Master of Engineering in Electrical Engineering

The Master of Engineering degree with a major in Electrical Engineering offers an education in the advanced aspects of electrical engineering with the following areas of concentration:

- Control systems and robotics
- Power systems, energy conversion, and smart grids
- Communication systems, signal processing, and signal integrity
- RF/microwave, high frequency electronics, and electromagnetics
- Electronics, and electrical circuits and instrumentation
- System engineering and computer engineering

In addition, because of the program faculty’s relationship with the nearby Penn State College of Medicine (Penn State Hershey), there is the potential for research in medical imaging, magnetic resonance imaging (MRI), and biomedical instrumentation.

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The Master of Engineering Paper: A candidate for the degree in Electrical Engineering must earn 12 credits in the required prescribed core courses (i.e., courses with the E E prefix).

A total of 33 credits is required for a Master of Engineering degree, of which at least 24 must be taken through Penn State Harrisburg engineering graduate programs. At least 18 credits must be at the 500 level, which includes 3 credits of ENGR 594.

Generally, students enrolled in the program for the Master of Engineering degree in Electrical Engineering must earn 12 credits in the required prescribed core courses (i.e., courses with the E E prefix).

As soon as possible after admission, students should develop a tentative plan of study including all courses that are deemed desirable before completion of the program. This plan will be prepared with the help of an adviser and may include specific courses necessary to remove any background deficiencies.

The engineering paper may be initiated by taking the 1-credit ENGR 594 (Master’s Paper Research) course. This should be done approximately halfway through the program. After the proposal is approved and the work is well under way, the student should register for ENGR 594 with his/her paper adviser. Work will proceed as planned under the direction of the paper adviser, though changes may be made with the consent of the master’s paper committee.

Those applying for admission as a master of engineering candidate without an electrical engineering degree may be admitted with the stipulation that deficiencies in background, if any, will be remedied early in the program and that these courses will be in addition to the required number of credits for the degree.

The prerequisite courses for students who have not earned a bachelor’s degree in electrical engineering are: Calculus I, Calculus II, Control System Design, Differential Equations, Physics I, Physics II, Physics III, Chemistry, Statics, Computer Programming, Dynamics, Electrical Circuits I, Electrical Circuits II, Thermodynamics, and Electronic Circuits.

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The Master of Engineering Paper: A candidate for the degree must write a scholarly report or engineering paper and defend it before three faculty members. The paper is intended to be a relatively short document compared with a thesis. A published paper may be used to meet this requirement. The paper should be written according to the standards set for an IEEE publication.

The engineering paper may be initiated by taking the 1-credit ENGR 594 (Master’s Paper Research) course. This should be done approximately halfway through the program. After the proposal is approved and the work is well under way, the student should register for ENGR 594 with his/her paper adviser. Work will proceed as planned under the direction of the paper adviser, though changes may be made with the consent of the master’s paper committee.

Visit https://goo.gl/GnR1TG for complete details.