Orientation for MS Students 2016

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Director of Graduate Studies

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MS Program Director
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. 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 (Luijten) and Director of Graduate Studies (Shull) can be contacted at any time.
- Alice Camacho 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 2016:

- 337 Conductive Polymers (Huang)
- 357 Magnetic Properties of Materials (Petford-Long)
- 360 Intro to Electron Microscopy (Marks)- for BS & MS students
- 381 Energy Materials (Dunand)
- 391 Process Design (Chung)
- 415 Fundamentals of Thin Film Materials (Barnett)
- 445 Polymer Physics (Olvera)
- 451 Physics of Materials (Hersam)

Schedule: [http://www.matsci.northwestern.edu/courses/index.html](http://www.matsci.northwestern.edu/courses/index.html)

Comments:
[http://www.registrar.northwestern.edu/courses/index.html#CTEC](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 2016

• 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 Sept 15 (Thur) at 9:00 AM
• Last day to add a class: Sept 26
• Last day to drop a class: Oct 28