

UNIVERSITY OF CALGARY  
FACULTY OF SCIENCE  
DEPARTMENT OF CHEMISTRY  
COURSE SYLLABUS  
SPRING 20181. **Course: CHEMISTRY 425, Industrial Chemistry**

LEC	DAYS	TIME	ROOM	PROFESSOR	OFFICE	EMAIL	OFFICE HOURS
L01	MWF	11:00-11:50	ST 143	Dr. G. Shimizu	SB 403	gshimizu@ucalgary.ca	W 2-3pm

To avoid IT problems, it is recommended that the students use their U of C account for all course correspondence. Please use "CHEM 425 inquiry" as the Subject of your e-mail.

Desire 2 Learn (D2L): CHEM 425 L01 - (Spring 2018) - Industrial Chemistry

Departmental Office: Room SA 229, Tel: (403) 220-5341, e-mail: uginfo@chem.ucalgary.ca

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  
Transport of Chemicals  
Chemicals from Petroleum  
Products from Ethylene  
Products from Propylene  
Products from C4  
Products from C5  
Products from benzene  
Products from xylenes  
Products from methane/alkanes  
Separation of gases and energy cost  
Fats and oils  
Carbohydrates  
Products from Coal  
Polymers, synthesis, characterization and use  
Catalysis, homogeneous/heterogeneous, common mechanisms  
Green Chemistry  
Clean tech industry

Department Approval: Approved by Department Head    Date: May 2, 2018