

# ELECTRICAL ENGINEERING (CAPITAL)

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## Degree Requirements

### Master of Engineering (M.Eng.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

A total of 30 credits is required for a Master of Engineering degree, of which at least 21 must be taken through Penn State Harrisburg engineering graduate programs. Up to 9 credits of graduate work may be transferred from other institutions provided (a) credits are suitable for the particular engineering discipline, and (b) students have earned a grade of B or better, subject to restrictions outlined in GCAC-309 Transfer Credit (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/transfer-credit/>). At least 18 credits must be at the 500 level, which includes 3 credits of EE 594.

Students enrolled in the program for the Master of Engineering degree in Electrical Engineering must earn 9 credits in the required core courses (i.e., courses with the EE prefix).

Students must write a scholarly paper and present it before two faculty members. The paper, completed in EE 594, is intended to be a relatively short document that includes a relevant literature review on a selected research topic identified by the adviser and to be prepared in a prescribed format (e.g. as papers in IEEE Transactions).

Students must have a 3.00 grade-point average in both prescribed and supporting courses approved by the program to graduate. Students pursue the program on a part-time basis. A student may complete the program within two years, based on completion of two courses a semester.

### Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

All graduate students in Electrical Engineering are required to adhere to the requirements of the Graduate Council. The requirements of the Graduate Council, however, are minimum requirements and the policies, procedures, and regulations listed below are additional and more specific for graduate students pursuing the M.S. in Electrical Engineering degree at Penn State Harrisburg. Advisers will call pertinent regulations to the attention of their advisees, but it should be understood that it is the student's personal responsibility to see that all requirements are satisfied.

The MSEE program at Penn State Harrisburg is structured into two areas of concentration to fully take advantage of the specialty areas represented in the EENG Graduate Faculty. The areas are Electronics-Electromagnetics-Optics (EEO) and Systems.

The program requires 31 credits, including:

- 24 course credits with at least 15 credits at the 500 level,
- one colloquium credit,
- and 6 thesis credits (600-level).

All students are required to take a 500-level analysis course (EMCH 524A) in addition to prescribed courses in one of the two concentration areas. The prescribed courses are intended to establish the fundamentals of the technical areas. To incorporate some breadth into the program, students are required to take at least one course in the second concentration area. A maximum of three 400-level courses (9 credits) may be taken for the MSEE degree.

Original research, usually requiring at least two semesters of work (nominal 6 credits), is expected for a thesis. Students must write and submit a thesis. The thesis work should be an in-depth investigation intended to extend the state of knowledge in some specialty area. The thesis committee consists of three Graduate Faculty members, including the thesis adviser. For thesis guidelines and timelines, students are referred to the Penn State Graduate School web site (<http://gradschool.psu.edu/current-students/etd/>).

The EENG program has established a six-year time limit for completion of the M.S. degree. Any extension beyond six years requires the approval of the EENG program Graduate Faculty.

The student must maintain a minimum grade point average (GPA) of 3.00 or better on a 4.00 scale in 500- and 400-level courses listed on his/her Plan of Study.

Penn State Harrisburg's MSEE program is distinct and independent of the MSEE program offered at the University Park campus.