



# Practical Guides to Ph.D. Screening, Qual and Defense

*Eun Sok Kim*

Ming Hsieh Department of Electrical Engineering-  
Electrophysics

April 3, 2009

**Disclaimer: This file is meant *only* for a quick, qualitative overview of the Ph.D. exams, and is superseded by the official rules of the exams.**

# Three Major Exams for Ph.D. Degree



## ■ Screening Exam

- ◆ By far, the most difficult exam.
  - 50 – 70% (?) success rate.

## ■ Qualifying Exam (1.5 – 2 hours)

- ◆ Oral exam in front of a committee of five faculty members.
  - Supposed to be taken about a year after passing the screening exam.
  - Many end up taking a year before expected graduation.
- ◆ Two options: research proposal or literature survey.

## ■ Thesis Defense (1 – 2 hours)

- ◆ Oral presentation of Ph.D. thesis to 3 – 5 faculty members from the Qual Committee.
  - To be taken after drafting up thesis.
- ◆ Bring all the forms for signatures.

# Ph.D. Screening Exams



- [http://ee.usc.edu/students/graduate/phd\\_screening\\_info.htm](http://ee.usc.edu/students/graduate/phd_screening_info.htm)
- Two separate, distinct procedures for Electrophysics (EP) and Systems
  - ◆ You may go through *only* one of the two.
  - ◆ If your advisor is in EP, you must take the EP screening.
  - ◆ If your advisor is in Systems, you may petition to take the EP screening with your advisor's consent.
    - EP Screening Committee will decide on your petition.
- Purpose of Screening Exam
  - ◆ To weed out marginal Ph.D. candidates at early stage of their study.
  - ◆ To give the students opportunity to deepen their fundamental knowledge.
- So, use the Screening Exam to see whether you are indeed USCEE Ph.D. caliber and to solidify some key fundamentals in your mind.

# Electrophysics (EP) Screening Exam



- “Academic process that serves as an entrance exam” for Ph.D. candidacy.
- There are three parts:
  - ◆ GPA of 3.5 and higher on required core courses.
  - ◆ Commitment of academic support from an EP faculty member.
  - ◆ Meeting with Graduate Matriculation Committee as you begin Ph.D. study.
- Required core courses:
  - ◆ Four courses from the following
    - Two from EE536a (Analog Integrated Circuit), EE539 (Engineering Quantum Mechanics), and EE570a (Electromagnetics).
    - One from EE510, EE529, EE533a, EE540, EE570b, EE572a, EE597, and EE607, depending on your major area.
    - One from any of the previously listed courses or EE/MASC501, EE521, EE557, EE562a, EEE567, EE572b, and EE577a.
- According to my own experience, there is strong correlation between the GPA and the student’s Ph.D. caliber.
  - ◆ If your GPA is below 3.5, you will likely be better off, not pursuing Ph.D.



# Qualifying Exam (1.5 – 2 hours)

- Talk with your research advisor to see
  - ◆ whether you are ready to take the exam.
  - ◆ whether s/he has any insight on the committee members you have in mind.
- Contact potential committee members (five including at least one from non-EE departments)
  - ◆ to solicit their participation.
  - ◆ to get their available dates for a 30 min. pre-qual meeting and your qual.
- 30 min. pre-qual meeting is
  - ◆ to decide between research proposal and literature review.
  - ◆ to select your exam chair (who cannot be your research advisor) till the exam date, to whom you may address any question regarding the exam.
  - ◆ to decide on dates for the exam and your turning in hard copies of research proposal (or literature review) to the committee members.
- Qualifying exam is usually scheduled 4 weeks after the pre-qual meeting.
- When the exam date is set, contact Diane Demetras (if you are in Systems) or Jaimie Zelada (if you are in EP) for her/him to generate a form.

# Thesis Defense (1 – 2 hours)

- At the end of your qualifying exam,
  - ◆ the committee members will sign the form.
  - ◆ 3 – 5 of them (including the member from non-EE department) will volunteer to serve as your thesis committee members, if you have passed the qual.
- About a month before your thesis defense, start
  - ◆ contacting your thesis committee members to get their available dates.
  - ◆ acquiring all the forms (that need to be signed after your thesis defense) from the graduate division.
- About two weeks before your thesis defense,
  - ◆ deliver hard copies of your thesis to the committee members.
- To your thesis defense, take all the forms for signatures.
- At your thesis defense, enjoy to present the results of your hard work!