

SBME 695
(3-Credit)

Polymers in Biomedical & Pharmaceutical Systems

Instructor: Professor Kinam Park (kpark@purdue.edu) Office: MJIS 3070
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Lectures Tue, Thr. 6:00 pm – 8:50 PM. MJIS 1083

Objective: This course is designed to provide backgrounds in basic polymer chemistry, synthesis, characterization, solution properties, and recent advances in polymers for applications in drug delivery, biomedical devices, tissue engineering, biotechnology, and nanotechnology.

Lecture Materials:

Lecture materials will be posted in PDF format for downloading.

Grading:

Students are expected to read all handout materials, do homework, and prepare a written report at the end of the semester. Each student will have a chance to present the contents of the written report in a 10-min presentation in the class. Each student can choose a special topic of their choice upon consultation with the instructors. The research report and presentation are designed to train students how to collect, analyze, and utilize information on a research topic and to improve their presentation skills.

The following is an example of the contents of the report:

1. Statement of the problems, or specific aims of your research (or your report)
2. Background (i.e., review of the relevant field to show what are known and what need to be known).
3. Experimental (you may not do any experiments, but you may describe what kinds of experiments may be done, or can be done to obtain the results you are looking for).
4. Results (or the summary of findings from your literature search).
5. Discussion (what do the results mean? what extra experiments need to be done? what will be the future in this area, etc.)
6. Conclusions (or summaries).

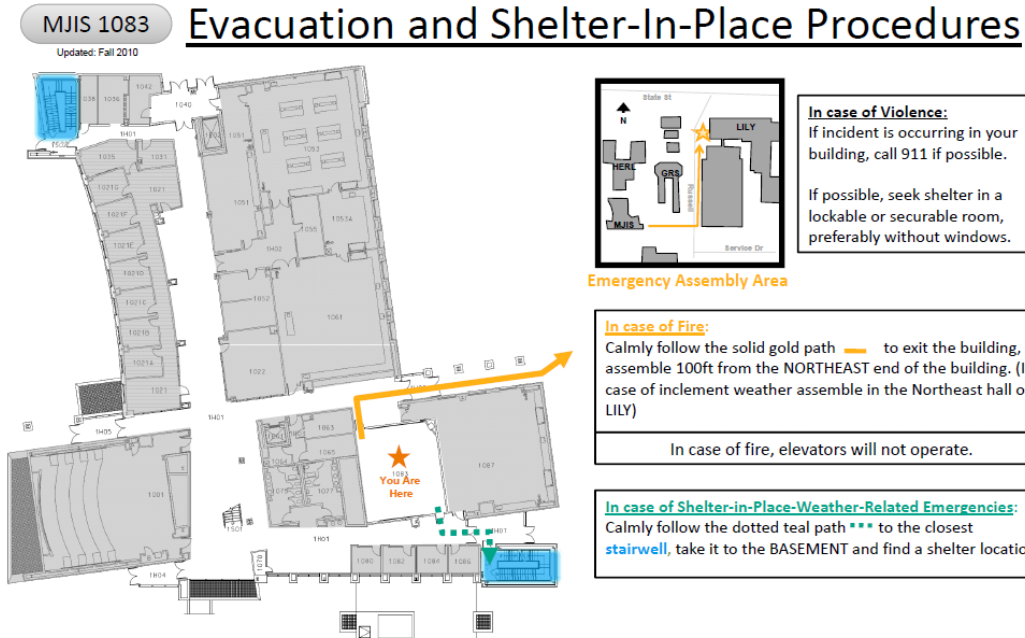
Course Outline

#	Date	Lecture Contents
1.	1/10	Course Philosophy & History of Polymers (KP)
2.	1/12	Water (KP)
3.	1/17	Polymer Synthesis & Characterization (LS)
4.	1/19	Theory of Polymer Solutions (LS)
5.	1/24	Smart Polymers and Hydrogel (LS)
6.	1/26	Journal Article, Proposal, and Patent (KP)
7.	1/31	Drug Delivery and Pharmaceuticals (KP)
8.	2/2	Advanced Drug Delivery Systems (KP)
9.	2/7	Biomaterials (LS)
10.	2/9	Tissue Engineering (LS)
11.	2/14	Biotechnology (KP)
12.	2/16	Polymers in Everyday Life (KP)
13.	2/21	Nanoscience (LS)
14.	2/23	Nanotechnology (LS)
15.	2/28	Student Presentations

KP: Kinam Park; LS: Luis Solorio

Note: The lecture schedule may change.

Emergency: In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. You will be notified by e-mails from the instructors.



Evacuation Procedures

- You are in a facility used for research; it is possible that the evacuation horn will sound.
- This is a very loud INSIDE alarm.
- Please walk calmly out of the building and gather outside near the Northwest end of LILLY.
- Stay in West of Russell St. until a police officer gives the all clear.
- It is extremely dangerous to enter a building in the middle of an emergency.
- It is the responsibility of the faculty and staff to execute this emergency plan upon hearing the evacuation siren.

All Hazards Emergency Warning Sirens

- A weather emergency, such as a tornado, will activate the “shelter in place” siren.
- This is a less audible OUTSIDE, area-wide siren.
- Please seek shelter in the basement area.