ELECTRICAL AND COMPUTER ENGINEERING, MASTER OF SCIENCE IN ENGINEERING

The department offers a comprehensive and flexible Master of Science in Engineering (M.S.E.) degree program that includes courses from several areas of Electrical and Computer Engineering. In addition, the following specialized M.S.E. focus areas are offered:

1. Artificial Intelligence and Data Science
2. Computational and Biomorphic Systems
3. Computational Systems Biology and Bioinformatics
4. Computer & Neuromorphic Engineering
5. Control Systems
6. Language and Speech Processing
7. Image Processing and Analysis
8. Integrated Circuits and Microsystems
9. Photonics and Optoelectronics
10. Signal Processing & Machine Learning

In addition, the department offers an official Concentration in Human Language Technology (https://www.clsp.jhu.edu/human-language-technology-masters/).

More information on these research areas and our current projects can be found at https://engineering.jhu.edu/ece/research/research-areas/.

Program Requirements

A student who has completed a program of study similar to that required for the B.S. in electrical engineering degree must complete the following requirements for the M.S.E. degree:

- Five courses must come from the full-time ECE department (520.XXX), and be 600 level or above. These courses may not include primarily research/independent study courses (e.g. 520.700, 520.800, 520.801, etc.), or seminar courses.
- Three additional courses must be level 600 (WSE) / 400 (KSAS) or above. One course may be a primarily research/independent study course (e.g. 520.800, 520.801, 520.806 etc.).
- One of the following three options must be selected:
  - Complete two additional one-semester graduate (400-799) courses approved by the advisor (one of which must come from the full-time ECE Department (520.XXX);
  - Write an M.S.E. thesis acceptable to a member of our faculty;
  - Complete a special project acceptable to a member of our faculty and writing the corresponding report.
- Successful completion twice of the ECE seminar course (520.895).
- A course (including independent study) is satisfactorily completed if a grade of A, B, C, or P is obtained. No more than one C grade can be counted toward the requirements and a D or F or second C grade results in probation. A second D or F or a third C grade results in termination from our program.
- Students may transfer in up to two courses from outside JHU. These courses must have been completed after the undergraduate degree was conferred, not applied to a degree elsewhere, and must be approved in advance by the department.
- Every graduate course designated Independent Study, Dissertation Research, or Special Studies counted toward the M.S.E. degree must include a written report. A copy of the report will become part of the student’s permanent file.
- Every student must register for a minimum of two semesters as a full-time resident graduate student (this rule does not apply to students in the concurrent B.S./M.S.E. program). Full-time resident M.S.E. students must be enrolled in at least 9 credits to maintain fulltime status (in fall/spring semesters).
- Every student must be registered in the semester that degree requirements are met; this includes students who have no courses remaining in which to enroll but must resolve coursework for which an “Incomplete” grade was assigned and those who must complete other academic requirements, such as a language or computing requirement (these students may apply for Nonresident Status).
- Every student must earn the M.S.E. degree within five consecutive academic years (ten semesters). Only semesters during which a student has a university-approved leave of absence are exempt from the ten semester limit; otherwise, all semesters from the beginning of the student’s graduate studies — whether the student is resident or not — count toward the ten semester limit.
- Every student must complete training on academic ethics.
- Every student must complete Responsible Conduct of Research. (Please see the WSE Policy on the Responsible Conduct of Research).