



## COURSE OUTLINE

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

Ω Please note: the College electronically stores this outline for five (5) years only.  
It is **strongly recommended** you keep a copy of this outline with your academic records.  
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

### 1. Instructor Information

(a)	Instructor:	John Lee		
(b)	Office Hours:	See posted hours on office door		
(c)	Location:	F344A		
(d)	Phone:	3446	Alternative Phone:	
(e)	Email:	<a href="mailto:leejohn@camosun.ca">leejohn@camosun.ca</a>		
(f)	Website:	<a href="#">@johnatcamosun</a>		

### 2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

There is no requirement to purchase a Textbook for this course. However there are a few Textbooks that may aid your understanding: \* denotes available for purchase in the Camosun Bookstore.

\*CHEMISTRY, *The Central Science: a Broad Perspective*, (a.k.a: BLB) by Brown, Lemay, Bursten, Langford, Sagatys, and Duffy. *pub*: Pearson. Camosun Custom edition. The Australian 2<sup>nd</sup> edition (blue) or 1<sup>st</sup> edition are both acceptable along with the 10<sup>th</sup>, 11<sup>th</sup> or 12<sup>th</sup> US editions.

\*INORGANIC CHEMISTRY, Housecroft & Sharpe, *pub*: Pearson, current edition is 4ed. Other ed. acceptable.

*Descriptive Inorganic Chemistry*, Rayner-Canham, G. *pub*: Freeman, current edition 2<sup>nd</sup>. Other ed. acceptable.

#### (b) Other

**Laboratory Manual**, Inorganic Chemistry (Winter 2015), John Lee

#### 4. Course Content and Schedule

Lecture Times: Monday, Wednesday and Friday E 346  
All lectures are at 13.30 to 14:20

Lab Times: Thursdays in F354.  
Labs begin at 9.30 to completion.

Final Exam: Covering all material covered in the course. Date TBA

Presentation of researched topic. During the final 2 weeks of term.

Midterm 1: Covering electronic structure, periodic table and bonding and symmetry sections.

Midterm 2: Covering transition metals and associated theory.

Note: No Class on Monday, February 8<sup>th</sup> (Family day), Thursday February 18<sup>th</sup>, Friday February 19<sup>th</sup> (Reading Break), Friday March 25<sup>th</sup> (Good Friday) and Monday March 28<sup>th</sup> (Easter Monday).

#### 5. Basis of Student Assessment (Weighting)

(a) Assignments

Presentation on chosen topic or design a synthesis: 15 %

(b) Midterms

2 midterm tests each worth 15 %: total 30 %

(c) Final Exam

Covers all course material: 30 %

(d) Laboratory Work

25 %

Chemistry is a practical science, it is essential to attend the Laboratory classes. In the event of a student being unable to attend a laboratory class it is advised that the student attempt to obtain data from a partner or perform the class with another section in order to complete the assignment/report. It is mandatory that you give your Lab Instructor and/or Lab Partner the courtesy of an email in the event that you miss a laboratory class.

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.

The breakdown of the laboratory mark is as follows:

Arriving punctually, prepared to do a lab, familiar with the procedure and references and having the correct safety gear. Ability to work competently and confidently with good attitude. Leaving your workspace clean and tidy.	5 %
Pre labs and the submission of pre-labs prior to starting the lab class.	10 %
Quality of Lab Reports and data	85 %

## 6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

### 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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

### 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 E-1.5 at [camosun.ca](http://camosun.ca) 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.)
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.

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

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at [camosun.ca](http://camosun.ca).

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

### ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED

## 8. Winter 2016 – Chem 220-001 Provisional Lab Schedule

Note: This is only a preliminary lab schedule, changes will be made due to equipment &/or scheduling of other sections... Lab coat and eye protection are both mandatory!!

Week Number Begins on	Activity & Experiment Number	Actual Date of Lab Thursday
I Jan 11 <sup>th</sup>	Gold nanoparticles	Jan 14 <sup>th</sup>
II Jan 18 <sup>th</sup>	Quantum Dots	Jan 21 <sup>st</sup>
III Jan 25 <sup>th</sup>	Luminescent Lanthanides	Jan 28 <sup>th</sup>
IV Feb 1 <sup>st</sup>	Isomerism- part I	Feb 4 <sup>th</sup>
V Feb 8 <sup>th</sup>	Isomerism- part II	Feb 11 <sup>th</sup>
VI Feb 15 <sup>th</sup>	Reading Break, College Closed	Feb 18 <sup>th</sup>
VII Feb 22 <sup>nd</sup>	[midterm test 1]	Feb 25 <sup>th</sup>
VIII Feb 29 <sup>th</sup>	[Optical activity at an octahedral cobalt centre]	Mar 3 <sup>rd</sup>
IX Mar 7 <sup>th</sup>	tin(II) or tin (IV) ? - part I	Mar 10 <sup>th</sup>
X Mar 14 <sup>th</sup>	tin(II) or tin (IV) ? - part II	Mar 17 <sup>th</sup>
XI Mar 21 <sup>st</sup>	midterm test 2	Mar 24 <sup>th</sup>
XII Mar 28 <sup>th</sup>	Beer Cans to LED's Part 1 only.	Mar 31 <sup>st</sup>
XIII Apr 4 <sup>th</sup>	Beer Cans to LED's Part 2 only	Apr 7 <sup>th</sup>
XIV Apr 11 <sup>th</sup>	Review of material	Apr 14 <sup>th</sup>
Final Exam Period	Final Exams Apr 18 <sup>th</sup> to Apr 22 <sup>nd</sup>	