UNIVERSITY of GUELPH

Department of Chemistry

12 pages total

CHEM*1050 General Chemistry II

Fall 2020 Student Course Information

Course Description: CHEM*1050 General Chemistry II F,W (3-3) [0.50]

This course provides an introductory study of the fundamental principles governing chemical transformations: thermodynamics (energy, enthalpy, and entropy); kinetics (the study of rates of reactions); and redox/electrochemistry.

Prerequisite(s): CHEM*1040

Instructor: Professor Mario A. Monteiro (monteiro@uoguelph.ca)

A list of Teaching Assistants (TAs) assigned to specific lab sections is posted on CourseLink, under Content >> Laboratory Activities >> Hayden-McNeil Online Course >> F20 TA List

COURSE MATERIALS

(a) **Textbook and Solutions Manual**: D. Ebbing and S. Gammon, General Chemistry (10th edition). The same text used in CHEM*1040. The publisher provides 10th ed. Options (hardcopy or e-book through both of our campus bookstores) - University Bookstore (*https://bookstore.uoguelph.ca/courselistbuilder.aspx;* $120/$112.50) and Co-op Bookstore (https://bookstore.coop/textbooks/order-online; $110.95/$99.95).

(b) **Scientific calculator** with ln, e^x, $\log_{10}$ and 10^x functions is required. Calculators or notebook computers capable of storing information are not allowed in exams, *e.g.,* graphing calculators. It is your responsibility to have a properly working calculator for exams and know how to use it.

(c) **System/Software Requirements:** To ensure you have the best learning experience possible, please review: https://opened.uoguelph.ca/student-resources/system-and-software-requirements

CLASS DELIVERY AND HOMEWORK

Class delivery will be in *remote* mode. Class material (pdf or ppt file) is uploaded every Monday, Wednesday and Friday at 12:30 PM and available until the end of course. Class material is confidential and is strictly for your own use.

Homework will consist of exercises given by Prof. Monteiro in class presentations, and **all odd numbered questions in PRACTICE PROBLEMS and GENERAL PROBLEMS** sections of chapter 6 (pages 260-265), chapter 18 (pages 770-775), and chapter 19 (pages 820-825). No grade is given for homework.

FALL 2020 CHEM*1050 LABORATORY SCHEDULE

DATE	Activities	Assessments	Deadline
Week 1 **Sept. 14 – 18**	**Hayden-McNeil Online Course:** Introduction to Lab Simulations	Introduction to Lab Simulations Post-Lab Activity	Prior to Week 2's Lab Activity
Week 2 **Sept. 21 – 25**	**Hayden-McNeil Online Course:** Enthalpy Change of a Chemical Reaction	Enthalpy Change of a Chemical Reaction Post-Lab Activity	5 PM on Fri., Sept. 25
Week 3 **Sept. 28 – Oct. 2**	**CourseLink Lab Activities:** Bomb Calorimetry Lab Activity	Marking Module for Bomb Calorimetry Lab Activity	5 PM on Fri., Oct. 2
Week 4 **Oct. 5 – 9**	**Hayden-McNeil Online Course:** Enthalpy Change for the Decomposition of Ammonium Chloride	Enthalpy Change for the Decomposition of Ammonium Chloride Post-Lab Activity	5 PM on Fri., Oct. 9
Week 5 **Oct. 12 – 16** **(No classes Oct. 12 & 13)**	**Student Science Safety I (F20) Course** *Note: this course is separate from the CHEM*1050 CourseLink site.*	Final Assessment quiz on CourseLink *Note: this is accessed via the Student Science Safety I (F20) CourseLink site*	5 PM on Fri., Oct. 16
Week 6 **Oct. 19 – 23**	**CourseLink Lab Activities:** Thermodynamics Lab Activity	Marking Module for Thermodynamics Lab Activity	5 PM on Fri., Oct. 23
Week 7 **Oct. 26 – 30**	**Hayden-McNeil Online Course:** Electrochemistry	Electrochemistry Post-Lab Activity	5 PM on Fri., Oct. 30
Week 8 **Nov. 2 – 6**	**CourseLink Lab Activities:** Electrolysis Lab Activity	Marking Module for Electrolysis Lab Activity	5 PM on Fri., Nov. 6
Week 9 **Nov. 9 – 13**	**Hayden-McNeil Online Course:** Chemical Kinetics: Part 1	Chemical Kinetics: Part 1 Post-Lab Activity	5 PM on Fri., Nov. 13
Week 10 **Nov. 16 – 20**	**Hayden-McNeil Online Course:** Chemical Kinetics: Part 2	Chemical Kinetics: Part 2 Smart Worksheet	5 PM on Fri., Nov. 20
Week 11 **Nov. 23 – 27**	**CourseLink Lab Activities:** Catalytic Hydrolysis of Salicin Lab Activity	Marking Module for Catalytic Hydrolysis of Salicin Lab Activity	5 PM on Fri., Nov. 27
Week 12 **Nov. 30 – Dec. 4**	**Independent Study**		

