GRAD SCHOOL: WHAT’S IT ALL ABOUT?
PRESENTATION OUTLINE

• Why consider graduate school?
• What do graduate studies involve?
• How does one learn about and apply to programs?
• What should you be doing NOW?
• Why (or why not) consider UVM?
• Your questions
WHY GRADUATE SCHOOL?

- Concentrate studies in area of specific interest
- Develop skills necessary for independent study
- Broaden career choices (more opportunities)
- More challenging jobs
- Prepare for a career in R&D or academics
- The $10,000+ question!
- NOT to ride out the recession
WHAT IS IT ALL ABOUT?

• More theoretical (in depth) course work.
• 3 courses a semester (typical).
• Typically four (4) semesters to complete.
• Perform independent research and write thesis under supervision of an advisor.
• Write technical papers and attend conferences.
• Teach labs (TA) or perform research (RA) to get paid and have fees waived.
M.S. THESIS?

• In-depth investigation on a particular topic of your interest.

• Perform literature search and learn about current research in the area.

• Build upon this research or compare different techniques for solving a problem.

• Thesis demonstrates competency in independent research, analysis, technical writing, etc.

• Present your work to your committee in a thesis defense.
HOW LONG WILL IT TAKE?
Depends on you!

• Best case scenario:
  • Identify advisor you’d like to work with and start investigating the area of research as a Senior.
  • Spend interim summer (SU_0) determining a topic.
  • FA_1 and SP_1: course work, start research.
  • SU_1: research.
  • FA_2: course work and finish research/start thesis.
  • SP_2: finish course work and defend
  • Write thesis early and often!
  • Total ~30 hours (~ 8 courses & 2 semesters of thesis)

• Worst case scenario: procrastination!
**OTHER OPTIONS**

<table>
<thead>
<tr>
<th>Non-thesis</th>
<th>Research project</th>
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<td>• Just take classes (~11)</td>
<td>• Perform scaled down research</td>
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<td>• Perhaps a comprehensive exam at the end</td>
<td>• Write a research report (vs. thesis)</td>
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<td>• Good for those already in the work place</td>
<td>• Good for those going straight for a Ph.D. at the same institution.</td>
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<td>• Funding scarce</td>
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* Note: not all schools have all options
ADMISSION REQUIREMENTS*

Minimal

• GPA > 3.0
• GRE > 1700 (old test)
  GRE: V > ?, Q > ?, W > ?
  (new test starting in OCT)
• Letters of reference
• Statement of purpose

Competitive

• GPA > 3.5
• GRE > 2000 (old test)
  GRE: V > ?, Q > ?, W > ?
• Letters of reference
• Statement of purpose
• Undergraduate research experience
• Team project experience

* These are typical, actual requirements will vary by institution
THINGS TO DO NOW - Seniors

- **Study** for and take the GRE **this Fall**!
- Research schools appropriate for **your** interests
- Submit Graduate School applications
- Request letters of reference
- Research and **call** or **write** or **visit** a faculty you’re interested in working with
  - *Don’t ask for money!*
- Take a course for graduate credit next semester
- Be sure you graduate!
- Take a break, but start early
THINGS TO DO - Juniors

• **Study** for and take the GRE this Summer!

• Figure out what your interests are

• Research schools appropriate for these interests

• Apply for Summer Research Programs (e.g. REU or ORISE)

• Try to visit schools/faculty

• Keep your grades up!
CHOICE OF SCHOOL

**Big School**
+ Reputation
+ Facilities
+ Assistantships
+ May work in a team

− One of many
− Research predefined
− Limited interaction with advisor

**Small School**
+ Work closely with advisor
+ More opportunity for independent study and choosing topic

− Reputation for Research, Facilities and Assistantships
− May work alone
WHY UVM?

- You know the faculty and UVM
- Research based program
- Good chance for funding
- Get a head start on courses and research while an undergraduate
- Stay in VT!

Talk with the ECE faculty members in the area you are interested in!
WHY NOT UVM?

• Small department can’t cover all areas of expertise
• Ready for a change, get out of VT!

Talk with the ECE faculty members in the area you are interested in. Ask for school/faculty recommendations.
MORE INFO?

- GRE: www.gre.org
- Oak Ridge Institute for Science and Education (ORISE): www.orau.gov/orise.htm
- UVM Graduate Program: http://www.uvm.edu/~gradcoll/
- Recent NSF sponsored REU programs: www.nsf.gov/, search on “REU”
- Colleges?
  - US News: www.usnews.com
  - Carnegie Foundation: www.carnegiefoundation.org