



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

**CHEM-220-001**  
**Inorganic Chemistry**  
**Winter 2020**

## COURSE OUTLINE

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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.

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### 1. Instructor Information

(a) Instructor	John Lee
(b) Office hours	Monday 11:30-1:00, Tuesday 10:30-12:00, Wednesday 12:30-1:30, 3:00-3:30
(c) Location	F348 D
(d) Phone	250 370 3436 <b>Alternative:</b> _____
(e) E-mail	leejohn@camosun.ca
(f) Website	D2L

### 2. Intended Learning Outcomes

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

1. Utilize a detailed knowledge of the electronic structure of atoms to rationalize many of the physical and chemical properties of atoms.
2. Apply simple and sophisticated bonding theories to explain many of the properties of ionic and molecular substances.
3. Comment on the chemistry of the first row transition metals, especially in respect to formation of coordination compounds, their catalytic activity, and their relevance to bioinorganic chemistry.
4. Describe the major features of the chemistry of the main group elements of groups 14 and 18.
5. Use equipment associated with the preparation and analysis of inorganic compounds and perform reactions under an inert atmosphere for air- or water-sensitive compounds.
6. Outline the common approaches to synthesizing inorganic and coordination compounds in the laboratory.

### 3. Required Materials

(a) Texts

\***Sapling Learning** course code (~\$40 US)

**Laboratory Manual.** Inorganic Chemistry (Winter 2020), John Lee

**\*If you purchased the 2 course option in Fall for CHEM 224, there is no need to buy another code.**

## 4. Course Content and Schedule

Lecture Times: Tuesday 8:30-9:50 F 206, Wednesday 1:30-2:50 F 208

Lab Times: Monday 8:30 to 11:20 F 354

Week Number	Activity & Experiment Number	Actual Date of Lab
1	Welcome and Review	MONDAY Jan 6 <sup>th</sup>
2	Gold Nanoparticles	Jan 13 <sup>th</sup>
3	Quantum Dots	Jan 20 <sup>th</sup>
4	Luminescent Lanthanides	Jan 27 <sup>st</sup>
5	Isomerism- part I	Feb 3 <sup>rd</sup>
6	Midterm 1	Feb 10 <sup>th</sup>
7	[Family Day]	Feb 17 <sup>th</sup>
8	[Isomerism – part II]	Feb 24 <sup>th</sup>
9	[Optical activity at an octahedral cobalt centre]	Mar 2 <sup>nd</sup>
10	Titanium	Mar 9 <sup>th</sup>
11	Synthesis of tin (IV) iodide	Mar 16 <sup>th</sup>
12	Midterm 2	Mar 23 <sup>rd</sup>
13	Microreactions of Transition Metals	Mar 30 <sup>th</sup>
14	Element Jeopardy	Apr 6 <sup>th</sup>
Final Exam Period	Final Exams Apr 13 <sup>th</sup> to Apr 23 <sup>rd</sup>	

## 5. Basis of Student Assessment (Weighting)

(a) Assignments

Sapling Homework Online assignments: 20 %

(b) Midterms

2 midterm tests each worth 10 %

(c) Exams

Final Exam: 35 %

(d) Other (e.g. Project, Attendance, Group Work)

Laboratory 25 %

If it is advantageous to the student, the course lecture portion (75 %) may be solely derived from the final exam, or any combination of midterms and final. There will be no make-up or deferred midterm tests. Missed online homework assignments, will automatically be added to the final exam. By registering in this course, you are agreeing to attending the laboratory sessions, and submitting the required lab assignments by the specified deadlines. The Chemistry Department recognizes that circumstances beyond your control may prevent you from occasionally meeting these obligations. The following is a guide to how you might reasonably expect alternate procedures to apply.

In general, medical or compassionate grounds will excuse you from meeting a deadline or completing laboratory work. If you miss a laboratory class for these reasons, your instructor may require you to obtain a medical note.

You must provide, **at least an email**, as a courtesy to your instructor if you know you are going to be unable to attend a laboratory class, or meet a deadline. Without this, the instructor reserves the right to assign you a mark of zero for a missed lab, or deduct marks for a late submission.

It is the student's responsibility to become familiar with the content of the Arts and Science Academic Integrity policy. The policy is available in the School Administration Office, and on the College web site in the Policy Section

During this course it is accepted that you will work in groups and may obtain identical data to your partner. However, you must submit your own report/reflection, unless your instructor has requested otherwise.

Students are responsible for obtaining their own safety glasses and laboratory jacket from the bookstore. It is not the responsibility of the College to provide you with safety equipment.

## 6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

During the term and exam period, Camosun Arts and Science operates a Science Help Centre. The opening hours can be found on the School of Arts and Science webpage.

## 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 and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, 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
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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.