Note: Although the Hayden-McNeil Introduction to Lab Simulations Post-Lab Activity will not contribute to your final lab grade, it must be completed to gain access to all other post-lab activities within the Hayden-McNeil Online Course. Similarly, the Introduction to Smart Worksheets activity will not contribute to your final lab grade, but it must be completed to gain access to the Chemical Kinetics: Part 2 Smart Worksheet.

EVALUATION

Your final course grade will be based on the following components:

CourseLink Online Lab Work (4 lab activities)	10%
Hayden-McNeil Lab Work (5 lab activities)	14.5%
CourseLink Student Science Safety I (F20) Course (1st grade attempt)	0.5%
Midterm Test 1 (October 9, **9 AM – 4 PM**)	15%
Midterm Test 2 (November 6, **9 AM – 4 PM**)	15%
Midterm Test 3 (November 25, **9 AM – 4 PM**)	15%
Final Examination (December 10, **8:30 AM – 10:30 AM**)	30%

Note: To obtain credit, a minimum of 50% in the overall course **AND** at least five out of the nine lab activities must have been completed, else a maximum final grade of 49% is assigned.

(a) **CourseLink Online Lab Activities (required):** Four of the nine CHEM*1050 laboratory activities can be found on the CHEM*1050 CourseLink site (Content >> Laboratory Activities >> CourseLink Lab Activities). Each activity consists of 2 parts: simulated experiment or a set of lab activities and a marking module. Background info and worksheets to help you record your work are provided for each activity. (The marking module's link is released after you have visited the simulation and/or lab notes/worksheets.)

The simulated experiments can be done as many times as you wish however, some labs assign a new "unknown" number with each attempt. Make sure to record this number for grading purposes.

Once you have completed all activities and calculations, **only then** open the marking module to evaluate your work. You have one attempt and 60 minutes to enter your answers. **Marking modules are due Fridays at 5 PM** (refer to Laboratory Schedule – page 2). If an assigned marking module is not submitted by the deadline, a grade of zero is assigned.

Submitted marking modules can be reviewed starting the Monday following the due date and for a two-week period. You will be able to review your answers, the correct answers and any feedback provided.

(b) **Hayden-McNeil Online Course (required):** The remaining five lab activities can be found on the Hayden-McNeil online course site. A link to the site is provided on the CHEM*1050 CourseLink site, under Content >> Laboratory Activities >> Hayden-McNeil Online Course. Follow the instructions provided on how to register. This site provides background info, lab procedures and a virtual lab environment to conduct experiments and collect data. An Introduction to Lab Simulations activity is provided. Each lab is assessed through a **post-lab activity or smart worksheet** that is **due Fridays at 5 PM** (refer to Laboratory Schedule – page 2). If an attempt is not submitted by the assigned deadline, a grade of zero is assigned.

(c) **CourseLink Lab Safety Course (required)**: You must complete the course entitled "*Student Science Safety I (F20)*" by **Friday, October 16, 5 PM** (refer to Laboratory Schedule – page 2). It takes 2-3 hours to complete. You have unlimited attempts to achieve a grade of 90% or better on the final assessment, however the grade on your first attempt is worth 0.5% of your final grade in the course. If an attempt is not submitted by the assigned deadline, a grade of zero is assigned.

