



CAMOSUN COLLEGE
School of Arts & Science
Department of Chemistry & Geoscience

CHEM-120-D01
College Chemistry 1
Winter 2021

COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/chem.html>

Ω Please note: This outline will *not* be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1. Instructor Information

| | |
|------------------|---|
| (a) Instructor | Dr. Ryan Fradette |
| (b) Office hours | Virtual: Monday, Thursday 9:30-10:30am, Wednesday 1-2pm via collaborate |
| (c) Location | |
| (d) Phone | Alternative: _____ |
| (e) E-mail | fradetter@camosun.bc.ca |
| (f) Website | |

2. Intended Learning Outcomes

Upon completion of this course the student will be able to:

1. Utilize nomenclature rules to name ionic and covalent compounds.
2. Demonstrate an understanding of stoichiometry by balancing chemical equations and performing mathematical calculations involving chemical reactions.
3. Describe the electronic structure of any atom in the periodic table and apply it to explain many of the physical and chemical properties of the elements.
4. Utilize simple bonding theories to explain why elements combine to form the compounds they do and also to explain many of the properties of compounds.
5. Apply knowledge of intermolecular interactions to rationalize many important physical properties of bulk matter in the gas, liquid and solid phases.
6. Use standard chemistry lab equipment, including burets, pipets, Buchner filters, and volumetric glassware in the correct manner.
7. Perform many standard laboratory procedures, such as titrations, preparation of standard solutions, the preparation, isolation, and purification of compounds, as well as use spectrophotometers to make analytical measurements.

3. Required Materials

Textbook:

Chemistry: The Central Science MasteringChemistry with eBook Access Card, 3/e

\$115 from the bookstore website, you can find it by searching CHEM 120 from the following link
https://www.camosuncollegebookstore.ca/buy_access_codes.asp?

Other:

Scientific Calculator

I use a Sharp EL-531, but any scientific calculator will be suitable

Chem 120 Lab manual

It will be posted on the course D2L page in week 2

Technology

The following link discusses technology requirements

<http://camosun.ca/services/orientation/online-learning.html>

For this class you will need:

A computer that can run Microsoft Excel

Office 365 for PC or Mac which contains excel is free for Camosun students, link:

<http://camosun.ca/services/its/other-services.html>

Smartphone scanning app (or desktop scanner)

I use Scannable or CamScanner apps both are freely available and allow you to scan and submit handwritten work as a PDF file

If you find yourself struggling with any aspect of the technology used in this course, please do not hesitate to ask me. I might not always be able to solve your problem, but in those rare cases I can point you in the right direction

4. Course Content and Schedule

| Week # (Week of) | Monday (Seminars) 3:30-4:20 | Tuesday (Seminars) 3:30-4:20 | Wednesday Mastering Chemistry | Thursday (Lab) 3:30-4:20 | Friday (D2L Quizzes) Due at 3pm |
|-----------------------|-----------------------------------|------------------------------------|-------------------------------------|--------------------------------|---------------------------------------|
| 1 (Jan 11) | Course Intro | Review Topics | <i>Attendance Due</i> | | |
| 2 (Jan 18) | Chapter 6 | Chapter 6 | | Lab intro | MC Quiz 1 |
| 3 (Jan 25) | Chapter 6 | Chapter 6 | | Lab 3 <i>Lab intro due</i> | MC Quiz 2 |
| 4 (Feb 1) | Chapter 7 | Chapter 7 | <i>Chapter HW 6 Due</i> | Lab 4 <i>Lab 3 due</i> | Written Quiz 1 |
| 5 (Feb 8) | Chapter 8 | Chapter 8 | <i>Chapter HW 7 Due</i> | Lab 5 <i>Lab 4 due</i> | MC Quiz 3 |
| 6 (Feb 15) | <i>Reading week</i> | <i>Reading week</i> | <i>Reading week</i> | <i>Reading week</i> | <i>Reading week</i> |
| 7 (Feb 22) | Chapter 8 <i>Lab Exp 6 due</i> | Chapter 8 | | Lab 6 | Written Quiz 2 |
| 8 (Mar 1) | Chapter 9 | Chapter 9 | <i>Chapter HW 8 Due</i> | Lab 9 <i>Lab 6 due</i> | MC Quiz 4 |
| 9 (Mar 8) | Chapter 9 EDC I | Chapter 9 | | <i>Lab 9 due</i> | Written Quiz 3 |
| 10 (Mar 15) | Chapter 11 | Chapter 11 | <i>EDC I due</i> | | MC Quiz 5 |
| 11 (Mar 22) | Chapter 10 EDC II | Chapter 10 | <i>Chapter HW 9 Due</i> | | MC Quiz 6 |
| Week 12 (Mar 29) | Chapter 10 | Chapter 13 | <i>Chapter HW 11 Due</i> | | <i>College closed</i> |
| Week 13 (April 5) | <i>College closed</i> | Chapter 13 | <i>EDC II due</i> | | Written Quiz 4 |
| Week 14 (April 12) | Chapter 13 | | <i>Chapter HW 10/13 Due</i> | | Mastering Chemistry Quiz |

