermochemistry
17	Nov 11	Applications of Aqueous Equilibria (Buffers and Solubility)
18	Nov 15	Applications of Aqueous Equilibria (Buffers and Solubility)
19	Nov 18	Applications of Aqueous Equilibria (Buffers and Solubility)
20	Nov 22	Atoms and Light
21	Nov 25	Atoms and Light
		Nov 19 – Midterm 2
22	Nov 29	Chemical Bonding
23	Dec 2	Chemical Bonding
24	Dec 6	Review

**note: dates and ordering of material subject to change*

RE-GRADING REQUESTS

Corrected midterms will be handed back in class as soon as possible after the midterm (usually, about one week). At that time, you will be given instructions on how to submit a re-grade request.

LECTURES

There is an 80% attendance requirement in the Faculty of Science. If you miss a lecture, it is your responsibility to acquire any notes and assignments for that day from another member of the class. Lecture presentations will be posted to the course website in pdf format; however, we will be solving problems by hand in class, so bring some paper and a pencil. I will be using in-class participation to record attendance.

Lectures will be recorded using Echo360 lecture-capture software so you will be able to go back and re-watch them if you wish. You will receive an invitation to join Echo360 before the semester begins.

DGDs

With one exception (see below), the discussion groups (DGDs) are *optional, but highly recommended*. While you may have been assigned a particular DGD in your Rabaska schedule, feel free to attend any of the three, or even more than one if you feel the need to do so. In the DGDs, I (or a TA) will answer questions related to course material posed in person or posted on the Message Board on the course website. I will NOT answer questions relating to your lab reports – if you have questions or need help with lab reports, talk to your lab demonstrator or go to the lab tutorials (that's what they are for!).

The Monday afternoon DGD (at 14h30, with me) will take place in an Echo360-equipped classroom and the resulting lecture-capture video will be posted to the course website.

PLEASE NOTE: you will be required to attend your assigned DGD once this semester, the week of **October 3rd**, in order to complete the Two-Stage Quiz (see below for more information).

DGDs will begin September 12th.

EVALUATION EXERCISES

Online Homework:

A total of ten homework assignments and other activities, which can be worth up to **10%** of your final mark, will be administered online.

These exercises will be administered through a program called WILEY PLUS. These will be weekly assignments (~60 min long), designed to help you practice solving more complex problems, *after having covered the material in class*. When an assignment is announced in class, login to the website at any time to work on it (you do not have to complete the whole assignment in one sitting; you can save your work at any point).

WILEY PLUS comes included with a purchase of the course textbook. However, if you are not sure, it can also be accessed **FOR FREE** for a two-week trial period at the beginning of the semester.

Additional exercises, such as pre-midterm practice quizzes, will also be included with WILEY PLUS.

More information about WILEY PLUS and completing the activities will be given in the first lecture.

I *strongly recommend* that you get a WILEY PLUS account and use it for the exercises and assignments. It is a very valuable learning tool, and if you devote the time to using it properly, it will certainly help you learn, understand and master the course material. Also, marks on the online homework portion are generally quite high (many people earn the full 10%+), due to the many hints/help available, the tutorial nature of the programs, the opportunity to earn extra credit/bonus points, and because there is no time limit.

However, if you wish to opt out of the homework: you may do so with no penalty to your course mark. If you let me know at the beginning of the semester that you do not wish to participate in this aspect of the course, I will redistribute your marks as shown in the evaluation scheme on page 2. To be on the "**OPT-OUT LIST**", you must contact me by email no later than **September 30th 2016.** Copy and paste these lines into your email message:

I wish to opt out of completing the online homework assignments.
Name:
Student Number:

Any requests to opt out of made after this date will be denied. Any request to opt back in after asking for an opt-out will also be denied after September 30th, 2016.

In-Class Participation

We will be using Echo360, a free program available everywhere on campus, to record in-class participation. This system uses feedback collected from your cellphone or any web-enabled device when answering questions in class. By bringing your devices to class and participating in the in-class questions, you will earn up to **5%** of your final grade. I will be using these responses to record classroom attendance.

You will receive an email invitation to join Echo360 before the semester begins. More information about this program will be given in the first lecture.

