

**Course information for
CHEM 4221 Introduction to Polymer Chemistry &
CHEM/CHEN/MATS 8221 Synthetic Polymer Chemistry
Fall 2016 at the University of Minnesota, Twin Cities**

(1) Logistical: **CHEM 4221 & CHEM/CHEN/MATS 8221** - Fall 2016, Tu & Th 08:15–09:30 AM (09/06/2015 - 12/14/2015), Smith Hall 331, 3 Credits [4221], 4 credits [8221]

(2) Instructor: Prof. Marc A. Hillmyer (hillmyer@umn.edu);
Teaching assistants: David Goldfeld (goldf058@umn.edu); Zach Helming (helmi045@umn.edu)

(3) Prerequisites for CHEM 4221: CHEM 2302 and CHEM 4501 or instructor consent

(4) Course goals and objectives: Students should demonstrate proficiency at independent problem solving related to the topics covered in Chapters 1–5 and other material assigned in “Polymer Chemistry”, by Paul C. Hiemenz and Timothy P. Lodge (CRC Press).

(5) Required materials: Textbook: Paul C. Hiemenz and Timothy P. Lodge, *Polymer Chemistry, 2nd edition*; CRC Press, Taylor and Francis Group (ISBN-13: 978-1-57444-779-8).

(6) Description of midterm exams: Three midterm exams will be given during the regularly scheduled class period on the following Tuesdays from 8:15–9:30 AM: **Tuesday 4 October 2016, Tuesday 1 November 2016** and **Tuesday 6 December 2016**. Your scores on these three midterm exams and the final exam [see (11)] will determine your grade. Each of the midterm exams will count for 22% of your grade and the final exam will account for 34% of your grade. Final grades in CHEM 4221 will be assigned according to the following absolute scale:

If you earn at least this percentage of the points:	You will receive a grade of at least:
85%	A-
70%	B-
50%	C-
33%	D

Final grades in CHEM/CHEN/MATS 8221 will be determined the total scores on the midterm exams described above (75% of the final grade) and performance on extra assignments/exams assigned throughout the semester (25% of the final grade) and will not be on an absolute scale.

(7) Attendance requirements: None.

(8) Extra credit opportunities: None.

(9) Policy for making up missed exams: In the case of a true emergency, serious illness, or University-related absence that prevents a student from taking a midterm exam, an excused absence may be granted. To obtain an excused absence, students must contact the instructor *in advance or as soon as circumstances allow* to discuss the nature of the emergency or situation.

Documentation will be required. The un-weighted average score of the student's other two midterm exams will replace the zero from the excused midterm exam. Only one missed midterm exam will be replaced in this fashion. If circumstances prevent a student from taking more than one midterm exam, a meeting must be scheduled immediately with the instructor to discuss any options available.

(10) Final exam: The final exam will be on **Saturday 17 December 2016** from 4:00 p.m.–6:00 p.m. The final exam room is TBD.

(11) Additional information:

Office hours

Instructor: Mondays through 12 December in 209 Smith Hall at a time TBD (after input from the class) and by appointment.

TA: Wednesdays and Fridays through 16 December at times and places TBD (after input from the class) and by appointment.

On-line resources

Lecture Moodle Site: Go to the UMN Moodle site login (search Moodle UMN), and select the appropriate class link. This is where you will find any information associated with this course. You will find your exam grades posted here under "my grades".

Homework

Homework questions will be assigned throughout the semester. Homework questions and solutions will be provided. You are strongly encouraged to complete all assigned homework questions as a fraction of the midterm and final exam questions will be inspired by these homework questions.

Exam Format

You must bring your student I.D. to each of the midterm exams and the final exam. I.D. checks may be made at any time. No calculators are allowed during the midterm exams or the final exam. There may be a seating assignment for exams and in that case you will be required to sit in your assigned seat for the exam.

Additional Resources

In addition to the required textbook, the following resources are on reserve in Walter Library:

1. Allcock, H. R.; Lampe, F. W. *Contemporary Polymer Chemistry*, 2nd; Prentice Hall, 1990.
2. Cowie, J. M. G. *Polymers: Chemistry & Physics of Modern Materials*, 3rd; CRC Press, 2008.
3. Flory, P. J. *Principles of Polymer Chemistry*; Cornell University Press, 1953.
4. Odian, G. *Principles of Polymerization*, 4th; Wiley, 2004.
5. Rempp, P.; Merrill, E. W. *Polymer Synthesis*, 2nd; Huethig & Wepf, 1991.
6. Sperling, L. H. *Introduction to Physical Polymer Science*, 4th; John Wiley, 2006.
7. Stevens, M. P. *Polymer Chemistry: An Introduction*, 3rd; Oxford University Press, 1999.

Issues with your Instructor

You may have a concern or problem regarding the instructor of this course. In ordinary circumstances, you will find your instructor quite willing to discuss this with you. If, however, you wish to discuss it with someone other than your instructor, please contact Dr. Christy Haynes, the Chemistry Department Vice Chair. Her office is 243 Smith Hall and her phone number is (612) 626-1096. You may also send e-mail to her at chaynes@umn.edu.

University of Minnesota Policy statements

(1) Student Conduct Code: The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected to adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see:

http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means “engaging in behavior that substantially or repeatedly interrupts either the instructor’s ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities.”

(2) Use of Personal Electronic Devices in the Classroom: Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference:

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

(3) Scholastic Dishonesty: You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code:

http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:

<http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html>.

The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty:

<http://www1.umn.edu/oscai/integrity/student/index.html>. If you have additional questions, please

clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

(4) Makeup Work for Legitimate Absences: Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html>.

(5) Appropriate Student Use of Class Notes and Course Materials: Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: <http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

(6) Grading and Transcripts: The University utilizes plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following:

Letter Grade	Grade Points	Notes
A	4.000	Represents achievement that is outstanding relative to the level necessary to meet course requirements
A-	3.667	
B+	3.333	
B	3.000	Represents achievement that is significantly above the level necessary to meet course requirements
B-	2.667	
C+	2.333	
C	2.000	Represents achievement that meets the course requirements in every respect
C-	1.667	
D+	1.333	
D	1.000	Represents achievement that is worthy of credit even though it fails to meet fully the course requirements
S	N/A	Represents achievement that is satisfactory, which is equivalent to a C- or better

For additional information, please refer to:

<http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>.

(7) Sexual Harassment: “Sexual harassment” means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy:

<http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf>

(8) Equity, Diversity, Equal Opportunity, and Affirmative Action: The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy:

http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf.

(9) Disability Accommodations: The University of Minnesota is committed to providing equitable access to learning opportunities for all students. Disability Services (DS) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DS at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DS and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course. For more information, please see the DS website, <https://diversity.umn.edu/disability/>.

(10) Mental Health and Stress Management: As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

(11) Academic Freedom and Responsibility: Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the

associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

** Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*