Application for the Ph.D. Screening Examination for Electrical and Computer Engineering

I request to take the Ph.D. Screening Examination during the Spring Quarter of 2020. I elect to take one major oral examination in my intended area of specialization and one minor area of examination, which I have indicated below by placing a cross [X] in the respective boxes. I agree to take the examinations on the designated dates and will not fail to attend once the exam schedule is finalized. If any emergency arises that may prevent me from participating, I will promptly notify the Graduate Student Office. I understand that failure to attend the exams without notification or due cause may prevent me from being permitted to continue in the Ph.D. program.

Last Name, First Name

Perm Number

ECE Box Number

E-mail Address

Student Signature

Date

(Graduate) Grade Point Average ______

(3.3 minimum required)

Advisor (PRINT ADVISOR’S NAME)

Areas of Examination: (Select one major which must be in the area of intended specialization and one minor.)

<table>
<thead>
<tr>
<th>Major Specialization Area</th>
<th>Minor Area</th>
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</thead>
<tbody>
<tr>
<td>Computer Engineering (PLEASE SEE BACK OF FORM)</td>
<td>______</td>
</tr>
<tr>
<td>Control Systems</td>
<td>______</td>
</tr>
<tr>
<td>Signal Processing</td>
<td>______</td>
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<tr>
<td>Communications</td>
<td>______</td>
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<tr>
<td>Electronics and Photonics (PLEASE SEE BACK OF FORM)</td>
<td>______</td>
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</tbody>
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Intended Area of Specialization (please circle one): CCSP CE EP

Are you taking the Screening Exam in lieu of Comps to earn your MS degree? ___ Yes ___ No

Is this your first ___ or second ___ attempt? If second, date of first attempt ______.

Return to the ECE Graduate Student Office by noon Friday, March 13, 2020
Trailer 697, Room 101
Ph.D. Screening Exam in Electronics and Photonics

- Check here if you are taking the screening exam for the second time.
- Check the level on which you intend to take the E&P examination:
  - Combined Major/Minor in E&P
  - Check five of the seven examination topics listed below with the following constraint: You must select at least one examination from each of the three areas A, B and C. The remaining two examinations may be chosen freely from the rest of the list.
  - Major – Only in E&P
  - STATE YOUR MINOR EXAM FIELD: ___________________________
  - Check three of the seven examination topics listed below with the following constraints: At least two of the four exams must be from areas A, B, C, and/or D; the third examination may be chosen freely from the rest of the list.
  - Minor – Only in E&P
  - STATE YOUR MAJOR EXAM FIELD: ___________________________
  - Check any two of the seven examination topics listed below.

Areas and Topics:

- Area A: Physics
  - A1: Quantum Mechanics
  - A2: Solid-State Physics

- Area B: Electromagnetic Fields and Waves
  - B1: General E&M Theory
  - B2: Guided Waves, and Radiation

- Area C: Devices
  - C1: Electronic Devices
  - C2: Photonic Devices

- Area D: Circuits
  - D1: High-Speed Analog Circuits
  - D2: Radio Frequency Communication Circuits and Systems

Ph.D. Screening Exam in Computer Engineering

- The CE exam will have nine areas for both major and minor students. The following is a list of these nine areas. To take only CE as a major and minor exam, choose five out of the eight areas. To take CE as a major exam, choose three of the eight areas below and take a minor outside of CE and Computer Science. To take CE as a minor exam only, choose 2 out of the eight areas below.
- Major – Only in CE
  - STATE YOUR MINOR EXAM FIELD: ___________________________
- Minor – Only in CE
  - STATE YOUR MAJOR EXAM FIELD: ___________________________

- 1. Digital Design Fundamentals
- 2. Computer Architecture
- 3. Data Structures
- 4. Compilers and Operating Systems
- 5. VLSI and CMOS Design
- 6. Design Methodologies and Automation
- 7. Hardware/Software Interface
- 8. Machine Learning