

**MSE/PTFE/CHBE/ME/CHEM 4775****Polymer Science and Engineering I***Fall 2015 Schedule*

<b>Date</b>	<b>Topic</b>	<b>Reading</b>
<b>Aug 18-Sept 8</b>  (Aug 18, 20, 25, 27, Sept 1, 3, 8, 10)	<b>Lecture 1:</b> Introduction to 4775; Review on Organic Functional Groups	
	<b>Lecture 2:</b> Introduction to Polymers	1-21; 23-40
	<b>Lecture 3:</b> Molecular Weight (MW) and MW Distribution	40-44
	<b>Lectures 4-5:</b> Step-Growth Polymerization	47-63; 87-96; 113-116
	<b>Lectures 6-8:</b> Chain Growth Polymerization <ul style="list-style-type: none"><li>• Free Radical Polymerization</li><li>• Ionic Polymerization (Anionic and Cationic)</li><li>• Coordination Polymerization</li></ul>	30-35; 63-78; 96-109, 121-122
Sept 15	Review for Preparing Exam 1	
Sept 17	<b>Exam 1</b>	
<b>Sept 22-Oct 20</b>  (Sept 22, 24, 29, Oct 1, 6, 8, 15, 20)	<b>Lecture 9:</b> Polymer Conformation	211-233
	<b>Lectures 10-13:</b> <ul style="list-style-type: none"><li>• Thermodynamics of Polymer Solution</li><li>• Thermodynamics of Polymer Blends</li><li>• Kinetics of Polymer Blends</li></ul>	311-354
	<b>Lecture 14:</b> Measurements of Molecular Weight and Size	357-389
	<b>Lectures 15-18:</b> <ul style="list-style-type: none"><li>• Glass Transition of Polymers</li><li>• Morphology and Crystallization in Semicrystalline Polymers</li></ul>	205-211; 230-235; 281-303; 309-328
Oct 22	Review for Preparing Exam 2	
Oct 27	<b>Exam 2</b>	
<b>Oct 29-Nov 12</b> (Oct 29, Nov 3, 5, 10, 12)	<b>Lectures 19-23:</b> Mechanical and Rheological Properties of Polymers	399-411; 416-448; 450-452; 456-467

Nov 17, 19, 24, Dec 1)	Oral Presentations	
Dec 3	Review for Preparing Final Exam	
Dec 10	<b>Final Exam (11:30am-2:20pm)</b>	

---- TA or other instructor(s) will be proctoring exams and substituting Dr. Lin for lectures, review session, and oral presentation when Dr. Lin is on travel for seminars as well as meetings.