



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF CHEMISTRY
COURSE SYLLABUS
WINTER 2020

1. **Course: CHEMISTRY 425, Industrial Chemistry**

Lecture 01: MWF 12:00-13:50 Web

Instructor	Email	Phone	Office	Hours
G. Shimizu	gshimizu@ucalgary.ca	2205347	SB403	By Zoom/email Appt.

Remote Learning Supplemental Information: Some aspects of this course are being offered in real time via scheduled meeting times. For those aspects, you are required to be online at the same time. Please refer to the details below for more complete information.

Remote Learning Details: Lectures will proceed with live instruction by Zoom at the scheduled time. Student presentations will also be live during this time. Some content will also be provided solely by email document and the students are also responsible for learning this.

Desire 2 Learn (D2L) course Chem 425

Department of Chemistry: Room SA 229, Tel: (403) 220-5341, e-mail: chem.info@ucalgary.ca

Students must use their U of C account for all course correspondence.

2. **Course Description: Lectures:** A cross section of industrially relevant chemicals and processes will be presented. These will be discussed from the perspective of precursors (availability, cost), their products and uses, efficiency (catalysis, scalability) and sustainability (environmental impact, geopolitical factors).

3. **Recommended Textbook:** There is no required text for this course.

4. **Topics Covered:**

Chemical Industry
Green Chemistry
Chemicals from Petroleum
Chemical Separations and Energy
Products from Ethylene
Products from Propylene
Process Chemistry
Catalysis, homogeneous/heterogeneous, common mechanisms
Polymers, synthesis, characterization and use
Polymer Structure Property Relationships
Products from C4
Products from benzene
Products from xylenes
Products from methane/alkanes
Alternative feedstocks
Intellectual Property

Department Approval _____ Electronically Approved _____ Date _____ May 5, 2020 _____