Doctor of Philosophy in Engineering and Applied Science (ECE)

A doctoral program in Engineering and Applied Science, administered through the College of Science and Engineering, is available to the students in the Department of Electrical and Computer Engineering.

The Department of Electrical and Computer Engineering offers the following concentration option:

- Electrical and Computer Engineering

Admission Requirements

In addition to the Graduate School Admission requirements, acceptance into the Electrical and Computer Engineering concentration requires the following:

Electrical and Computer Engineering Concentration

- Completed or in the process of completing a M.S. degree in engineering, applied science or equivalent field.
- A faculty advisor
- Although the GRE is not required, applicants with B.S. or M.S. degrees from other institutions besides ISU are recommended to supply GRE scores with their application for priority admission and GTA funding consideration.

Admission Requirements to Electrical and Computer Engineering Concentration for those without any M.S. Degree or any M.S. Degree Work.

In some special cases, a student with an exceptional undergraduate academic record and aptitude for research but not having started any M.S. degree may be directly admitted to the Ph.D. program. In order to be directly admitted to the Ph.D. program without having started any prior M.S. degree work, the student must fulfill one of the following:

- GRE Score (>60th percentile quantitative, >40th verbal, >3.0 analytical)
- >90 on TOEFL or >7.0 on IELTS
- Approval of the Department Chair of the student’s parent department.

Or

- Three ECE graduate faculty members in favor of admission
- Approval of the Department Chair of the student’s parent department.

Course Requirements

The Ph.D. Advisory Committee will guide the student in establishing his or her Program of Study based upon the student’s background and research interests to satisfy doctoral-level coursework. In addition, the committee will evaluate the level of the student’s preparation in his or her area of research as well as the background in his/her sub-disciplines needed to successfully complete courses toward a PhD.

A minimum of 9 credits per semester is required in order for a student to qualify as a full-time graduate teaching/research assistant (GTA/GRA).

Research Requirements

A substantial original research work is required to complete the doctoral studies. The dissertation must meet the following requirements:

- contain results of relevant and original research approved by the student’s Dissertation Committee, and formatted according to the guidelines of the Graduate School;
- demonstrate student’s mastery of the chosen research subject by designing and conducting research;
- demonstrate student’s creativity, critical thinking, and problem-solving skills;
- demonstrate student’s ability to investigate independently, and to discuss and articulate engineering and/or science problems to his/her peers; and
- contribute to the engineering profession and/or scientific knowledge.

Dissemination Requirement

One of the following is required at the time of Dissertation defense:

- At least one article is accepted for publication (with DOI) in a peer-reviewed journal.
- At least two articles submitted to a peer-reviewed journal.
- At least three articles contributed (or accepted) to national or international peer-reviewed conferences.