

Syllabus

CHM 4272 - Organic Chemistry of Polymers; Spring 2022

Instructor & Contact Information. Prof. Brent S. Sumerlin; sumerlin@chem.ufl.edu; PH: 352-392-0563; Office: Sisler 301

Class Time & Location. Tuesday, Thursday 1:55-2:45PM; Classroom: Leigh Hall 207 (lectures may be posted as video or via Zoom)

Instructor Office Hours. Thursday 10-11AM (via Zoom) – Subject to change. Please email if you plan to attend.

Course Description. Classification of polymerization types and mechanisms from a mechanistic organic point of view. The structure of synthetic and natural polymers and polyelectrolytes. Reaction of polymers. Practical synthetic methods of polymer preparation.

Prerequisites. CHM 2200, 2210 (undergraduate organic chemistry), or equivalent.

Learning Outcomes/Objectives. Upon completion of this course, a successful student will be able to:

- Discuss the basic concepts of polymer chemistry;
 - Identify the nomenclature, structure, architecture, physical/chemical properties, and reactivity of macromolecules;
 - Demonstrate clear understandings of step-growth and chain-growth polymerization, living polymerizations, and basic polymer characterization techniques used to determine molecular weights;
 - Explain how polymer chemistry is relevant in living organisms and to the world at large.
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Required Textbook. *Principles of Polymerization*, 4th Edition by George Odian (ISBN: 0-471-27400-3) and handouts. Note: UF has an ebook subscription to this book (only 3 concurrent users allowed):

<https://ebookcentral.proquest.com/lib/ufl/detail.action?docID=469767>

Supplementary Sources. *Textbook of Polymer Chemistry* by Fred W. Billmeyer; *Principles of Polymer Chemistry* by Paul J. Flory; *Contemporary Polymer Chemistry* by Harry R. Allcock; *Introduction to Physical Polymer Science* by L. H. Sperling; *Essentials of Polymer Science and Engineering* by Paul C. Painter and Michael M. Coleman; *Polymer Chemistry* by Paul C. Hiemenz and Timothy P. Lodge.

e-Learning Website. All students have access to the e-Learning website: <https://elearning.ufl.edu/>

Login with your Gatorlink account username and password. Lecture outlines will be posted on e-Learning prior class. Check e-Learning often; the posted lecture notes should be downloaded and printed before each class so that you can bring them with you. You will need them. The site may also be used for making announcements, recording grades, and listing practice problems. Additional materials that supplement the text may be posted.

Class Requirements.

1) Three in-class exams (100 points each)

Total = 300 possible points

Exam Dates.

- Exam 1: February 16 (in class)
- Exam 2: March 23 (in class)
- Exam 3: April 20 (in class)

Note: For reasons of privacy, grades will not be discussed by email. All grades will be posted on e-Learning. If you have questions about your grade, you should come to office hours to discuss your questions/concerns with me.

Current UF grading policies for assigning grade points: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Exams. There will be no make-up exams given for an unexcused absence (see section titled “Exam Absence Policy” for the limited definition of what qualifies as an excused absence).

Exam Absence Policy. This course administers all conflicts with scheduled assessments and examinations in accord with University policy. As such, certain unavoidable absences by students from examinations are allowed, if properly documented and disclosed to Dr. Sumerlin at least one week before the anticipated conflict. Such allowed absences include, but are not limited to, religious observances, sanctioned sporting events, military obligations, and court-imposed legal obligations. In such cases, provided documented notice was made to Dr. Sumerlin one week in advance of the exam date, students will be given the opportunity to take a *conflict exam*, which takes place shortly before the scheduled assessment for the class.

No exams will be administered to absent or otherwise compromised students for a grade *after* the established and scheduled assessment time. Exams for credit given to excused students after the rest of the class is given their exam are herein defined as *makeup exams*; no makeup exams are given in this course.

Unpredicted absences due to medical emergencies are not covered under the above conflict exam policy. If the time and severity of the emergency is severe enough to make continuation in scholastic activity impossible for the rest of the term, a medical withdrawal is strongly advised. If the condition warranting the absence at a scheduled exam is unexpected, relatively minor, and can be recovered from in short order, the student must provide verifiable documentation from the Dean of Students Office of the medical emergency to Dr. Sumerlin no later than one day after the scheduled assessment date. If proper verifiable documentation of the medical emergency is acceptable to Dr. Sumerlin at the time the student is ready to restart his/her academic pursuits, the instructor and student together decide to either: 1) allow an additional assignment to be delivered to the student, usually in the form of a 10-page term paper on a polymer-specific topic; 2) allow the final exam score to count as the score for the missed exam or 3) begin the process for the request of a medical withdrawal from the course by the student. No makeup exams (as defined above) are ever given.

Final Examination. There is no final exam for this course; however the last two in-class exams are inherently cumulative and may contain material discussed before the previous exam was given.

Homework. Homework problems *may* be assigned as we move along during the semester. Homework assignments will not be collected or graded. Stay on top of all reading, notes, and homework.

Regrading. If you have a question concerning the grading of an assignment, you may submit the entire assignment for complete regrading. Your score may increase or decrease accordingly. The exam must be submitted for regrading by the end of the first class meeting after the date the assignment was returned to the class. This means that exams handed back on Tuesday should be submitted for regrading by the end of class on Thursday. Please note that your graded exams may be photocopied prior to being returned to you.

Attendance & Zoom Policy. Attendance for lectures is not mandatory. However, this is fast-paced course where low attendance will almost certainly lead to your demise. Some lectures may be made asynchronously via video posted to Canvas or via Zoom. In the event our class sessions are audio visually recorded for enrolled students with excused absences who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Classroom etiquette. Cell phone use/text messaging is strictly prohibited in the lecture hall at all times. Hats must be worn backwards during exams.

Accommodations for students with disabilities. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

UF Honor Code. We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."** "The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior."

Cheating and Plagiarism. Cheating and/or plagiarism will not be tolerated. The minimum penalty will be an automatic zero on the assignment in question. You will not be allowed to drop this zero as your lowest exam grade. It will count toward your average. Suspension from the University may also result. Do not risk it. It is not worth it. Plagiarism consists of passing off as one's own the ideas, words, writings, etc. that belong to someone else. You are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have that person's permission. See:

<http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>
<http://www.dso.ufl.edu/sccr/honorcodes/conductcode.php>

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