(d) **Three Midterm Tests (required):** Online multiple choice format on CourseLink. You will be informed of the content (class numbers) of each midterm test by Prof. Monteiro.

(e) **Final Examination (required): Thurs., Dec. 10, 8:30 – 10:30 AM, CourseLink**
The online 2-hour exam evaluates the entire course via multiple choice questions.

POLICY ON MISSED WORK

(a) **Missed Midterm Tests:** If you do not write one of the midterm tests, you must e-mail Prof. Monteiro via your U of G account. Include your full name, student ID number and an explanation. If a valid excuse is received, the percentage value of the midterm test is added to the percentage value of the final exam. Otherwise, a grade of zero will be assigned. **No make-up test will be provided.**

(b) **Missed Final Examination:** If you miss a final exam, contact your Program Counsellor as soon as possible (refer to *www.uoguelph.ca/uaic/programcounsellors* for contact info). An official request must be made within **five working days** of the missed examination. Consult the Undergraduate Calendar for further details:
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

(c) **Other Work:** When you find yourself unable to meet an in-course requirement, due to illness or compassionate reasons, e-mail Prof. Monteiro via your U of G account. Include your full name and student ID number. If a valid excuse is received, your work will be re-evaluated; otherwise, a grade of zero is assigned. Regulations and procedures for Academic Consideration are found in the Undergraduate Calendar (*https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml*)

EXPECTATIONS

The course website is considered our classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because this course is delivered online. Inappropriate online behaviour will not be tolerated. Some examples include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Buying or selling lab reports or assignments;
- Posting or selling course materials to course notes websites;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security/functionality of CourseLink; and
- Sharing your username and password.

ACADEMIC ETHICS

Original work performed in good faith is assumed with all course components. University of Guelph students have the responsibility of abiding by the University's policy on academic integrity, which prohibits several forms of academic offences, including cheating; falsification; plagiarism; unauthorized collaboration; or recording and/or dissemination of instructional content without express permission of the instructor.

Your graded submissions for online assignments, tests and exam should be your own, individual work. You may not share content from any assignments, tests, exams, etc. with 3rd-parties such as Chegg, CourseHero, Reddit, or any other non-UoG course content repositories.

It is also presumed that the data you collect, all data analysis and written/typed calculations and responses that you submit for grading is yours alone. We often find examples of plagiarism in which lab reports are copied from someone else, or from a previous semester. In short, if you have not done something yourself, do not attempt to pass it off as original work.

Further academic misconduct information can be found in the Undergraduate calendar: https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml
If you have any questions about what might cross the line, please do not hesitate to ask your lab TA or Instructor prior to submitting your work.

EQUAL OPPORTUNITY AND EVALUATION POLICY

The University is committed to academic integrity and has high ethical and moral standards. All students will be treated equally and evaluated using the criteria presented in this outline. Evaluation criteria are based strictly on achievement and not effort. There is no extra work for extra credit or to “make up” a grade. The need to obtain a higher grade for various reasons is not grounds for increasing your grade. If your grade were “bumped” (*i.e*. you received a grade you did not legitimately earn), it would be unfair to all the other students in the course.

COURSE RESOURCES

(a) **CHEM*1050 Website –** access through portal *http://www.uoguelph.ca/courselink/*
Your **Username** is the part of your U of G e-mail address before the "@" sign. Your **password** is the same as your University e-mail. CourseLink Student Support page: https://spaces.uoguelph.ca/ed/students/

(b) **Professor Monteiro –** is always available by e-mail for consultation and assistance.

(c) **Chemistry Learning Centre** (CourseLink Virtual Classroom)
Teaching Assistants (TAs) are available to answer questions and assist you with both the lecture and laboratory material online. Virtual hours will be posted on CourseLink under "Announcements".

