

# ELECTRICAL ENGINEERING (CAPITAL)

## Integrated Undergrad-Grad Programs

### Integrated B.S. in Electrical Engineering and M.S. in Electrical Engineering

This Integrated Undergraduate/Graduate (IUG) degree program combines the B.S. in Electrical Engineering with the M.A. in Electrical Engineering offered at the following campuses:

#### Undergraduate Degree

- Harrisburg

#### Graduate Degree

- Harrisburg

Requirements listed here are in addition to requirements listed in GCAC-210 Integrated Undergraduate-Graduate (IUG) Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-210-integrated-undergraduate-graduate-degree-programs/>).

The Electrical Engineering program offers a limited number of academically superior Bachelor of Science candidates the opportunity to enroll in an integrated, continuous program of study leading to both the Bachelor of Science and the Master of Science in Electrical Engineering. The ability to coordinate as well as concurrently pursue the two degree programs enables students to earn the two degrees in five years.

Students in the IUG program must satisfy the degree requirements for both Bachelor of Science and Master of Science degrees. However, the total course load is reduced due to the maximum of 12 credits that can count towards both degrees. A minimum of 7 credits proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted. The fourth year of the IUG program differs from the fourth year of the Bachelor of Science program due to the courses that count toward the Master of Science Degree requirements.

Student performance will be monitored on an on-going basis. In addition, a formal evaluation of student's academic performance will be conducted at the end of the first semester of the senior year for a typical student in the program. Students who have not maintained a 3.4 GPA in their Math and Electrical Engineering courses will be put on probationary status with respect to the IUG program. Their ability to continue in the IUG program will be based on academic performance in the last semester of their senior year. As part of the review in the senior year, students will be advised about the thesis requirement in the graduate program.

If for any reason a student admitted to the IUG program is unable to complete the requirements for the Master of Science degree, the student will be permitted to receive the Bachelor of Science degree assuming all the undergraduate degree requirements have been satisfactorily completed. If students successfully complete courses listed in the recommended schedule, they will satisfy the requirements for the Bachelor of Science degree by the end of their fourth year.

### Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

Students must apply to the program via the Graduate School application for admission (<http://www.gradschool.psu.edu/prospective-students/how-to-apply/>), and must meet all the admission requirements of the Graduate School and the Electrical Engineering graduate program for the Master of Science degree, listed in the Admission Requirements section.

Students must submit:

- an official transcript
- three letters of professional recommendation from individuals who can evaluate the applicant's potential
- a personal statement of technical interest and goals

A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the Integrated Undergraduate-Graduate (IUG) degree program. In order to apply for this IUG program, students must have completed entrance to the undergraduate major and a minimum of 81 credits; therefore a typical student would apply after completing the fifth semester and before the end of the sixth semester. Students must be admitted no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree. Transfer students must have completed at least 15 credits at Penn State to enroll in an IUG. For consideration for acceptance into the program, students must have cumulative grade point average (GPA) of 3.4 or better and collective GPA of 3.4 or better in the following courses:

Code	Title	Credits
CMPEN 271	Introduction to Digital Systems	3
CMPEN 275	Digital Design Laboratory	1
EE 315	Electrical Signals and Circuits with Lab (or equivalent)	5
EE 341	Semiconductor Device Principles	3
CMPEH 472	Microprocessors	4
And all the designated MATH, PHYS, and CMPSC courses		

Applications will be evaluated based on students' overall academic performance, in addition to the above requirements. In all cases, admission to the program will be at the discretion of the Graduate Admissions Committee of the Electrical Engineering program.

### Degree Requirements

Students must fulfill all degree requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the Bachelor of Science in Electrical Engineering are listed in the Undergraduate Bulletin (<http://bulletins.psu.edu/undergraduate/>). Degree requirements for the Master of Science in Electrical Engineering degree are listed on the Degree Requirements tab. Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count solely towards the graduate degree. Students are expected to complete the undergraduate degree requirements within the typical time to degree for the undergraduate major. In the semester in which the undergraduate degree requirements will be completed, IUG students must

apply to graduate, and the undergraduate degree should be conferred at the next appropriate Commencement.

Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted courses must be at the 500 or 800 level. Independent study courses and credits associated with the culminating experience for the graduate degree cannot be double-counted.

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's Graduate Faculty.

Students 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 their Plan of Study.