

All about Graduate School

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September 26, 2007



Grad School Basics

- Questions, questions...
- The Three Step Process:
 - Choosing a degree program and a school
 - The application process
 - Options for funding and support
- CEIE Grad Programs at Mason

SHOULD YOU GO TO GRAD SCHOOL? A WEE TEST

^T ^F I AM A COMPULSIVE
NEUROTIC.

I LIKE MY IMAGINATION
CRUSHED INTO DUST.

I ENJOY BEING A
PROFESSOR'S SLAVE.

MY IDEA OF A GOOD
TIME IS USING JARGON
AND CITING AUTHORITIES.

I FEEL A DEEP NEED
TO CONTINUE THE PROCESS
OF AVOIDING LIFE.

Source: <http://www.ai.uga.edu/tonysnod/cartoons.html>

Seriously....

- With an advanced degree, you will be:
 - more specialized (e.g., project engineer, project manager, CEO)
 - more highly paid (US Census Stats)
 - more rapidly promoted
- For Engineers, a Master's degree or equivalent will be *required* for professional licensure in the next 5-10 years (ref: ASCE Policy Statement 451)

The Steps:

1. Choosing a graduate program
2. The admissions process
3. Money: financial support

Step 1: Find the right
program

Getting started

- What field are you interested in?
- What kind of degree do you want?
 - M.S., M.Eng, J.D., M.B.A., Ph.D., M.D.
- Talk to as many people as possible.
- What can you do with that advanced degree?
- Think about a subfield (e.g., transportation, water resources)

Researching programs

- Surf the web. Search Departments, not schools. (Don't use a pay service!)
- Consider Rankings
 - National Research Council <http://www.nas.edu/nrc/>
 - U.S. News and World Report
- Consider location, school size, reputation, faculty, resources

Best Civil Engineering Programs

The screenshot shows the U.S. News & World Report website header with the logo, a search bar, and the date Monday, September 24, 2007. Below the header is a navigation menu with links for Nation & World, Health, Money & Business, Education, Opinion, Photos & Video, and Rank. A blue banner for 'America's Best Graduate Schools 2008' features links for 'About the Rankings', 'Help', and 'Log In', along with a 'Get the Premium Online Edition Now!' call to action and 'LEARN MORE' and 'BUY!' buttons. Below the banner, the section is titled 'Engineering Specialties: Civil' with a note 'New! Ranked in 2007*'. A table lists the top three schools and their average assessment scores.

Rank/School	Average assessment score (5.0=highest)
1. University of California-Berkeley	4.8
2. University of Illinois-Urbana-Champaign	4.6
3. Stanford University (CA)	4.5

http://grad-schools.usnews.rankingsandreviews.com/usnews/edu/grad/rankings/eng/brief/engsp04_brief.php

Rankings aren't everything

- Some items to ask about:
 - External funding of research? Support for students?
 - Are faculty widely recognized-are papers widely cited, are they invited to make presentations on their work)?
 - What are the facilities like?
 - What do graduates do?
 - Find the best fit for you.

Step 2: Applying and Admissions

The process

- Send in the application early. The deadlines are usually in Jan. or Feb - mostly web-based now.
- Notification will probably occur during Feb. or March
- If you are offered the chance to visit, do so!
- Deadline for reply is usually April 15. Many programs have rolling admissions - seek them out.

The Graduate Record Exam

- Most graduate programs require the General GRE (especially Engineering)
- Exams are now computer-based at approved testing centers. See www.gre.org for details, and sites.
- Study the test format and strategies.
- Take it twice if you aren't happy with your score.

Other Entrance Exams

- Test of English as a Foreign Language (TOEFL) - non-US B.S. degree students
- Medical School - MCAT
- Law School LSAT
- Management - GMAT
- Others...
- Many books and test-prep programs available (e.g., Kaplan)

Transcripts

- Transcripts from all colleges attended are required.
- Hopefully you have mostly A's and B's in your major courses.
- GPAs > 3.0 are usually needed, > 3.3 for support
- A couple of C's are okay. A D or E(F) requires explanation.
- If your college has an unconventional grading system or curriculum, attach a letter explaining it.

Personal statement

- A statement of purpose is usually required.
- Keep it short-about one page.
- Make it germane, don't get weird.
 - Why you want to attend graduate school
 - What you hope to accomplish
 - How you plan to accomplish it
- Emphasize any research experience - key to getting funding.
- Briefly explain any embarrassing grades.
- Be Professional - Check for mistakes.

Letters of recommendation

- Usually two or three letters of recommendation are required.
- Some letters need to come from your instructors, but others can come from employers, research advisors, and so on.
- Think about whether the letter will be relevant.
- Talk to the person about the nature of the letter. Supply him/her with an up-to-date resume, and your statement of purpose. Personal information is important.

Step 3: Getting Funding

Financial support

- Most science graduate programs will offer financial support, as a **teaching** or **research assistant** if you go full-time and do research.
- If offered support, check on the amount of support (stipend). What is the cost of living at that school?
- Many companies will pay for you to go to school. Some degrees are more desirable than others (M.B.A.)
- You should investigate **fellowship** opportunities.

Fellowships

- National Science Foundation Graduate Fellowships. \$30,000 per year stipend. Deadline in November. <http://www.nsf.gov/pubs/2005/nsf05601/nsf05601.htm>.
- National Physical Science Consortium (NPSC) Graduate Fellowships in the Physical Sciences; see <http://www.npsc.org/> Deadline: November 5.
- Fannie and John Hertz Foundation Graduate Fellowships; see www.hertzfndn.org/index.html. \$25,000 per year stipend plus tuition paid! Requires a GPA > 3.75/4.00. Deadline in November.
- U.S. Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellowships. <http://www.ed.gov/programs/iegpsgaann/index.html>

Options at GMU

- Certificate Programs
- Master of Science (M.S.) in Civil and Infrastructure Engineering
- Accelerated B.S./M.S. Program
- Ph.D. in Information Technology

CEIE Accelerated BS/MS Program

- Combined B.S./M.S. Program (144 credits)
- Eligibility: Must have completed 90 credits (Junior) with **3.3 GPA**
- Students take 6 cr of 500-level courses in place of CEIE Technical Electives
- Simplified application procedure
- Degree conferral is separate for each degree.

<http://www.civil.gmu.edu/programs/undergraduate.html>

CEIE Certificate Programs

- A certificate is a concentration area at the graduate level in a specialized topic - appears on your transcript, but not a degree per se.
- CEIE has two certificates:
 - Civil Infrastructure and Security Engineering
 - Certificate in Discovery, Design, & Innovation

MS in Civil and Infrastructure Engineering

- Degree Requirements (30 credits - core, electives, project/thesis, and seminar)
- Core Courses
 - CEIE 601 Infrastructure Modeling
 - CEIE 605 Infrastructure Systems Analysis
 - CEIE 685 Civil Engineering Information Management
- Concentrations
- Project (3cr) or Thesis (6cr) option
- Seminar Requirement - CEIE795

<http://www.civil.gmu.edu/programs/graduate.html>

PhD in Information Technology (Civil Engineering Concentration)

- Admissions
- Plan of Study
- Qualifying Examination
- Proposal Defense
- Dissertation Research
- Dissertation Defense

<http://ite.gmu.edu/PhDprogr/>

More Information

- GMU Career Services (careers.gmu.edu)
- Ask a faculty member
- IT&E Graduate Admissions (<http://ite.gmu.edu/admissions/graduate.php>)
- For a laugh, and a window on graduate student culture: www.phdcomics.com