
**Summary of Course Content**
Module 1: Introduction to macromolecular (polymer) science, basic definitions, types of polymers.
Module 2: Molecular weight averages and determinations: theory and experimental methods.
Module 4: Macromolecular chemistry: chain-growth radical polymerization, mechanisms, kinetics.
Module 5: Crystallinity and Properties: Crystal structure in polymers, morphology, measurement of crystalline structures, effect of crystallinity in mechanical properties, design based on properties. (CES EcoAudit Software)

**Instructor:** Professor Leonardo Simon

**Communication:** Use LEARN for sending e-mail messages related to the course email lsimon@uwaterloo.ca, call on Teams
Office Hours: Wed 12pm – 2pm or upon request QNC 5601

**Mode of Delivery:**
- In person lectures as in Quest MW, 3:30pm-4:50pm, E6 2024 Sep 7-Dec 6
- The lessons may be delivered online if instructor unable to go campus or if requested by UW.
- Course material will be available on UW Learn.
- Expected Learning Outcomes will be available on UW Learn.
- Makeup lectures may be schedule.
- Video recording of lectures is not allowed. Contact the instructor or Accessibility Services if you need to photograph the board or record audio during lectures or tutorials.

**Assessments and Grades:**
- Final exam 40 % date, time, location to be announced
- Midterm exam 20 % Wed Oct 19th 3:30pm-4:50pm E6-2024
- Project (10% Paper and 10%Seminar) 20% Nov 10th
- Quizzes and Participation Activities 15%
- Assignments 5 %

Content submitted for grade or for completion may be submitted to TurnItIn.

Quizzes will happen weekly online and/or in class.
Assessments may be grades on Learn or Crowdmark.
Dates and deadlines for assessments will be informed on Learn.

The instructor has the right to modify the marking scheme with the objective of improving the quality and/or relevance of assessments. The fundamental goal of the marking scheme is to create a structure for assessments enabling a fair grade that reflects many aspects of learning in the course. In other words, it is to provide a measurement about how much of the expected learning outcomes were accomplished.
**UW LEARN** Course documents (announcements, class notes, references, course information, list of required readings, complementary material, etc.) will be available on UW-LEARN. Check it periodically, announcements will be sent by e-mail when relevant content is uploaded on UW-LEARN (like files with lecture notes in ppt, online quizzes, etc.)

**Suggested References (other references may be added along the term):**
This course does not use a single textbook because of the nature of the content. There is no need to purchase a textbook. There are several books about polymers in the UW library.

These two books are available from the UW Library in e-format. You the library search tool to find the link to access these books:
- The Chemistry of Polymers, John W. Nicholson, 5th Edition Royal Society of Chemistry
- Polymer Chemistry - Properties and Applications, Andrew J. Peacock, Allison Calhoun, Hanser

**Other books recommended:**

**Faculty of Engineering Academic Support, UW Policy:**
These links provide useful information and guidelines regarding academic support, accessibility support, academic grievance, and university policies. Make sure you explore and be familiar with their content. Contact the instructor or the department if you have any questions. We are committed to support you toward your success.

[https://uwaterloo.ca/accessability-services/](https://uwaterloo.ca/accessability-services/)


[https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70)

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