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

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

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<tr>
<th>Instructor</th>
<th>Email</th>
<th>Phone</th>
<th>Office</th>
<th>Hours</th>
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<tbody>
<tr>
<td>G. Shimizu</td>
<td><a href="mailto:gshimizu@ucalgary.ca">gshimizu@ucalgary.ca</a></td>
<td>2205347</td>
<td>SB403</td>
<td>By Zoom/email Appt.</td>
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**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