CHEMICAL ENGINEERING MAJOR: ENVIRONMENTAL ENGINEERING OPTION (B.S.)

https://ceps.unh.edu/chemical-engineering/environmental-engineering-option

Description

The chemical engineering program, with its substantial requirements in chemistry, fluid dynamics, heat transfer, mass transfer, unit operations, and reaction kinetics, provides students with a unique preparation to deal with many aspects of environmental pollution problems. The option gives students a special focus on the application of chemical engineering principles and processes to the solution of problems relating to air pollution, water pollution, and the disposal of solid and hazardous waste. Three required courses must be selected, plus two electives from the electives list. Each course must carry a minimum of three credits. Students interested in the environmental engineering option should declare their intention to the department faculty during the sophomore year. They may consult with Russell Carr, (603) 862-1429.

Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 400</td>
<td>Chemical Engineering Lectures</td>
<td>1</td>
</tr>
<tr>
<td>CHE 501</td>
<td>Introduction to Chemical Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 502</td>
<td>Introduction to Chemical Engineering II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 601</td>
<td>Fluid Mechanics and Unit Operations</td>
<td>3</td>
</tr>
<tr>
<td>CHE 602</td>
<td>Heat Transfer and Unit Operations</td>
<td>3</td>
</tr>
<tr>
<td>CHE 603</td>
<td>Applied Mathematics for Chemical Engineers</td>
<td>4</td>
</tr>
<tr>
<td>CHE 604</td>
<td>Chemical Engineering Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 612</td>
<td>Chemical Engineering Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 614</td>
<td>Separation Processes</td>
<td>3</td>
</tr>
<tr>
<td>CHE 703</td>
<td>Mass Transfer and Stagewise Operations</td>
<td>3</td>
</tr>
<tr>
<td>CHE 707</td>
<td>Chemical Engineering Kinetics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 708</td>
<td>Chemical Engineering Design</td>
<td>4</td>
</tr>
<tr>
<td>CHE 713</td>
<td>Chemical Engineering Laboratory II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 752</td>
<td>Process Dynamics and Control</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 405</td>
<td>Chemical Principles for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 683</td>
<td>Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 684</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 685</td>
<td>Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 686</td>
<td>Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 651</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 653</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 652A</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 425</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 426</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 527</td>
<td>Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 644</td>
<td>Statistics for Engineers and Scientists</td>
<td>4</td>
</tr>
</tbody>
</table>

Elective Courses

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 695</td>
<td>Chemical Engineering Project</td>
</tr>
<tr>
<td>CHE 696</td>
<td>Independent Study</td>
</tr>
<tr>
<td>CHE 744</td>
<td>Corrosion</td>
</tr>
<tr>
<td>CEE 724</td>
<td>Environmental Engineering Microbiology</td>
</tr>
<tr>
<td>CEE 723</td>
<td>Environmental Water Chemistry</td>
</tr>
</tbody>
</table>

Total Credits: 103-104