Weekly Plan

Mondays and Tuesdays:

- The two lecture videos for each week will be posted the previous Friday (with the exception of week 1)
- Watch the videos sometime before the afternoon seminar
- We will meet on collaborate in a seminar to discuss the lecture video, I envision us using this time to solve problems together, and I encourage you to email me if there are any problems you would like me to work through during the seminar (these meetings will also be recorded)
- Each Chapter will have accompanying textbook readings and practice problems (these won't be collected or marked, but solutions will be posted) Prior to the seminars is a great time to start looking at the readings, after the seminars is a great time to start looking at the practice problems

Wednesdays

- I encourage you to dedicate some time on Wednesdays to working assigned practice problems, Mastering Chemistry assignments, and lab assignments

Thursdays

- We will meet on collaborate to discuss the virtual lab assignments, lab materials (assignment sheets/prelab videos) will be posted the previous day (The meeting will also be recorded)
- Lab Assignments will be due on D2L at 3pm the following week

Fridays

- There will be a quiz every Friday with the exception of weeks 1, 6, and 12
- They will be available on D2L at 9:00am and due at 3:00pm the same day, these are designed as 1 hour quizzes, they are available for a 6 hour block to provide some flexibility.
- As they are quizzes I expect that they will to be completed by yourself only, with the **textbook**, your **course notes**, the **datasheet**, and a **calculator** as your only resources (please notice the absence of google, or any other search engine or database on this approved list of resources)

5. Basis of Student Assessment (Weighting)

| | Category | Breakdown |
|----------------|--|--|
| Lecture | Mastering Chemistry online homework assignments | 15% 6 Assignments weighted individually |
| | Multiple choice quizzes | 25% The best 5/6 quizzes will make up your mark |
| | Written quizzes | 35% The best 3/4 quizzes will make up your mark |
| | Everyday Chemistry Assignments (EDC) | 5% EDC I - 2% EDC II - 3% |
| Lab | Labs | 20% 1 Lab introduction quiz 5 Lab Assignments |

Mastering Chemistry

- These due dates will be 3pm on the dates posted in section 4 above
- Only the "Homework" is marked, the tutorials are just for extra practice should you want
- Overall Mastering Chemistry marks will be rounded as follows
 - >90% = 100%
 - 80%-90% = 90%
 - 70%-80% = 80%
 - 60%-70% = 70%
 - <60% = Raw mark
- If you are unsatisfied with your Mastering Chemistry mark a Mastering Chemistry quiz will take place in Week 14 that can be used to replace your Mastering Chemistry mark

Quizzes

- Quizzes cannot be rewritten
- The weight of any missed quiz will count as the lowest quiz mark and be dropped.
- Any considerations for missed quizzes must be provided to the instructor **prior** to the quiz.

Everyday Chemistry

- These will be two small projects that will give you a chance to explore everyday chemistry, we will discuss these projects in more detail in weeks 9 and 11

Lab

- Lab assignments will be due at 3pm the Thursday after we meet to discuss them
- Late labs will be penalized 20% and will no longer be accepted 1 week after the deadline

6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

7. Recommended Materials to Assist Students to Succeed Throughout the Course

Your instructor and the text book are both excellent resources, use them as much as you can!

The **Camosun Science Help Center** also provides excellent help through the Chemistry Help Desk, they are available to meet through collaborate 3 hours a day, 6 days a week

Hours:

| | |
|------------------|-----------------------|
| Monday | 4:30-7:30pm |
| Tuesday | 4:30-7:30pm |
| Wednesday | 4:30-7:30pm |
| Thursday | 4:30-7:30pm |
| Friday | |
| Saturday | 10:00am-1:00pm |

The link to the **Chemistry Help desk**:

<https://ca.bbcollab.com/collab/ui/session/guest/26ea0383a00444b39291183944267d53>

8. College Supports, Services and Policies



Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts

@ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence, Student Ancillary Fees, Academic Integrity, Grade Review & Appeals, Student Misconduct and Academic Accommodations for Students with Disabilities and Student Penalties and Fines.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

| Percentage | Grade | Description | Grade Point Equivalency |
|------------|-------|--------------------------------------|-------------------------|
| 90-100 | A+ | | 9 |
| 85-89 | A | | 8 |
| 80-84 | A- | | 7 |
| 77-79 | B+ | | 6 |
| 73-76 | B | | 5 |
| 70-72 | B- | | 4 |
| 65-69 | C+ | | 3 |
| 60-64 | C | | 2 |
| 50-59 | D | | 1 |
| 0-49 | F | Minimum level has not been achieved. | 0 |

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

| Grade | Description |
|-------|---|
| COM | The student has met the goals, criteria, or competencies established for this course, practicum or field placement. |
| DST | The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement. |
| NC | The student has not met the goals, criteria or competencies established for this course, practicum or field placement. |

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary Grade | Description |
|-----------------|---|
| I | <i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family. |
| IP | <i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course. |
| CW | <i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement. |