Chemical engineering emerged over a century ago when engineering professionals were needed to design and implement processes for large, commercial scale chemical production. Modern chemical engineering combines knowledge of chemistry and molecular interactions with the discipline of engineering to address problems at both the small scale (designing nanodevices, for example) and the large scale (bringing chemistry out of the lab to the full scale production of items that we use every day). Chemical engineers invent new processes, improve existing ones and design and operate plants and equipment to transform raw feed stocks into useful products across a wide range of industries including agricultural and food-based products, consumer products, fine chemicals, fuels and petrochemicals, pharmaceuticals, plastics and electronic materials.

### Freshman Year

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGR 101 - ENGINEERING EXPLORATION I - <strong>1</strong></td>
<td>EGR 103 - ENGINEERING EXPLORATION II - <strong>2</strong></td>
</tr>
<tr>
<td>EGR 102 - FUNDAMENTALS OF ENGINEERING COMPUTING - <strong>2</strong></td>
<td>UK Core - Comp. &amp; Comm. II - <strong>3</strong></td>
</tr>
<tr>
<td>Choose CHE 105 or PHY 231 - <strong>4</strong></td>
<td>MA 114 - CALCULUS II - <strong>4</strong></td>
</tr>
<tr>
<td>CHE 111 - LABORATORY TO ACCOMPANY GENERAL CHEMISTRY I - <strong>1</strong></td>
<td>Choose CHE 105 or PHY 231 - <strong>4</strong></td>
</tr>
<tr>
<td>UK Core - Comp. &amp; Comm. I - <strong>3</strong></td>
<td>UK Core - Social Sciences - <strong>3</strong></td>
</tr>
<tr>
<td>MA 113 - CALCULUS I - <strong>4</strong></td>
<td><strong>TOTAL HOURS: 15</strong></td>
</tr>
</tbody>
</table>

**TOTAL HOURS: 15**

Total Freshman Hours: 31

### Sophomore Year

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME 200 - PROCESS PRINCIPLES - <strong>3</strong></td>
<td>CME 320 - ENGINEERING THERMODYNAMICS - <strong>4</strong></td>
</tr>
<tr>
<td>MA 213 - CALCULUS III - <strong>4</strong></td>
<td>CME 220 - COMPUTATIONAL TOOLS IN CHEMICAL ENGINEERING - <strong>3</strong></td>
</tr>
<tr>
<td>CHE 107 - GENERAL COLLEGE CHEMISTRY II - <strong>3</strong></td>
<td>MA 214 - CALCULUS IV - <strong>3</strong></td>
</tr>
<tr>
<td>CHE 113 - GENERAL CHEMISTRY II LABORATORY - <strong>2</strong></td>
<td>PHY 232 - GENERAL UNIVERSITY PHYSICS - <strong>4</strong></td>
</tr>
<tr>
<td>MSE 201 - MATERIALS SCIENCE - <strong>3</strong></td>
<td>STA 381 - ENGINEERING STATISTICS-A CONCEPTUAL APPROACH - <strong>3</strong></td>
</tr>
<tr>
<td>UK Core - Humanities - <strong>3</strong></td>
<td><strong>TOTAL HOURS: 17</strong></td>
</tr>
</tbody>
</table>

**TOTAL HOURS: 18**

Total Sophomore Hours: 35

### Junior Year

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME 415 - SEPARATION PROCESSES - <strong>3</strong></td>
<td>CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) -</td>
</tr>
<tr>
<td>CHE 446G - PHYSICAL CHEMISTRY FOR ENGINEERS - <strong>3</strong></td>
<td>CME 420 - PROCESS MODELING IN CHEMICAL</td>
</tr>
<tr>
<td>CME 330 - FLUID MECHANICS - <strong>3</strong></td>
<td><strong>TOTAL HOURS: 17</strong></td>
</tr>
</tbody>
</table>
WRD 204 - TECHNICAL WRITING - 3  
CHE 230 - ORGANIC CHEMISTRY I - 3  
CHE 231 - ORGANIC CHEMISTRY LABORATORY I - 1  
**TOTAL HOURS: 16**  

ENG女ING - 3  
CME 425 - HEAT AND MASS TRANSFER - 4  
CME 432 - CHEMICAL ENGINEERING LABORATORY I - 2  
CHE 232 - ORGANIC CHEMISTRY II - 3  
UK Core - Community, Culture and Citizen - 3  
Engineering/Sci Elective (Choose 3 hrs) -  
**TOTAL HOURS: 18**  

Total Junior Hours: 34  

## Senior Year  

### FALL SEMESTER  
CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) -  
CME 470 - PROFESSIONALISM, ETHICS AND SAFETY - 2  
CME 433 - CHEMICAL ENGINEERING LABORATORY - 3  
CME 455 - CHEMICAL ENGINEERING PRODUCT AND PROCESS DESIGN I - 3  
CME 550 - CHEMICAL REACTOR DESIGN - 3  
UK Core - Global Dynamics - 3  
Engineering/Sci Elective (Choose 3 hrs) -  
**TOTAL HOURS: 17**  

**Total Senior Hours: 33**  

### SPRING SEMESTER  
CME 006 - THE ENGINEERING PROFESSION (JUNIOR AND SENIOR) -  
CME 456 - CHEMICAL ENGINEERING PROCESS DESIGN II - 4  
CME 462 - PROCESS CONTROL - 3  
Supportive Elective - 3  
Engineering/Sci Elective (Choose 3 hrs) -  
Engineering/Sci Elective (Choose 3 hrs) -  
**TOTAL HOURS: 16**  

Total Minimum hours Required for Degree: 133 hours  

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Current UK students: Please login to http://myUK.uky.edu to access your personalized major template and degree audit via the Graduation Planning System (GPS). This major template is the curriculum requirements for completion of the degree program only and is not a personalized audit based on your completed coursework. This major template does not reflect entrance requirements for selective majors. Please consult with the college to learn more about admission to this major.