MASTER OF SCIENCE IN THE FIELD OF TELECOMMUNICATIONS ENGINEERING

The master of science in telecommunications engineering, which is offered by the department of electrical and computer engineering, is designed to help students understand and apply the fundamentals of telecommunications engineering, including topics such as computer networking, network architectures and protocols, and telecommunications security. In addition, students have the option to take courses on optical networking, wireless networking, and big data and cloud computing.

More information is available on the departmental website (https://www.ece.seas.gwu.edu/master-science-telecommunications-engineering/).

REQUIREMENTS

The following requirements must be fulfilled:

30 credits are required for the degree. Non-thesis and thesis options are available. For the thesis option, 6 of these credits are taken in ECE 6998 and ECE 6999.

Colloquium requirement: In addition to required coursework, students must attend five non-credit bearing colloquia as part of their program of study. Each colloquium attended is verified by a faculty member also in attendance. After attending five colloquia, the student must submit to the department prior to applying for graduation a colloquium attendance form signed by the faculty advisor.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Required</strong></td>
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<tr>
<td>ECE 6035</td>
<td>Introduction to Computer Networks</td>
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<tr>
<td>ECE 6550</td>
<td>Network Architectures and Protocols</td>
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<tr>
<td>ECE 6565</td>
<td>Telecommunications Security</td>
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<tr>
<td>ECE 6575</td>
<td>Optical Communication Networks</td>
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<tr>
<td>ECE 6580</td>
<td>Wireless Networks</td>
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<td>Two of the following:</td>
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<tr>
<td>ECE 6005</td>
<td>Computer Architecture and Design</td>
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<td>ECE 6015</td>
<td>Stochastic Processes in Engineering</td>
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<tr>
<td>ECE 6130</td>
<td>Big Data and Cloud Computing</td>
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<tr>
<td>ECE 6560</td>
<td>Network Performance Analysis</td>
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<td><strong>Required for thesis option</strong></td>
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<tr>
<td>ECE 6570</td>
<td>Telecommunications Security Protocols</td>
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<tr>
<td>ECE 6998</td>
<td>Thesis Research</td>
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<td>ECE 6999</td>
<td>Thesis Research</td>
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<tr>
<td><strong>Electives</strong></td>
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Non-thesis option—9 credits in elective courses; thesis option—3 credits in elective courses.

*Normally, no more than two courses taken outside the Department of Electrical and Computer Engineering may be counted toward the requirements for the degree. Courses taken outside the department must have prior approval from the student’s faculty advisor. In addition, no more than three 3000- or 4000-level ECE courses that have been approved for graduate credit may be counted toward the requirements for the degree.

Educational Planner

In consultation with an academic advisor, each student must develop an Educational Planner through DegreeMAP that governs the student’s plan of study. The Educational Planner should be established soon after matriculation and must be completed before the end of the student’s first semester. The Educational Planner must be approved by the advisor.

Additional program requirements can be found on the Department of Electrical and Computer Engineering Master’s Degree requirements (https://www.ece.seas.gwu.edu/graduate-programs/) webpage.