(d) **Supported Learning Groups** (SLGs) – link located on Course homepage
SLGs are regularly scheduled, small group study sessions, held virtually. Attendance is voluntary and open to all students in the course. SLGs are facilitated by students who have successfully completed the course. SLG leaders work with faculty/staff to create study activities that integrate course content with effective approaches to learning. They are not tutors. The peer-supported group study format exposes students to various approaches to learning, problem solving, and exam prep. Use the link on the homepage to enroll, view schedule and join a virtual session.

CHEM*1050 EXPECTATIONS AND LEARNING OBJECTIVES

CHEM*1050 continues from CHEM*1040 to build up your understanding of general chemistry. In reviewing the course content of CHEM*1050 you may feel you know most of the material already. Don't be misled! The topics may be familiar, but we will be providing a deeper understanding of the fundamental concepts within chemistry. The purpose of CHEM*1040 and CHEM*1050 is to build upon your previous exposure to the subject. You will need to move away from just memorization terms and definitions and spend more time thinking about the processes and concepts within chemistry. This will lay the foundation for more advanced courses such as analytical chemistry (*i.e.*, CHEM*2400 or CHEM*2480), biochemistry (*i.e.*, BIOC*2580), organic chemistry (*i.e.*, CHEM*2700), inorganic chemistry and physical chemistry (*i.e.*, CHEM*2060, CHEM*2880 and CHEM*2820). Note that the course is not designed to "teach" you chemistry. It is, however, constructed to help you learn chemistry.

For some of you, it may have been more than a year since you last took a chemistry course and it is not unrealistic to assume that you have forgotten some of what you have already learned. We will review some basic concepts but this will not be a comprehensive review. You must review carefully the sections of the textbook that have been assigned as review on your own.

a) **What We Expect You Already Know/Understand:**

- classifications of matter and terms associated with its physical properties (e.g., temperature; density, homogeneous vs. heterogeneous mixtures). (Refer to Sections 1.4 and 1.7)
- how to report the number of significant figures in a given quantity and **how to round off the result of a calculation to the correct number of significant figures**. (Refer to section 1.5 in text as well as the introductory notes within your laboratory manual.)
- SI base units, SI prefixes (from *tera* to *femto*) and be able to convert between units. (Sect'n 1.6 & 1.8)
- basic concepts and terminology associated with atoms and atomic structure (*e.g*., electron, proton, neutron, atomic number, atomic mass unit, isotope, mole, molar mass) (Section 2.3–2.4)
- info provided by any periodic table (e.g., atomic symbols, names, period and group), as well as periodic trends (e.g., atomic size, ionization energy, electron affinity and electronegativity). (Sections 2.5 & 8.6)
- names of groups 1, 2, 17 and 18; how to classify an element as a metal, non-metal or metalloid based on its position in the periodic table; the common forms of the most common non-metals: H_2, F_2, Cl_2, Br_2, I_2, N_2, O_2, P_4, S_8. (Section 2.5)
- names and formulas of simple inorganic and organic compounds. Familiarise yourself with Tables 2.4 to 2.6. Sections 2.6–2.8 and pages 1–26 in the CHEM*1040 Organic Notes.
- how to write and balance simple chemical equations by inspection. (Sections 2.9–2.10)
- concepts and calculations that involve quantities of atoms, ions or molecules, Avogadro's number, molar mass and molecular formula. (Sections 3.1–3 .2; 3.6–3.7)
- to use % composition & molar mass to determine empirical and molecular weights. (Sect's 3.3–3.5)
- meaning of terms such as empirical, molecular and structural formulas; anion; cation; oxidation state; limiting reagent; excess reagent; actual, theoretical and percent yields; molarity (Sections 3.8, 4.7)
- apply the solubility rules in Table 4.1 to either compounds or reactions. (Sections 4.2–4.3)
- differentiate between molecular and net ionic equations. Be able to write either. (Section 4.2)
- understand the logic behind precipitation and neutralization reactions, as well as gravimetric and volumetric analyses; be able to perform stoichiometric calculations involving solids, solutions or gases. (Sections 4.3 – 4.4, 4.9–4.10 and 5.3–5.5)
- units of pressure used for gas law problems and be able to convert between them. (Section 5.1)
- concepts and terminology associated with the ideal gas law (PV=nRT) (Sections 5.3–5.4)
- definitions for kinetic energy, potential energy and internal energy, as well as the units for energy and the law of conservation of energy. (Section 6.1)
- distinguish between an exothermic process and an endothermic process. (Section 6.3)
- be familiar with dynamic equilibrium, how to write a K expression for homogenous or heterogeneous equilibrium and relate the K value to the extent of reaction. (Sect's 14.1–14.4)
- relate Q value to ***direction of reaction***, forward or reverse, to reach equilibrium. (Sect. 14.5)
- use Le Chatelier's principle to describe the effect of a stress on equilibrium position, equilibrium constant K and equilibrium concentrations or pressures. (Sect. 14.7)
- recognize strong acid and base aqueous solutions and determine the pH. (Sections 15.7–15.8)
- how to work with exponential (i.e., scientific) notation, logarithms (*e.g.,* log & ln), exponentials (i.e., 10^x and e^x) and the quadratic formula.
- how to solve for an unknown in a linear equation, and for two unknowns using two linear equations.

