**Course Objectives and Outcomes**

**Objective.** Students to understand the scope of environmental engineering.
**Outcome.** How well did this course increase your ability to understand and/or do the following?

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<tbody>
<tr>
<td>1</td>
<td>Hazardous waste management</td>
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<tr>
<td>2</td>
<td>Biodegradation of environmental pollutants</td>
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<tr>
<td>3</td>
<td>Groundwater problems</td>
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<td>4</td>
<td>Waste minimization</td>
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<td>5</td>
<td>Energy resources</td>
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<tr>
<td>6</td>
<td>Air pollution control</td>
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<td>7</td>
<td>Environmental Sciences—chemistry, physics, mathematics, microbiology, ecology, geology, etc.</td>
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<td>8</td>
<td>Related engineering—fluid mechanics, mechanical engineering, power engineering, water resource energy, etc.</td>
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<tr>
<td>9</td>
<td>Borderline disciplines—environmental law, environmental health, environmental epidemiology, public policy, etc.</td>
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</table>

**Objective.** Students will become familiar with the job and role of an environmental engineer.
**Outcome.** How well did this course increase your ability to understand and/or do the following?

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<tbody>
<tr>
<td>10</td>
<td>Government—city, county, state, and federal</td>
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<tr>
<td>11</td>
<td>Industrial and Consulting—oil and gas, mining, petrochemical, heavy industry, food processing, textiles, high tech, etc.</td>
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<tr>
<td>12</td>
<td>Academic—university, research institutes, professional societies</td>
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**Objective.** To learn the pressing problems and development in environmental engineering.
**Outcome.** How well did this course increase your ability to understand and/or do the following?

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<tbody>
<tr>
<td>13</td>
<td>Air quality and pollution control</td>
</tr>
<tr>
<td>14</td>
<td>Energy sources</td>
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<tr>
<td>15</td>
<td>Biodegradation and waste minimization</td>
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<tr>
<td>16</td>
<td>Natural waste systems</td>
</tr>
<tr>
<td>17</td>
<td>Remediation and soil pollution</td>
</tr>
<tr>
<td>18</td>
<td>Biological treatment processes</td>
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</tbody>
</table>

**Relationship of the Environmental Engineering Program Course Objectives to Outcomes**

**Objective.** The Civil Engineering program is designed to teach beyond the technical content of the curriculum and prepare the students to utilize what they learn in a professional setting. Engineering projects and research activities enlist skills and demonstrate ability to understand the subject matter and communicate in a proficient manner. This course contributes to the overall program goals in the following ways.

**Outcome.** How well did this course increase your ability to understand and/or do the following?

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<tbody>
<tr>
<td>(a)</td>
<td>an ability to apply knowledge of mathematics, science, and engineering</td>
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<tr>
<td>(b)</td>
<td>an ability to design and conduct experiments, as well as to analyze and interpret data</td>
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<tr>
<td>(e)</td>
<td>an ability to identify, formulate, and solve engineering problems</td>
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<tr>
<td>(g)</td>
<td>an ability to communicate effectively</td>
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<tr>
<td>(h)</td>
<td>the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context</td>
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<tr>
<td>(i)</td>
<td>a recognition of the need for, and an ability to engage in life-long learning</td>
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<tr>
<td>(j)</td>
<td>a knowledge of contemporary issues</td>
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</tbody>
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