Applying for Graduate School

Society of Women Engineers
Friday, November 9, 2012
Why Attend Graduate School?

- Interest in academia
- Further your career
- Love to learn
- Difficult job market
## Master’s vs. Ph.D.

<table>
<thead>
<tr>
<th>Master’s</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geared toward a career in industry in technical areas or management</td>
<td>Geared toward a career in research, highly technical areas in industry, or consulting</td>
</tr>
<tr>
<td>More $$ than earned by a Bachelor’s</td>
<td>Often more $$ than Master’s or Bachelor’s</td>
</tr>
</tbody>
</table>
| More competitive resume  
  - Allows higher level entry  
  - Required for some positions | Overall curiosity and desire to learn  
  - Required for some positions |
| Interest in research but don’t want to commit to Ph.D. | More funding opportunities  
  - Love for the research |
Is it Right for Me?

- Talk with professors
  - Most knowledgeable about research in your area
  - Source of reference letters
- Talk with current graduate students
  - Can tell you what grad student life is like
  - Offer “lessons learned”
- Research your interests and corresponding schools
Ways to Get Involved Now

- Undergraduate research
  - With professors at your school
  - Summer research programs (REU, USRG)
  - Intel Program for Undergraduates
  - Science Undergraduate Laboratory Internships (SULI)
- Internships/Co-ops
- Maintain and develop good standing and relationships with faculty
- Go to career fairs! (even if you don’t need a job right now)
- Seniors: consider taking graduate level courses
Applying: Initial Thoughts

- What kind of research do you want to do?
- What do you want to study?
- Is it important to you to have more than one...
  - Advisor option? (yes!)
  - Research field option?
- Do you want many options?
  - Big vs. small program
Applying: Choosing Your Schools

- Start a search, talk with your professors about their research
- What professors/universities are top in that field?
- What other factors are important to you?
  - Location (proximity to family, significant other)
  - Funding (TA, RA, external vs. internal fellowships)
  - Climate
  - Private vs. State
  - Rural vs. Metropolitan
  - Graduate : Undergraduate Ratio
  - Male : Female Ratio
  - Percentage International Students
  - How the program is organized (classes, qualifying exams, etc.)
- Visit the schools / cities to get a feeling for living/working there.

**Hint**: If you really want to go somewhere, make sure they know!
Disclaimer – these will be different for each school and engineering discipline!!

- Mechanical Engineering, University of Texas at Austin, 2012
  - Total Applications:
    - ~25% admitted
  - Mean (old) GRE Scores
    - Quantitative: 783
    - Verbal: 599
    - Writing: 3.87
  - Mean (new) GRE Scores
    - Quantitative: 163.3 (~780)
    - Verbal: 157.6 (~560-570)
    - Writing: 4.26
  - Mean GPA: 3.81/4.0
- You can find these on the school/department website or in the US News & World Reports Annual Rankings
Applying: Important Elements

GRE
Transcript
Essays
• Personal statement: start ASAP!

Letters of Recommendation
• Who will you ask?
• Talk with them about your interests, career ideas, what you want to shine in your application

Fee
• Usually ranges $60-100 per application
• Can be waived if show financial need

Hint: have a list of schools, application parts for each school, and deadlines by Fall Break
Application Hints

- **Personal Statement / Statement of Purpose**
  - Why do you want to go to graduate school?
  - What will you do with a graduate degree?
  - Who/what inspires you to be where you are today?
  - Some schools have specific prompts

- **Recommendations**
  - Include resume/CV, personal statement, transcripts
  - Give detailed list of universities’ application dates/letter submission process
  - Choose good mixture: professors, managers, advisors
    - Expect some weirdness
    - Consider how well they know you
    - Be mindful of reputation of professor, in the school and in the research community (i.e. tenured vs. not-tenured, known in industry, etc.)
Interviews / Campus Visits

- Typically in March and April
  - You may be accepted already (invitation to visit included with acceptance letter)
  - Interview may be part of application process
  - Meet multiple professors in interview settings
  - Meet graduate students
  - School may reimburse you for travel costs, but you will usually pay for travel up front – have cash reserves
Interviews / Campus Visits

- Pay attention to:
  - Happiness level of the current students
  - Campus
  - Compatibility between you and potential advisors
  - Overall location
Choosing an Advisor

- Research Area
  - Must interest YOU! - have (or develop) a curiosity and passion for your specific area