DGD Two-Stage Quiz

In lieu of traditional evaluation formats, the quiz, midterms, and final exam for the course will be given as two-stage exercises. In a two-stage exercise, you will be given a small set of questions/problems to solve. The period is divided into two parts: Stage 1 (about 60% of the allotted time period) and Stage 2 (about 40% of the time period). In Stage 1, you work on the problem set individually, and submit your responses individually. During Stage 2, you will be given a similar problem set, and then will work collaboratively in a group (of 3 or 4 students), submitting a single set of responses for the entire group. Your final score on the exercise is a combination of your two results (individual and group work, 75%:25%)

The DGD quiz is meant to give you a feel for the Two-Stage format before the midterms. It will be worth **4%** of your final grade and take place during your assigned DGD period, during the week of **October 3rd**. Therefore, you must attend your assigned DGD that week. As mentioned above, all other DGD periods are optional.

More details on two-stage exercises will be given during the first lecture. For students registered with Access Service, we will discuss at the beginning of the semester the various options for accommodating two-stage exercises.

Two-Stage Saturday Midterms:

There will be two midterms (**Saturday October 15th and Saturday November 19th**), each worth **14% – 16%** of your final mark. The content and location of each test will be mentioned in class. Tests are *not* cumulative. Data sheets, containing formulae, the periodic table etc. will be provided for all tests and for the final exam. Copies of these sheets are available on the course website.

To assist you in studying, tests from previous years are also posted on the course website. However, please note that the material covered on a given test may vary from one year to the next.

Two-Stage Final Exam:

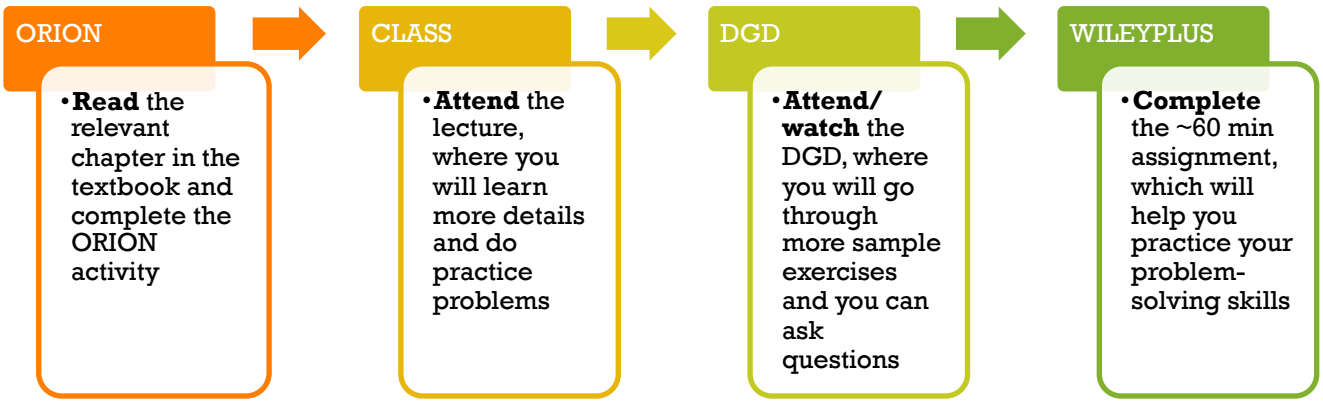
Final exam dates and locations will be posted later in the term. Your final exam *will be cumulative* and will be worth **28% – 34%** of your final mark. More information about the final exam will be given later in the semester.

Academic Integrity:

If you are caught cheating or allowing someone else to copy your work during a test or exam, you will be removed from the examination room and reported to the faculty. Penalties range from failure of the course to expulsion from the University. Don't risk it – your whole future could be affected! Keep your paper covered so others cannot copy your work, otherwise you may be accused of cheating by allowing them to copy!

Studying:

Each week's material can be covered following a 4-part schedule:



Additionally, I will be recommending practice problems (not graded) from each Chapter we will cover. Feel free to work through these problems at any point in the schedule. Remember that the key to doing well in chemistry is to PRACTICE SOLVING PROBLEMS. Do NOT focus on memorization – you will be given all of the relevant data and equations anyway! Instead, be sure you *understand* the chemistry concepts behind the problems.

More tips on succeeding in CHM1311 are available on the course website under "Study Tips".