### Freshman Year:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Course</th>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 111</td>
<td>Introduction to Engineering I</td>
<td>3</td>
<td>ECE 112</td>
<td>Introduction to Engineering II</td>
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<tr>
<td>ECE 118</td>
<td>Introduction To Programming</td>
<td>3</td>
<td>ECE 218</td>
<td>Data Structures</td>
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<tr>
<td>ENG 105</td>
<td>English Composition I</td>
<td>3</td>
<td>ENG 107</td>
<td>Writing About Science</td>
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<tr>
<td>MTH 151</td>
<td>Calculus I for Engineers</td>
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<td>MTH 162</td>
<td>Calculus II</td>
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<td>PHY 205</td>
<td>University Physics I</td>
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### Sophomore Year:

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<th>Units</th>
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<tbody>
<tr>
<td>ECE 211</td>
<td>Logic Design</td>
<td>3</td>
<td>ECE 201</td>
<td>Electrical Circuit Theory</td>
<td>3</td>
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<tr>
<td>ECE 318</td>
<td>Algorithms</td>
<td>3</td>
<td>ECE 212</td>
<td>Processors: Hardware, Software and Interfacing</td>
<td>3</td>
</tr>
<tr>
<td>MTH 210</td>
<td>Introduction to Linear Algebra</td>
<td>3</td>
<td>ECE 315</td>
<td>Digital Design Laboratory</td>
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<tr>
<td>PHY 206 or PHY 207</td>
<td>University Physics II or University Physics III</td>
<td>3</td>
<td>IEN/ECE 310</td>
<td>Engineering Probability</td>
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<tr>
<td>PHY 208 or PHY 209</td>
<td>University Physics Lab II or University Physics Lab III</td>
<td>1</td>
<td>MTH 309</td>
<td>Discrete Mathematics</td>
<td>3</td>
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<td></td>
<td>Humanities and Arts Cognate</td>
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<td>People and Society Cognate</td>
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### Junior Year:

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<tbody>
<tr>
<td>ECE 202</td>
<td>Electronics I</td>
<td>3</td>
<td>ECE 206</td>
<td>Circuits, Signals and Systems</td>
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<td>ECE 203</td>
<td>Electrical Circuits Laboratory</td>
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<td>ECE 302</td>
<td>Electronics II</td>
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<td>ECE 316</td>
<td>Structured Digital Design</td>
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<td>ECE 454</td>
<td>Digital Systems Design and Testing</td>
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<td>MTH 311</td>
<td>Ordinary Differential Equations</td>
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<td>ECE 455</td>
<td>Design for Testability Lab</td>
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<td>Basic Science Elective</td>
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<td>ECE 467</td>
<td>Database Design and Management</td>
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<td>Basic Science Elective Lab</td>
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<td>Basic Science Elective</td>
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### Senior Year:

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<tbody>
<tr>
<td>ECE 303</td>
<td>Electronics Laboratory</td>
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<td>ECE 421</td>
<td>Computer Operating Systems</td>
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<tr>
<td>ECE 322</td>
<td>Systems Programming</td>
<td>3</td>
<td>ECE 482</td>
<td>Senior Project II</td>
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<tr>
<td>ECE 414</td>
<td>Computer Organization &amp; Design</td>
<td>3</td>
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<td>Computer Engineering Technical Elective</td>
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<tr>
<td>ECE 417</td>
<td>Embedded Microprocessors System Design</td>
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<td>Computer Engineering Technical Elective</td>
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<tr>
<td>ECE 481</td>
<td>Senior Project I</td>
<td>1</td>
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<td>Computer Engineering Technical Elective</td>
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<td>People and Society Cognate</td>
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1 Students must complete a minimum of 1 PS cognate and 1 HA cognate, to be selected from the list of available cognates. See description of electives under the Department Electives in the UM Bulletin.

3 Offered only in the Fall Semester.

All ECE courses which are prerequisites for subsequent ECE courses require a grade of C- or better.

All ECE courses at the 300 level or above must be taken at UM.