- Tenured vs. New Professors
  - Time availability
  - Motivation (self-motivation vs. direction from advisor)
  - Hands-off vs. hands-on

- Scheduled vs. Laid back
- Communication Style
- Overall Personality

Photo by really boring available under a Creative Commons Attribution-Noncommercial-ShareAlike license
Notes About Advisors

- Talk to their students
  - Get the real deal on the advisor
    - How do they treat their students?
  - They will be your co-workers
  - Get a feel for the university and the particular lab
- It’s okay to switch
  - Sooner is better than later
- Communication is key
- Trust your intuition during interviews

Photo by Robert Thivierge available under a Creative Commons Attribution-ShareAlike license
## I’ve Got Lots of Time, Right? – The Timeline (1)

<table>
<thead>
<tr>
<th>Time from application deadline</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>-9 months (Mar 2012)</td>
<td>Start thinking seriously about graduate school; Talk to professors, grad students, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>-3 or 4 months (Aug/Sept 2012)</td>
<td>Determine to which schools you will apply. Gather list of information and fees for each application</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I’ve Got Lots of Time, Right? The Timeline (2)

<table>
<thead>
<tr>
<th>Time from application deadline</th>
<th>Task</th>
</tr>
</thead>
</table>
| -2 months (Oct 2012)          | Start applications (they take awhile)  
**HINT: Use the spreadsheet!** |
| -1 month (Nov 2012)           | Finalize statement of purpose/personal statement |
|                               | Remind recommenders of deadlines |
|                               | SUBMIT APPLICATIONS!! |
| +3 months (Mar 2013)          | Start hearing back from schools and visiting |
| +4 months (Apr 2013)          | **DECIDE** |
Questions…Ask Your Guides!

- Katharine Brumbaugh
  - Aerospace Engineering M.S., University of Texas at Austin
  - B.S. in Aeronautical/Astronautical Engineering
  - katharine.m.brumbaugh@gmail.com

- Sofie Leon
  - Civil Engineering PhD student at Illinois Urbana-Champaign
  - B.S. Civil Engineering, Cal Poly
  - leon.sofie@gmail.com

- Kayla Shaw
  - Chemical & Biomolecular Engineering, Notre Dame
  - B.S. from Trine (Tri-State) University
  - kreibel@nd.edu

Please Feel Free to Contact Us!
Grad School Related Sessions at WE12

Thursday Sessions
- Graduate School Community Meeting and Networking, 10am, 350F
- Tips for Mentoring and Teaching Undergraduates, 1:30pm, 342F
- Career Options for Engineering PhDs, 1:30pm, 362AB
- Navigating Academia and Motherhood, 2:45pm, 342F
- Ethical Dilemmas in Research and Graduate School, 4:00pm, 342F

Friday Sessions
- Graduate Student Involvement in SWE Sections, 10am, 361DE
- The Postdoc: Why and How, 10am, 352D
- Graduate Research Rapid Fire – Energy, Sustainability, Resource Mgmt, 1:30pm, 361F
- Applying for Graduate School, 1:30pm, 361C

Friday Sessions (cont)
- Strategies for Effective Grant Writing, 2:45pm, 342C
- Global Opportunities for Grads and Postdocs, 2:45pm, 361AB

Saturday Sessions
- Funding your Graduate Education, 10am, 361AB
- Entering Industry with a Graduate Degree, 10am, 351DE
- Adjunct Faculty Positions: a Second Job, an Alternate Career Path, or a Transition, 1:30pm, 361AB
- Graduate Research Rapid Fire – Bio, Eng Tech, Education, 1:30pm, 342DE
- Emerging Career Pathways for PhDs, 2:45pm, 342AB

Get Involved & Stay Connected!
- Facebook: search “swegrad”
- Blog: swegrad.wordpress.com
Application Parts and Process

- What is the application process like?
- How do you decide between a Master’s or PhD?
- How early do you have to start applying?
- How many schools did you apply to?
  - How did you choose them?
- What is most important in the admissions process?
  - GPA, GRE scores, research experience?
- What if you are applying to a different program than your undergraduate degree?
Choosing a Graduate School

- How did you choose your graduate school?
  - What other options did you have, and why did you discount them?

- How does your graduate program compare with other schools?
  - Rankings? Coursework? Teaching?

- How did you find a research advisor?

- What should I look for in a financial package?
After Graduate School...

- What are your plans after graduation?
- How will your graduate degree benefit you in the future?