Master of Science in Electrical Engineering (MSEE)

Either a thesis option or a course option may be selected. The special requirements for these options are as follows:

**Course Option**

The Master of Science in Electrical Engineering is an academic master's degree designed mainly for both full-time and part-time students interested in proceeding to the departmental full-time doctoral program and/or an industrial career. Under the course option, students may not take ESE 599 Master's Research. With faculty permission, they may take up to 3 units of graduate-level independent study.

**Thesis Option**

This option is intended for those pursuing full-time study and engaged in research projects. Candidates for this degree must complete a minimum of 24 unit hours of course instruction and 6 units hours of thesis research (ESE 599 [link](https://ese.wustl.edu/graduate/degreeprograms/Pages/ms-electrical-engineering.aspx)). 3 of these unit hours of thesis research may be applied toward the 15 core electrical engineering unit hours required for the MSEE program. Any of these 6 hours of thesis research may be applied as electives for the MSEE, MSSSM, MSDAS, MCEng and MEngR programs. The student must write a master's thesis and defend it in an oral examination.

**Degree Requirements**

Students pursuing the degree Master of Science in Electrical Engineering (MSEE) must complete a minimum of 30 unit hours of study consistent with the residency and other applicable requirements of Washington University and the McKelvey School of Engineering and subject to the following departmental requirements:

- A minimum of 15 of these unit hours must be selected from the following list of core electrical engineering subjects taught by the Department of Electrical & Systems Engineering (ESE):
  - ESE 415 Optimization
  - ESE 513 Convex Optimization and Duality Theory
  - ESE 516 Optimization in Function Space
  - ESE 519 Convex Optimization
  - ESE 520-529 Applied probability category
  - ESE 530-539 Applied physics and electronics category
  - ESE 540-549 Control category
  - ESE 550-559 Systems category
  - ESE 560-569 Computer engineering category
  - ESE 570-579 Communications category
  - ESE 580-589 Signal and image processing category
  - ESE 599 Master's Research (thesis option only, max 3 units)

- The remaining courses in the program may be selected from senior or graduate-level courses in ESE or elsewhere in the university that are approved by the department. Please consult the ESE departmental website ([link](https://ese.wustl.edu/graduate/degreeprograms/Pages/ms-electrical-engineering.aspx)) for a list of allowable electives.

- At least 15 units of the 30 total units applied toward the MSEE degree must be in ESE courses which, if cross-listed, have ESE as the home department.

- A maximum of 6 credits may be transferred from another institution and applied toward the master's degree. Regardless of the subject or level, all transfer courses are treated as electives and do not count toward the core requirements for the degree.

- ESE 590 Electrical & Systems Engineering Graduate Seminar must be taken by full-time graduate students each semester. Master's students must attend at least three seminars per semester.

- The degree program must be consistent with the residency and other applicable requirements of Washington University and the McKelvey School of Engineering.

- Students must obtain a cumulative grade-point average of at least 3.2 out of a possible 4.0 overall for courses applied toward the degree. Courses that apply for the degree must be taken with the credit/letter grade option.