The Associate in Science in Engineering offered by Ohlone College is designed to prepare students for studying engineering at most universities. The core courses required in the Associate in Science in Engineering will fulfill the lower division requirements for most campuses of the UC and CSU systems. This program will enable students to develop a strong foundation in engineering, physics, and mathematics. Furthermore, the theoretical knowledge and laboratory skills acquired by students in this program will also enhance their success with obtaining entry-level jobs that require two years of college-level science and math.

Since some curriculum requirements may vary among transfer universities, it is imperative that students entering Ohlone’s Associate in Science degree program in Engineering meet with a counselor at the start of their academic work. Counselors will assist students in preparing a Student Education Plan that will prepare them to transfer to the university of their choice. Counselors will also advise students on the general education plan that best prepares them for future transfer.

Requirements for Associate in Science Degree:

a) Complete the Major Field courses with a grade of C or better.

b) Complete Plan A, B, or C General Education requirements. These requirements are specified in the Ohlone College catalog.

c) Complete at least 60 degree-applicable units with a 2.0 grade point average.

d) Complete at least 12 units at Ohlone College.

e) Complete at least 50% of the Major Field courses at Ohlone College.

f) Complete ENGI-120, ENGI-130, and ENGI-140 at Ohlone College.

Student Learning Outcomes

1. Employ general principles, theories, concepts, and/or formulas in the solution of problems.

2. Conduct engineering lab projects, use laboratory materials properly and safely, carefully note results in an engineering project report, and describe the results clearly for others.

3. Participate effectively as team members in group projects: working cooperatively with others, accepting diverse views, encouraging active participation of others, dealing productively with conflict, and taking leadership roles as the need arises to accomplish the group’s objective.

4. Demonstrate the ability to use modern engineering tools necessary for engineering practice.

5. Demonstrate an understanding of the engineering profession.
### MAJOR FIELD

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-116</td>
<td>Object-Oriented Programming Using C++</td>
<td>4</td>
</tr>
<tr>
<td>ENGI-101</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MATH-101A</td>
<td>Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>MATH-101B</td>
<td>Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>MATH-101C</td>
<td>Calculus with Analytic Geometry</td>
<td>5</td>
</tr>
<tr>
<td>MATH-104</td>
<td>Differential Equations</td>
<td>5</td>
</tr>
<tr>
<td>PHYS-140</td>
<td>Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-141</td>
<td>Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS-142</td>
<td>Optics, Heat, and Modern Physics</td>
<td>4</td>
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</table>

Select two of the following Engineering courses: 7-8

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ENGI-120</td>
<td>Engineering Mechanics - Statics</td>
<td>3</td>
</tr>
<tr>
<td>ENGI-130</td>
<td>Electric Circuit Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ENGI-140</td>
<td>Materials Engineering</td>
<td>4</td>
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Total Required Units: 46-47

### RECOMMENDED COURSES

The following courses are recommended because they are required in the lower division of some baccalaureate-granting universities:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM-101A</td>
<td>General Chemistry</td>
<td>(5)</td>
</tr>
<tr>
<td>CHEM-101B</td>
<td>General Chemistry</td>
<td>(5)</td>
</tr>
<tr>
<td>ENGI-115</td>
<td>Engineering Graphics and Design</td>
<td>(4)</td>
</tr>
<tr>
<td>MATH-103</td>
<td>Introduction to Linear Algebra</td>
<td>(3)</td>
</tr>
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</table>