



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

CHEM-231-D01
Organic Chemistry 2
Spring 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: Tuesday and Thursday 9:15-10:15am via collaborate
(c) Location	
(d) Phone	Alternative:
(e) E-mail	fradetter@camosun.bc.ca
(f) Website	D2L

2. Intended Learning Outcomes

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

1. Utilize the specialized vocabulary and nomenclature based on the IUPAC system for organic compounds including aldehydes, ketones, benzene & its derivatives, carboxylic acids and their derivatives, amines, and carbohydrates according to their structures and functional groups present.
2. Compare and contrast the general physical properties such as stability, acidity and basicity, melting and boiling point, and water solubility.
3. Describe the chemical properties of the above classes of organic compounds, and relate any differences and similarities.
4. Draw a synthetic route outlining the preparation of some of the compounds above and their reactions, including details such as stereochemistry of selected reactions and mechanisms, stability of transition states, intermediates, products, and factors affecting the outcome.
5. Utilize the concepts of functional group transformations and reaction mechanisms to explain organic reactions.
6. Demonstrate an ability to use the method of retrosynthetic analysis to interconvert the above classes of organic compounds.
7. Communicate an understanding of the phenomena of proton and carbon-13 nuclear magnetic resonance spectroscopy and to interpret and predict the spectroscopic data for the classes of organic compounds listed above.

3. Required Materials

Textbook:

Organic chemistry Mechanistic patterns, Ogilve 1st edition – Includes etext \$110

The standalone etext is listed as:

Mobius IAC for Organic Chemistry 1e (24 MTHS ACCESS) \$80

The etext is not a requirement, so a used hardcopy of the textbook would also be suitable

Other:

Scientific Calculator

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

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 a word processing program

Office 365 for PC or Mac which contains 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

Recommended

A molecular model kit, they are available to borrow from the library, but should you want to have your own the 'molymod' kits that are available for loan (or similar) are what I recommend

4. Course Content and Schedule (synchronous Collaborate meetings in yellow)

Week # (Week of)	Monday (Seminars) 1:30-2:20	Tuesday (Virtual labs and Spec)	Wednesday (Seminars) 1:30-2:20	Thursday (D2L Quizzes) 11:00am-3:00pm	Friday BACON Due 3pm
1 (May 3)	Course Intro Chapter 7		Chapter 9	MC 1	
2 (May 10)	Chapter 10	VR lab 1 due	Chapter 10 Discuss EDO	Short Answer 1	Bacon 1
3 (May 17)	Chapter 20	VR lab 2 due EDO due	Chapter 14	Short Answer 2	Bacon 2
4 (May 24)	No meeting	Spec MC due	Chapter 13	MC 2	Bacon 3
5 (May 31)	Chapter 15	Spec Quiz (11am-3pm)	Chapter 15	MC 3	Bacon 4
6 (June 7)	Chapter 16		Chapter 16/17	Short Answer 3	Bacon 5
7 (June 14)	Chapter 17		Chapter 17	MC 4	Bacon 6
8 (June 21)	Final Exam TBA				

Lecture Topic Outline:

(See D2L for full reading list)

1. Review of curved arrow mechanism: Chapter 5 (p 186-227):
2. Review (7.2-7.8) and new material (7.9-7.11) of π -bonds as electrophiles: Reactions of carbonyls and related functional groups (Chapter 7),
3. The Chemistry of Benzene and Its Derivatives: (Chapters 9, 10)
4. Spectroscopy: (Chapter 13, 14)
5. π -bonds as electrophiles: (Chapter 15) Carboxylic acid derivatives and their reactions
6. π -bonds with hidden leaving groups (Chapter 16): Acetals and related compounds.
7. Carbonyl based nucleophiles: (Chapter 17)
8. Reactions controlled by orbital interactions (Chapter 20)

Mondays and Wednesdays:

- 2 lecture videos will be posted by noon on Fridays, 1 lecture video posted by noon on Tuesdays
 - Week 1 is the exception (1 video Monday morning, 2 videos on Tuesday)
- Watch the videos sometime before the corresponding 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)

Tuesdays

- Lab items (virtual labs, spectroscopy quizzes and assignments) will be due at 3pm

Thursdays

- There will be 3 **short answers quizzes** listed in the schedule above
- They will be available on D2L at 11am and are due at 3pm the same day, these are designed as 1 hour quizzes, and they are available for a 4 hour block to provide some flexibility.
- As they are quizzes I expect that they will be completed by **yourself** only, with the **textbook**, your **course notes**, 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)

- There will be 4 **multiple choice quizzes** listed in the schedule above
- They will be available on D2L at 11am and are due at 3pm the same day, these are designed as 1 hour quizzes, and they are available for a 4 hour block to provide some flexibility.
- As they are quizzes I expect that they will be completed by **yourself** only, with the **textbook**, your **course notes**, 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)

Fridays

- BACON tutorials will be available on Mondays and due the same Friday at 3pm
- Sign-in details will be posted on D2L and discussed in week 2
- These tutorials will follow the course material, but may extend further into practical applications of organic chemistry!

5. Basis of Student Assessment (Weighting)

	Category	Breakdown
Lecture	BACON online homework assignments	5%
	Multiple Choice Quizzes	10% The best 3/4 quizzes will make up your mark
	Short Answer Quizzes	25% The best 2/3 quizzes will make up your mark
	Everyday Organic (EDO)	5%
Lab	2 x Virtual Labs	10%
	MC spectroscopy assignment	5%
	Short answer spectroscopy quiz	10%
Final Exam	Final Exam	30%

Biology And Chemistry Online Notes and tutorials (BACON)

- These due dates will be 3pm on the dates posted in section 4 above

Quizzes

- Quizzes cannot be rewritten
- The weight of any missed quiz will count as the lowest quiz mark and be dropped.
- The weight of any subsequent missed quizzes will be transferred to the final exam, provided the instructor is notified *prior* to the quiz.

Everyday Organic

- This will be a project that will give you a chance to explore everyday organic chemistry, we will discuss this project in more detail in week 2

Lab

- Lab assignments will be due on the Tuesdays listed in the schedule above
- Late lab assignments will be penalized 20%

Final Exam

- This will take place at time and date TBA during the final exam period, it will just be a longer version of what you have seen in the quizzes, a practice final will also be distributed towards the end of the term

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	
Thursday	3:00-6:00pm
Friday	9:30-12:30am
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.