- how to use a table of (x,y)-data pairs to construct a plot. For straight line plots, you will be expected to calculate slope.

CHEM*1050 Learning Objectives – this course can be subdivided into three sub-sections and the learning objectives for each are as follows:

Thermodynamics (Sections 6.1 – 6.8, 9.1, 9.11, 11.2 and 18.1-18.7)

1. Define a thermodynamic system, surroundings, work, heat & internal energy change. (Section 6.2)
2. Relate the heat absorbed or evolved to the specific heat, mass & temperature change. (Section 6.6)
3. Understand the differences between coffee-cup and bomb calorimetry (Section 6.6)
4. Describe pressure-volume work verbally and mathematically. (Section 6.3)
5. Understand what a state function is, and the differences between enthalpy and internal energy based on calorimetric data (Sections 6.3 + 18.1)
6. Write a thermochemical equation given pertinent information and learn how to manipulate (reversing and multiplying) thermochemical equations. (Section 6.4)
7. Calculate the heat absorbed or evolved from a reaction given its enthalpy of reaction and the mass of a reactant or product. (Section 6.5)
8. Apply Hess's law to obtain the enthalpy change for one reaction from the enthalpy changes of a number of other reactions. (Section 6.7 + 11.2)
9. Define standard state and standard enthalpy of formation. (Section 6.8)
10. Calculate the heat (enthalpy) of reaction from the standard enthalpies of formation of the substances in the reaction. (Section 6.8)
11. Calculate the heat of a phase transition using standard enthalpies of formation for the different phases. (Section 6.8 + 11.2)
12. Define bond energy and estimate ΔH from bond energies. (Section 9.11)
13. Describe the energetics of ionic bonding, including lattice energy and describe the Born–Haber cycle to obtain a lattice energy from thermodynamic data. (Section 9.1)
14. Define spontaneous process, entropy and the second law of thermodynamics. (Section 18.2)
15. State the third law of thermodynamics and situations in which the entropy usually increases. Predict the sign of the entropy change of a reaction. (Section 18.3)
16. Define standard entropy (absolute entropy) and calculate ΔS° for a reaction. (Section 18.3)
17. Calculate the entropy change for a phase transition. (Section 18.2)
18. Define free energy, G and describe how $\Delta H - T\,\Delta S$ functions as a criterion of a spontaneous reaction. (Section 18.4 & 18.7)
19. Define the standard free energy of formation, ΔG°_f. and the meaning of its sign. Calculate ΔG°_{Rxn} from standard free energies of formation values. (Section 18.4)
20. Describe how the free energy changes during a chemical reaction and how it relates to K and Q. (Section 18.5 – 18.6)
21. Calculate ΔG° and K at various temperatures and describe how ΔG° at a given temperature (ΔG°_T) is approximately related to ΔH° and ΔS° at that temperature. (Section 18.7)
22. Understand the difference between ΔG and ΔG°.
23. Describe how a nonspontaneous reaction can become spontaneous through the coupling of reactions and what is meant by $\Delta G^{\circ\prime}$.

