Orientation for MS Students
2015

Prof. Lincoln J. Lauhon
Associate Chair

Prof. Yip-Wah Chung
MS Program Director
Orientation Schedule

10:00 Welcome and Introductions/Program Overview
   – Chair Mike Bedzyk, Associate Chair Lincoln Lauhon
   – MS Program Director Yip-Wah Chung

11:30 Photos

11:45 MGLC lunch (Tech—Ryan Auditorium)

1:15 Office of Career Development
   Helen Oloroso and Allison Berger

1:30 MSSA (Materials Science Student Association)
   Peer Advising/Q&A (Recent graduate James McKinney and current student Zilin Jiang)

Individual Course Advising by Appointment w/Prof. Chung
Introductions

- Name and undergraduate institution
- Area(s) of interest
- What do you hope to get from the program?
- What are your career plans?
MS Program Overview

- **MSE Coursework**: fundamental depth, breadth in discipline
- **Colloquia and Seminars**: for updates on cutting edge research, and perspective on the discipline
- **Career Development**: leveraging Northwestern resources
- **Social and Extracurricular**
Coursework

• 12 course requirement, all taken for a grade.
• Typically 4 per quarter.
• 8 MSE courses, 5 of which must be 400 level.

Special Programs and Curricula

• Integrated Computational Materials Engineering
• Minor in Engineering Management
• SJTU Dual Degree Program
Certificate in ICME

Goal: provide training in Integrated Computational Materials Engineering

Requirements: 4 courses and 2 quarters of PSED graduate seminar.

Required Courses
MSE 401: Thermodynamics
MSE 408: Phase Transformations in Materials
MSE 458: Atomic Scale Computational Materials Science
MSE 390: Materials Design
PSED 510-1,2: ICME Seminar
Minor in Engineering Management

Goal: provide an understanding of basic engineering management principles for MS students at the McCormick School of Engineering & Applied Sciences.

Requirements: 2 required courses and 1 elective chosen from the list below:

Required Courses
- IEMS 402 Engineering Management
- IEMS 407 Quantitative Methods for Decision-Making

Electives (Choose one)
- IEMS 415 Computer Simulation for Risk and Operations Analysis
- IEMS 417 Product Development
- IEMS 426 Project Management
- IEMS 490 Managerial Analytics

Contact: mem@northwestern.edu
Colloquia and Seminars

• MSE Colloquia are on Tuesdays at 4 pm.
• There are many other seminar series of interest: IIN, ISEN, ANSER, MRSEC, plus departmental seminars.
• Colloquium attendance is required, seminar attendance encouraged.
Career Development (1:15 today)

1. Use McCormick Office of Career Development: http://www.mccormick.northwestern.edu/mcd/
2. Consult TGS Website for additional professional development opportunities: http://www.tgs.northwestern.edu/prof-dev/nu-directions/index.html
3. Take courses in management and entrepreneurship (IEMS, Kellogg)
4. Develop resume, pursue on-campus interviews, network.
5. Communicate with scientists and others.
Research & Internships

• Research is not a required component of the courses-based MS program

• 499 Independent Study can be taken in winter quarter- Prof. Chung can help find mentor.

• Note- PhD students are looking for groups, so do not contact faculty right now.

• Summer internships are possible.
  – Work with McCormick Career Development.
  – More information will be provided by the International Office and McCormick.
Academic Integrity

- Submitted work must be your own.
- Check with instructor regarding permissibility of group work.
- Acknowledge contributions in group work.
- Cite original sources of written material, ideas, solutions, etc.
- In classes with laboratory activities, safety is the top priority.

What should you do if you are not comfortable with an incident or situation?
Student Support & Conflict Management

• Do not wait to raise concerns.
• The Chair (Bedzyk) and Associate Chair (Lauhon) can be contacted at any time.
• Bridget Sweeney Marino and Kathleen Stair also serve as non-faculty points of contact (confidential).
  – Is my concern concerning?
  – What is the best path to resolution?
• Consult TGS Website for University counseling resources.

http://www.tgs.northwestern.edu/graduate-life/dealing-with-conflict/index.html
MSE grad electives Fall 2015:

- 337 Conductive Polymers (Huang)
- 360 Intro to Electron Microscopy (Marks)
- 381 Energy Materials (Dunand)
- 391 Process Design (Chung)

- 415 Fundamentals of Thin Film Materials (Barnett)
- 451 Physics of Materials (Hersam)
- 455 Physics of Nanostructures (Wessels)
- 458 Atomic Scale Computational Materials Science (Rondinelli)

Resources:

Schedule, brief description: http://www.matsci.northwestern.edu/courses/index.html

Comments, workload: http://www.registrar.northwestern.edu/courses/index.html#CTEC
Classmates

- BS Students
- BS/MS Students
- MSE PhD Students
- Other undergrad, graduate students
Coursework- more details

- 12 course requirement, all taken for a grade.
- Typically 4 per quarter.
- 8 MSE courses, 5 of which must be 400 level.

Fall 2015

- Course #1: Foundational course (401 Thermodynamics)
- Course #2: 400 level MSE elective (often 451)
- Courses #3 & #4: grad level elective (most 300, all 400 level courses)

Registration starts Weds Sept 16 (Wed) at 9:00 AM
Last day to add a class: Sept 25
Last day to drop a class: Oct 30