

EMA 6165 Polymer Physical Science Syllabus
Fall 2015, Sections 13G1, 14AD, 14A4, CSE E107

1. Catalog Description:
EMA 6165 Polymer Physical Science
Credits: 3
Solid state properties of amorphous and semi-crystalline polymers.
2. Pre-requisites and Co-requisites:
EMA 3066 or equivalent
3. Course Objectives:
 - a. Use their technical knowledge of materials science and engineering to understand the structure/property behavior of polymers as related to processing.
 - b. Characterize and design polymer processes within realistic physical constraints.
 - c. Perform and communicate in a professional environment.
4. Contribution of course to meeting the professional component (ABET only):
 - a. This course provides 3 credits towards engineering and includes a significant design component.
5. Relationship of course to program outcomes:
 - a. Outcome #4: Ability to apply and integrate knowledge of structure, properties, processing, and performance to solve materials selection and design problems within realistic constraints. (Medium)
 - i. Design project device
 - ii. Design project materials selection
 - b. Outcome #7: Understanding of professional and ethical responsibility. (Med)
 - i. Exam question(s)
 - ii. Research proposal
 - c. Outcome #8: Ability to communicate effectively in both oral and written form. (Medium)
 - i. Exam questions
 - ii. Research proposal
 - d. Outcome #9: Understanding of the economic impact of engineering solutions. (Low)
 - i. Research proposal requires budget evaluation
6. Instructor: Dr. A. B. Brennan
 - a. **Office Location:** 309 Materials Sci. & Eng.
 - b. **Telephone:** 392-6281 (o); 378-6049 (h)
 - c. **Email address:** abrennan@mse.ufl.edu
 - d. **Website:** [Canvas](#)
 - e. **Office hours:** Mon Period 4 & Wed Period 4 or by appointment
7. Teaching Assistant: NA
8. Meeting Times:
 - a. Lectures: Tue Period 4, Thu Periods 4 & 5
9. Class/laboratory schedule, i.e., number of sessions each week and duration of each session:
 - a. Lectures: 3 for 50 minutes

10. Meeting Location:
 a. Lectures: E107 CISE
11. Material and Supply Fees: NA
12. Textbooks and Software Required:
 a. Title: Introduction to Physical Polymer Science
 b. Author: L.H. Sperling
 c. Publisher: John Wiley & Sons
 d. Published: 2006, 4th Edition
 e. ISBN: 978-0471706069
 f. Lecture notes provided on Website: Canvas: EMA 6165
13. Recommended Reading: NA
14. Course Outline (Detailed Class Schedule On Website):
 a. Structure-property behavior
 b. Mechanical Behavior
 c. Solution thermodynamics
 d. Blends
 e. Rubber Elasticity
 f. Rheology
 g. Amorphous State
 h. Crystalline State
15. Attendance and Expectations:
 a. NA.

16. Grading:

<i>Homework, Quizzes,</i>	<i>10%</i>
<i>Class Participation:</i>	
<i>Design Project</i>	<i>30%</i>
<i>Exam I:</i>	<i>30%</i>
<i>Exam II:</i>	<i>30%</i>
<i>TOTAL</i>	<i>100%</i>

17. Grading Scale

≥92	≥88	≥84	≥80	≥76	≥72	≥68	≥65	≥62	≥59	≥56	<56
A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
4.00	3.67	3.50	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.67

“A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

18. Make-up Exam Policy: Consult with Professor, case-by-case basis.
19. Honesty Policy – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary

action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

20. Accommodation for Students with Disabilities – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.
21. UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
 - UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
 - Career Resource Center, Reitz Union, 392-1601, career and job search services.
22. Software Use – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.