Make a flying start on designing YOUR PhD pathway

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PhD Student Orientation
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JIMAGE many possible futures for YOU

Policy
Professional Societies
NGOs

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TAILORED graduate competencies to suit you

Create Knowledge
Teach Engineering
Demonstrate Engineering Skills

Synthesize Knowledge
Communicate Knowledge
Participate Actively in Professional Community

Think Critically and Reflectively
Apply Engineering Education Principles to the Solution of Instructional or Curricular Problems
Engage in Professional Development

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USE roadmap … but EXPLORE some back roads

Summative Assessment
Formative Assessment
Learning Activities

1. Admission
   - Committee Interview
   - Statement of Purpose
   - English Ability

2. Preliminary Assessment
   - Teaching Portfolio
   - CV + Transcript
   - T&L Statement
   - Evidence
   - Plans to meet Milestones

3. Preliminary Assessment
   - Teaching Portfolio
   - CV + Transcript
   - T&L Statement
   - Evidence
   - Plans to meet Milestones

4. Thesis Defense
   - Teaching Portfolio
   - CV + Transcript
   - T&L Statement
   - Evidence
   - Plans to meet Milestones

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UNDERSTAND the purpose of critical milestones

| Milestone | Description | Evidence | Date
|-----------|-------------|----------|------
| Admission | Committee Interview | CV + Transcript | 1st
| Preliminary | Teaching Portfolio | T&L Statement | 2nd
| Thesis Defense | Teaching Portfolio | Evidence | 3rd

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Radcliffe
ENSURE you create a firm foundation

- Engineering Education Fundamentals (13 credits minimum)
  - Seminar in Engineering Education (Fall; 1 cr.)
  - History and Philosophy of Engineering Education (Fall; 3 cr.)
  - Theories of Development and Engineering Thinking (Spring; 3 cr.)
  - Leadership, Policy and Change in STEM Education (Spring; 3 cr.)
  - Pedagogy, Content and Assessment (Spring; 3 cr.)
  - Research Seminar (Fall, Spring, 0 cr.)
- Other Engineering Specialty (9 credits minimum)
- Research Preparation (9 credits minimum)
  - Engineering Education Inquiry (Fall; 3 cr.)
  - Research methods elective 1
  - Statistics

BE STRATEGIC about the choices you make

- Engineering Education Specialization (6 credits minimum)
  - A variety of 1 and 3 credit course from ENE faculty
  - Wide choice of courses from across the university
- Advanced Research Methods Elective (3 credits)
  - Research methods elective 2

DON’T LIMIT your ideas about research scope

understanding knowledge construction & sharing and community membership processes in engineering contexts across all life and career stages in formal and informal learning environments

GET TO KNOW what other research is going on

LIVE the virtuous cycle of research & practice

DEVELOP attributes of success

- a strong sense of adventure;
- curiosity and an inquiring mind;
- being more comfortable with questions than answers;
- building arguments based on evidence;
- initiative, resourcefulness, persistence;
- tolerance of uncertainty and ambiguity;
- taking personal responsibility;
- holding self and others accountable.

in short …… a pioneering disposition
**PhD Orientation: School of Engineering Education**

**August 15, 2012**

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**BE a constructive, courteous, community member**

- benefit of the doubt

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**LEARN how things are done around here**

- take the initiative
- develop appropriate, informed expectations
- rely on authoritative information sources
- ask how and then go do it
- take responsibility
- don’t assume
- be respectful
- be patient
- learn as you go
- help others

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**KNOW where we came from**

- 1953: Freshman Engineering
- 1969: Interdisciplinary Engineering Program
- 2005: PhD in Engineering Education
- January, 2008: School of Engineering Education

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**LEARN about the College**

- 11 Schools
- 3 Divisions

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**SHARE our VISION**

*A more inclusive, socially connected and scholarly engineering education*

We envision engineers who, in collaboration with others, help communities globally to achieve their aspirations in creative yet responsible and sustainable ways. Their education is informed by sophisticated knowledge about how people learn to engineer, one that attracts and develops a diverse range of people and is suited to addressing complex socio-technical issues. This implies we radically re-think the boundaries of engineering and the purpose of engineering education.

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**BE PART OF our MISSION**

*Transforming engineering education based on scholarship and research*

- Re-imagine Engineering and Engineering Education
- Diversify engineering
- Embed creativity, innovation and social responsibility
- Enrich the student experience
- Create field-shaping Knowledge
- Empower Agents of Change
LEARN about our multifaceted school

- 21 Faculty (16 FTE) (11 female)
- 20 A/P Staff
- 4 Admin
- 4 Secretary
- 6 Post-Docs
- ~2500 FYE students
- ~80 Multidisciplinary Engineering Students
- 60 PhD students

BE AWARE of all of our programs

- First-Year Engineering Program
- B.S. Engineering Other Disciplines
- B.S. Multidisciplinary Engineering
- B.S. Interdisciplinary Engineering Studies
- B.S. Engineering Education (under consideration)

VISIT the ideas-to-innovation (i2i) learning lab

"We shape our buildings... after that our buildings shape us"
Sir Winston Churchill

LEARN about first-year engr. academic advising

EMBRACE the legacy of our innovative interdisciplinary engineering program

- Founded 1969 to recruit students interested in engineering
- Design your own program AND incubate new programs
- Interdisciplinary Engineering Studies: not ABET accredited
- Multidisciplinary Engineering: ABET accredited in 2008
- Over 1600 graduates in 40 years.