Master of Control Engineering (MCEng)

Master of Control Engineering

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 Control 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 unit hours of thesis research (ESE 599 [http://bulletin.wustl.edu/search/?P=E35%20ESE%20599]); 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 the 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

The Master of Control Engineering (MCEng) degree is a terminal professional degree designed for students interested in an industrial career.

• Required courses (15 units) for the MCEng degree include the following:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ESE 441</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ESE 543</td>
<td>Control Systems Design by State Space Methods</td>
<td>3</td>
</tr>
<tr>
<td>ESE 520</td>
<td>Probability and Stochastic Processes</td>
<td>3</td>
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and at least two of the following five courses:

ESE 415 Optimization
or ESE 425 Random Processes and Kalman Filtering
or ESE 552 Linear Dynamic Systems II
or ESE 553 Nonlinear Dynamic Systems
or ESE 547 Robust and Adaptive Control

• 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 [https://ese.wustl.edu/graduate/degreeprograms/Pages/master-control-engineering.aspx] for a list of allowable electives.

• A maximum of 6 units may be transferred from another school as electives, provided that the courses were not needed for the student's bachelor's degree.

• ESE 590 Electrical & Systems Engineering Graduate Seminar must be taken each 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 a 3.2 out of a possible 4.0 overall for courses applied toward the degree. Courses that apply toward the degree must be taken with the credit/letter grade option.