Electrochemistry (Sections 19.1-19.11)

1. Recognize *oxidation-reduction* reactions, learn oxidation-number rules and be able to assign oxidation numbers to determine which species undergo *oxidation* and *reduction*. (Section 4.5)
2. Balance redox reactions in either acidic or basic environments. (Section 4.6 & 19.1)
3. Understand the construction of galvanic cells, i.e., identify anode, cathode and overall cell reaction, as well as, describe the function of a salt bridge or inert electrode (Section 19.2)
4. Write the cell reaction from the cell notation, and vice versa. (Section 19.3)
5. Define standard cell potential and volt. Use a table of standard reduction potentials to determine the relative strengths of oxidizing and reducing agents, as well as, calculate cell potential and evaluate the direction of spontaneity. (Section 19.4-5).
6. Calculate the standard free-energy change and the equilibrium constant from standard cell potential, and vice versa. (Section 19.6)
7. Calculate cell potential for nonstandard conditions using the Nernst equation. (Section 19.7)
8. Relate the basics of electrochemistry to some commercial voltaic cells, e.g., lead storage cell, nickel-cadmium cell, Leclanché dry cell, zinc–carbon dry cell and hydrogen fuel cell. (Section 19.8)
9. Explain the electrochemical process of the rusting of iron and cathodic protection. (Section 19.8)
10. Understand the construction of electrolytic cells. (Section 19.9)
11. Predict the most likely half-reactions in the electrolysis of molten salts (Section 19.9)
12. Predict the most likely half-reactions in an aqueous electrolysis. (Section 19.10)
13. Define overvoltage and use given values to predict half-reactions in electrolysis. (Section 19.10)
14. Apply stoichiometry and Faraday's constant to electrolysis problems. (Section 19.11)
15. Relate electrolysis to metallurgic processes and industrial cells, e.g., Hall-Heroult cell, Downs cell, chloro-alkali membrane cell, and electrorefining. (Section 19.9 – 19.10 & 21.2)

Chemical Kinetics (Sections 13.1-13.6 and 20.4)

1. Explain reaction rate, instantaneous rate and average rate of a reaction. (Section 13.1)
2. Describe how reaction rates may be experimentally determined. (Section 13.2)
3. Define and provide examples of a rate law, rate constant, and reaction order. Determine the order of a reaction from the rate law and determine the rate law from initial rates. (Section 13.3)
4. Apply the integrated rate laws for 1^{st}-order, 2^{nd}-order, and zero-order reactions to solve chemical kinetics problems. (Section 13.4)
5. Define half-life of a reaction and relate half-life to the rate constant for 1^{st}-order, 2^{nd}-order, and zero-order reactions. Determine half-life and activity from a radioactive decay constant. (Sections 13.4 & 20.4)
6. Plot kinetic data to determine the order of a reaction. (Section 13.4)
7. Apply the Arrhenius equation to solve kinetics problems. (Section 13.6)
8. State the postulates of collision theory. Describe how temperature, activation energy (E_a), and molecular orientation influence reaction rates. (Section 13.5)
9. State the transition-state theory and define activated complex. (Section 13.5)
10. Interpret potential-energy curves for endothermic and exothermic reactions. (Section 13.5)

11. Define elementary reaction, reaction mechanism, molecularity and reaction intermediate. Give examples of unimolecular, bimolecular, and termolecular reactions and determine the molecularity of an elementary reaction. (Section 13.7)
12. Using the rate-determining step in a mechanism, determine the rate law from a mechanism with an initial slow step or a mechanism with an initial fast, equilibrium step. (Section 13.8)
13. Define homogeneous catalysis and heterogeneous catalysis. Describe how a catalyst influences the rate of a reaction and how it changes the potential-energy curve of a reaction. (Section 13.9)

c) CHEM*1050 Learning Outcomes

On successful completion of this course, students should be able to:

1. Understand and demonstrate knowledge of the four laws of classical thermodynamics, including interpreting equations, formulas and concepts related to these laws.
2. Understand and apply the concepts of chemical equilibrium and electrochemistry to solve both qualitative and quantitative problems.
3. Demonstrate knowledge and understanding of reaction rates and the conditions that influence them.
4. Perform laboratory experiments demonstrating safe and proper use of standard chemical glassware and equipment.
5. Record, graph, chart and interpret data obtained from experiments through working co-operatively with others or independently.

