

Organic Chemistry of Macromolecules

Prof Anne McNeil
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Office Hr: Mon 10–11 am (or by appt)

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Office Hr: Wed 12–1 pm (or by appt)

Class: MWF; 11 am–12 pm in 1210.

Text: *Polymers: Chemistry and Physics of Modern Materials* by J.M.G. Cowie, 3rd edition

Supplemental: *Principles of Polymerization* by Odian, 4th edition
Polymer Chemistry by Stevens, 3rd edition
Original research papers on the CTools site

Requirements: Your grade will be based on a midterm, five problem sets, two projects, and a final.

Grading:	Midterm (Mon. February 24, 2014; 7–9 pm; TBD)	26.6% of final grade (200 pts)
	Final (Wed. April 30, 2014; 4–6 pm; Rm 1210)	33.3% of final grade (250 pts)

Grading System: The exams will be graded using the 0-5-10 system. For example, if a question is worth 10 points, you can get a 0, 5, or 10. *We round to the closest number.*

Problem Sets: Problem sets (5) will be graded *based on effort* with an S (20 pts) or U (0 pts). It is your responsibility to check the answer key to check the accuracy of your answers. These problems are representative of ones you will see on the exams. 13.3% of final grade (100 pts).

Wikipedia Project: You will work in groups to create or edit a polymer-focused Wikipedia site. The final Wikipedia site is due March 14. More details will come. 13.3% of final grade (100 pts).

Proposal Project: You will write an independent research proposal regarding the synthesis of a new polymer for a specific application. The final proposal is due April 25. More details will come. 13.3% of final grade (100 pts).

Course Outline: The course will cover chapters 1-7, 9 and 16 of your textbook.

Refresher: If it has been awhile since you have taken an organic chemistry course, you should refresh your memory of the standard functional groups and their reactivity. In addition, you should be able to draw an arrow-pushing mechanism for these basic transformations: S_N1 , S_N2 , transesterifications, amide formation, alcohol additions to isocyanates, acid/ester condensations, free radical reactions with alkenes, electrophilic additions to alkenes, alkene and alkyne metathesis reactions, cross-coupling reactions.