MSE404 – Polymer Synthesis
Fall 2020

Course Description:
The main goals of the course are 1) to introduce and provide hands-on experience with the various lab techniques involved in polymer characterization, 2) to hone your scientific writing skills, and 3) to make connections between textbook learning and experiment.

Instructor:  
Dr. Nathan Gabrielson  
Phone: 217-300-3906  
Email: gabrlsn@illinois.edu  
Office: 209 Ceramics

Teaching Assistant:  
Briang Jing  
Email: bjing2@illinois.edu

Course Text:
There is no required textbook for the class. Instead, the lab experiments will be described on separate handouts. Electronic copies of readings and book chapters will be provided throughout the semester. Supplementary information can also be found online:


Website:  
http://compass2g.illinois.edu

Class Meetings:  
There will be no in person lecture for MSE404-PS. Instead, lectures will be delivered online as pre-recorded videos that will be uploaded to this website prior to the scheduled lab. It is the students’ responsibility to view these video lectures prior to lab and contact the instructor if there are any problems or questions. Zoom and other means of videoconferencing will be used as needed for office hours, requested meetings, presentations, etc. Labs will meet in-person, but will utilize more lab space/chemical fume hoods to facilitate increased separation between students. While in lab, both students and instructors are required to wear face masks/appropriate PPE and maintain appropriate social distancing. Tentatively, all instruction/lab experiments will be moved online starting November 30. Aside from the absence of in person lecture and the last scheduled experiment, the lab work and topics for the class remain largely unchanged from previous years.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Section</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory</td>
<td>PS1</td>
<td>2:00 – 4:50 PM, Mon/Wed</td>
<td>123/124 Kiln House</td>
</tr>
<tr>
<td></td>
<td>PS2</td>
<td>2:00 – 4:50 PM, Tues/Thurs</td>
<td>123/124 Kiln House</td>
</tr>
<tr>
<td></td>
<td>PS3</td>
<td>8:00 – 10:50 AM, Tues/Thurs</td>
<td>123/124 Kiln House</td>
</tr>
<tr>
<td>Office Hours</td>
<td></td>
<td>11:00-11:50 AM, Mon/Wed or by appointment</td>
<td>123/124 Kiln House</td>
</tr>
</tbody>
</table>
Grading:
Lab Reports & Homework & Presentation: 70%
Lab Quizzes: 15%
Attendance/Participation: 15%

Grading Notes:
1. This course consists of 6 experiments to be completed in groups of 3-4 people. Generally, a lab report or homework assignment will be required for each experiment. Some reports encompass multiple experiments and some are based on just one experiment. Five reports are planned, one of which will be a presentation instead of a written submission. It is also possible that one of the lab reports will be made into a homework assignment instead of a written report.
2. Lab reports will consist of the following sections: Abstract, Introduction, Materials and Methods, Results, Discussion, Conclusion, References and Appendix (if needed).
3. Lab reports are to be submitted online on the course website. Adobe PDF is the preferred format, but MS Word (or similar) will also be accepted. If you are uncomfortable with online submission, paper copies will also be accepted but you must coordinate a time with me to deliver the report.
4. Reports that are received late are docked 5 points each day until they are submitted. Reports that are not received within 20 days of the due date receive no points.
5. You are required to read the lab procedures before attending the lab session. A brief quiz will be given at the beginning of each lab session. The quiz is intended to focus on the fundamental concepts of each lab and not on minute experimental details.
6. Everyone is required to keep a lab notebook which will be inspected periodically.

Grading Scale:
98-100 = A+ 92-97 = A 90-91 = A-
88-89 = B+ 82-87 = B 80-81 = B-
78-79 = C+ 72-77 = C 70-71 = C-
68-69 = D+ 62-67 = D 60-61 = D-
≤59 = F

*the lower number of the grading ranges may be lowered but not raised

Safety and Lab Rules:
This lab involves several potentially hazardous procedures. As in all labs, safety glasses/goggles must be worn at all times. The use of fume hoods will be necessary in several parts of the lab. Extreme care should be taken with the solvents that we will use, as in most cases they are toxic and flammable.

1. No food or beverages are allowed in the lab. Chewing gum is discouraged.
2. Long pants (covers the legs to the ankle) and closed-toed shoes are required for entry into the lab.
3. Avoid wearing your “best” clothes and consider purchasing/wearing a lab coat.
4. Confine long hair, loose clothing and dangling jewelry.
5. Cover any cuts or scrapes with a bandage before attending lab.
6. Safety glasses/goggles are available and must be worn at all times.
7. Wear disposable gloves at all times.
9. Do not pick up broken glass with your hands, use a dust pan and broom.
10. Clean your lab space and equipment before departing.
11. Please exit the lab when making personal calls or sending texts or email messages. Abuse of this rule will result in cell phones being banned from the lab. Smartphones may be used during the lab exercises as references, calculators and other similar tools.
12. While in lab, both students and instructors are required to wear face masks/appropriate PPE and maintain appropriate social distancing.
13. Thoroughly wash hands with soap prior to leaving the laboratory.

Run > Hide > Fight
Emergencies can happen anywhere and at any time. It is important that we take a minute to prepare for a situation in which our safety or even our lives could depend on our ability to react quickly. When we're faced with almost any kind of emergency – like severe weather or if someone is trying to hurt you – we have three options: Run, hide or fight.

Run
Leaving the area quickly is the best option if it is safe to do so.
- Take time now to learn the different ways to leave your building.
- Leave personal items behind.
- Assist those who need help, but consider whether doing so puts yourself at risk.
- Alert authorities of the emergency when it is safe to do so.

Hide
When you can’t or don’t want to run, take shelter indoors.
- Take time now to learn different ways to seek shelter in your building.
- If severe weather is imminent, go to the nearest indoor storm refuge area.
- If someone is trying to hurt you and you can’t evacuate, get to a place where you can’t be seen, lock or barricade your area if possible, silence your phone, don’t make any noise and don’t come out until you receive an Iliffi-Alert indicating it is safe to do so.

Fight
As a last resort, you may need to resist to increase your chances of survival.
- Think about what kind of common items are in your area which you can use to defend yourself.
- Team up with others to fight if the situation allows.
- Mentally prepare yourself – you may be in a fight for your life.

Please be aware of people with disabilities who may need additional assistance in emergency situations.

Other resources
- police.illinois.edu for more information on how to prepare for emergencies, including how to run, hide or fight and building floor plans that can show you safe areas.
- emergency.illinois.edu to sign up for Illini-Alert text messages.
- Follow the University of Illinois Police Department on Twitter and Facebook to get regular updates about campus safety.