

## Syllabus

There are sixteen units in ESG's **8.02 - Independent Study** sequence. All sixteen units must be passed in order to complete the subject.

<b>Unit 1</b>	<b>Electrostatics</b>
<b>Unit 2</b>	<b>Gauss' Law</b>
<b>Unit 3</b>	<b>Electric Potential</b>
<b>Unit 4</b>	<b>Work and Energy</b>
<b>Unit 5</b>	<b>Conductors</b>
<b>Unit 6</b>	<b>Capacitance and Dielectrics</b>
<b>Unit 7</b>	<b>Current and Resistance</b>
<b>Unit 8</b>	<b>Electromotive Force and Circuits</b>
<b>Unit 9</b>	<b>The Magnetic Field</b>
<b>Unit 10</b>	<b>Ampère's Law</b>
<b>Unit 11</b>	<b>Faraday's Law</b>
<b>Unit 12</b>	<b>Inductance</b>
<b>Unit 13</b>	<b>Magnetic Properties of Matter</b>
<b>Unit 14</b>	<b>AC Circuits</b>
<b>Unit 15</b>	<b>Maxwell's Equations</b>
<b>Unit 16</b>	<b>Electromagnetic Waves and Light</b>

Each of the sixteen units has a study guide with suggested readings and problems from one of several texts (see the **Introduction** for details on which texts are currently in use for **8.02IS**). Units are passed by satisfactory completion of a unit test. These tests are primarily written, but may involve oral explanation of simple E&M phenomena.