UNIVERSITY POLICIES & INFORMATION

(a) **Academic Advisors** – If you are concerned about any aspect of your academic program, make an appointment with a Program Counsellor within your degree program. For contact info, please refer to: *https://www.uoguelph.ca/uaic/programcounsellors*

(b) **Academic Assistance** – If you are struggling to succeed academically, the Learning Commons (*https://www.lib.uoguelph.ca/*) offers numerous academic resources, including workshops related to time management, taking multiple choice exams and general study skills. You can also set up individualized appointments with a learning specialist.

(c) **Academic Integrity** – The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all of us to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. Note: Whether one intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse you from the responsibility of verifying the academic integrity of your work before submission. If you are in any doubt as to whether an action on your part could be construed as an academic offence, consult your Instructor or a Faculty Advisor. Refer to the Undergraduate Calendar for more detailed information about the Academic Misconduct Policy:
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

(d) **Accessibility** – The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student. When accommodations are needed, students are required to register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway. Accommodations are available for both permanent and temporary disabilities. Note that common illnesses, such as a cold or the flu, do not constitute a disability. For more info, go to the SAS website: *www.uoguelph.ca/sas*

(e) **Copies of out-of-class assignments –** Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

(f) **Copyright of Course Materials** – All course materials are copyrighted by the Department of Chemistry, the instructor who prepared the materials or the publisher who provided the materials. These materials can only be reproduced with permission and in conjunction with associated copyright rules. **Note**: Lectures and laboratories **cannot** be recorded or copied without the permission of the presenter. Material recorded with permission is restricted to personal use for that course, unless further permission is granted.

(g) **Course Evaluation** (CEVAL) – Students will be invited to complete a short online evaluation of their TA**,** as well as their Instructor and the course, near the end of the semester. The department regards this information as important in evaluating the course, as well as your TA and Instructor's performances. All comments are reviewed, and suggestions are followed whenever possible. To access the online evaluation, go to *https://courseeval.uoguelph.ca/*.

(h) **Communication** – As per university regulations, all students are required to check their <uoguelph.ca> e-mail account **regularly**: e-mail is the official route of communication between the University and its students. In this course, students are required to regularly read the posted announcements on the course website.

(i) **Use of Personal Information** – Personal information is used by University officials to carry out their authorized academic and administrative responsibilities and to establish a relationship for alumni and development purposes. The University of Guelph's policy on the Collection, Use and Disclosure of Personal Information can be found in the Undergraduate Calendar: *https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml*

(j) **Resources** – Academic Calendars provide information about the University of Guelph's procedures, policies and regulations: *www.uoguelph.ca/registrar/calendars/index.cfm?index*

i. **Drop Date**: Courses that are one semester long must be dropped by the last day of classes to have the course removed from your transcript. Evaluate your performance regularly. If you find you are not doing well, seek advice from your Instructor. Regulations and procedures for dropping courses can be found in the Undergraduate Calendar: *https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml*

ii. **Schedule of Dates**:
www.uoguelph.ca/registrar/calendars/undergraduate/current/c03/index.shtml
e.g., Th., Dec. 3 – classes rescheduled from Tue., Oct. 13; Tuesday schedule in effect
Fri., Dec. 4 – classes rescheduled from Mon., Oct. 12; Monday schedule in effect.

(k) **Wellness** – If you are struggling with personal or health issues:

- **Counselling Services** (*https://wellness.uoguelph.ca/counselling/*) offers individualized appointments to help students work through personal struggles that may be impacting their academic performance.
- **Student Health Services** (*https://wellness.uoguelph.ca/health/*) provides medical attention.
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers offers workshops and sessions related to stress management and high-performance situations (https://www.selfregulationskills.ca/)