



The CSE Ph.D. program at the University of Michigan

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PhD Goals

1. Meaningfully extend the body of knowledge in Computer Science & Engineering via original research
2. Become the world's foremost expert in the narrow topic of your dissertation
3. Enter as a student; leave as a colleague

The big challenge: you are now working on problems whose answer nobody knows!

Timeline (w/o incoming MS)

- 1st year: Coursework/research – choose an adviser early
- 1st summer – research on campus
- 2nd year: light coursework and mostly research

- **Qualification:** Research presentation (a.k.a qualifying exam) + coursework (1.5~2 yrs)

- More research (2-3 years)

- **Proposal** – 60-80% of the work is done. You have a story for your thesis

- About 1 year later: **Defense**/thesis filing

Prelim Exam

- Must present original research project to faculty panel
 - 3 faculty selected by grad committee (who are not involved in the research)
 - Directed study report
 - ~40 minute presentation
 - ~40 minute Q&A
 - Deadline
 - Joined program w/o MS: 4 semesters
 - Already have an MS: 3 semesters

Choosing an advisor

- Earlier is better
- Explore interesting faculty at CSE
 - Visit faculty pages
 - Read their research papers/presentations
 - Work with them on graduate course projects
 - Make contact
- Work on a mutually interesting research topic
 - Professors typically cover broad areas under their research umbrella

Goals and advice

1. Hardware courses first – preliminary research experience
2. Start early on research – that's your critical path to graduation
3. Collaborate – with your personal goals in mind
4. YOUR Ph.D. – goal: advance the field in your area of expertise
5. Research direction – Flexible at start; focused towards the end
6. Constant progress (even if little) is essential

PhD Coursework

- Breadth Coursework
 - 3 courses in 3 different areas (HW, SW, Intel Sys, Theory)
 - B+ or better
- Depth Coursework
 - Any 2 courses on Depth list; at least 1 must be “starred”
 - A- or better
- Rackham Cognate (4 grad credits outside CSE)
- Some more credits, including some independent study

COURSEWORK IS NEVER THE CRITICAL PATH TO GRADUATION!

Who to talk to?

1. Academic Advisor

- Assigned when you arrive
- Initial point of contact for selecting courses

2. Research Advisor

- Selected by mutual consent within 1st year
- Guides directed study, dissertation research

3. Ashley Andreae/ Grad Program Committee Chair

- Administrative matters; confirming you are following rules
- Petitions, concerns, questions about degree program

QUESTIONS?