

UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF CHEMISTRY
COURSE SYLLABUS
FALL 2019

1. COURSE: CHEMISTRY 533, Advanced Inorganic Chemistry: Main Group Elements

LEC	DAYS	TIME	ROOM	INSTRUCTOR	OFFICE	PHONE	EMAIL	OFFICE HOURS
L01	MWF	10:00-10:50	SA 129	Dr. R. Roesler	SB 339	220-5366	roesler@ucalgary.ca	M 11:00 - 12:00 W 11:00 - 12:00

Desire 2 Learn (D2L) course name: <https://d2l.ucalgary.ca/d2l/home/211489>

Departmental Office: SA 229, 220-5341, chem.undergrad@ucalgary.ca

- 2. Course Description:** Lectures: Chemistry of the s- and p-block elements. Interpretation of nuclear magnetic resonance, electron paramagnetic resonance, vibrational and mass spectra. Fundamental concepts and industrial uses of inorganic heterocycles and polymers, electron-deficient and organometallic compounds. Solid-state chemistry. Tutorial: Applications of chemical principles to inorganic synthetic and qualitative analytical problems.
- 3. TEXTBOOK:** Christoph Elschenbroich, "Organometallics", Wiley-VCH, Third Edition (2006).

4. TOPICS COVERED AND SUGGESTED READING:

COURSE CONTENTS	Lectures^a	Chapter in Textbook <i>(not all sections will be covered)</i>
HISTORY OF MAIN GROUP CHEMISTRY	1	Chapter 1
GROUP 1	2, 3	Chapter 5
GROUP 2	4, 5	Chapter 6
BORON	6-8	Chapter 7
HEAVIER GROUP 13 ELEMENTS	9, 10	Chapter 7
CARBON	11 - 13	N/A
SILICON	14, 15	Chapter 8
HEAVIER GROUP 14 ELEMENTS	16, 18	Chapter 8
NITROGEN	19	N/A
PHOSPHORUS	20 - 22	N/A
HEAVIER GROUP 15 ELEMENTS	23, 24	Chapter 9
OXYGEN	25	N/A
SULFUR	26, 27	N/A
HEAVIER GROUP 16 ELEMENTS	27	Chapter 10
GROUP 17	28, 29	N/A
GROUP 18	30	N/A
SPECTROSCOPIC METHODS	31 - 36	N/A

^a The number of lectures allocated to each topic is **TENTATIVE**

Department Approval: Approved by Department Head

Date: