# BACHELOR OF SCIENCE, MAJOR IN CHEMISTRY/CHEMICAL ENGINEERING

A Dual Degree Plan for Concurrent Bachelor of Science Degrees from Sam Houston State University and Universities with Recognized Accredited Chemical Engineering Degree Programs

In this plan, the student completes three years in Chemistry at Sam Houston State University and two years in Chemical Engineering at a university with a recognized accredited chemical engineering degree program. On successful completion of the curriculum shown below, and the chemical engineering curriculum at a university with a recognized accredited degree program in chemical engineering, the student will receive two Bachelor of Science degrees, a Bachelor of Science with a major in Chemistry from Sam Houston State University, and a Bachelor of Science in Chemical Engineering from the university with the recognized accredited chemical engineering degree program.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3330</td>
<td>Intro To Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ETDD 1361</td>
<td>Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1420</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1430</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2440</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3376</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1401</td>
<td>Physics Boot Camp</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1411</td>
<td>Introduction To Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 1422</td>
<td>Introduction To Physics II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1412</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2401</td>
<td>Quantitative Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2323 &amp; CHEM 2123</td>
<td>Organic Chemistry I: Lecture and Organic Chemistry I Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2325 &amp; CHEM 2125</td>
<td>Organic Chemistry II: Lecture and Organic Chemistry II: Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4100</td>
<td>Chemical Literature Seminar</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 4260</td>
<td>Advanced Integrated Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 4448</td>
<td>Physical Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4449</td>
<td>Physical Chemistry II</td>
<td>4</td>
</tr>
</tbody>
</table>

## Core Curriculum

- Component Area I (Communication) 6
- Component Area II (Mathematics) 1 4
- Component Area III (Life and Physical Sciences) 2 8
- Component Area IV (Language, Philosophy, and Culture) 3
- Component Area V (Creative Arts) 3
- Component Area VI (American History) 6
- Component Area VII (Government/Political Science) 6
- Component Area VIII (Social and Behavioral Sciences) 3
- Component Area IX (Area IV elective or Oral Communication) 3

## Degree Specific Requirements

Two years (60 credit hours) of advanced courses in Chemical Engineering from a University with a Recognized Accredited Chemical Engineering Degree Program are also required 2

Total Hours 157
Bachelor of Science, Major in Chemistry/Chemical Engineering

1 MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics), the one semester credit hour Core Curriculum requirement for Component Area IX (Component Area Option), and the Degree Specific requirement.

2 CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science) and the Major requirement.

Note
A grade of C or higher is required for CHEM 1411, CHEM 1412, CHEM 2323, CHEM 2123, CHEM 2325, CHEM 2125, CHEM 2401, and CHEM 4448, and in all required Physics and Mathematics courses.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component Area IV</td>
<td>3 CHEM 1412</td>
<td>4</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Component Area V</td>
<td>3 ENGL 1302</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1411</td>
<td>4 MATH 1430</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>3 PHYS 1401</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 1420</td>
<td>4</td>
<td>17</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component Area IX</td>
<td>3 CHEM 2125</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2123</td>
<td>1 CHEM 2323</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2323</td>
<td>3 CHEM 2401</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2440</td>
<td>4 ENGL 3330</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1411</td>
<td>4 PHYS 1422</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLS 2305</td>
<td>3</td>
<td>15</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 4100</td>
<td>1 Component Area VIII</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 4448</td>
<td>4 CHEM 4260</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM Advanced Elective</td>
<td>3 CHEM 4449</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETDD 1361</td>
<td>3 HIST 1302</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 1301</td>
<td>3 POLS 2305</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 3376</td>
<td>3</td>
<td>17</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent at a University with a Recognized Accredited Chemical Engineering Program</td>
<td>15 Spent at a University with a Recognized Accredited Chemical Engineering Program</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Year</th>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent at a University with a Recognized Accredited Chemical Engineering Program</td>
<td>15 Spent at a University with a Recognized Accredited Chemical Engineering Program</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Total Hours: 157

1 Satisfies Core Curriculum requirement for Component Area III (Life and Physical Science).
2 Satisfies Core Curriculum requirement for Component Area I (Communications).
3 Satisfies Core Curriculum requirement for Component Area II (Mathematics).
4 Satisfies Core Curriculum requirement for Component Area VII (Political Science/Government).
5 CHEM 4440, CHEM 3367, and CHEM 4367 are recommended.
6 Satisfies Core Curriculum requirement for Component Area VI (U.S. History).
Notes

1. A grade of C or higher is required for CHEM 1411, CHEM 1412, CHEM 2323, CHEM 2123, CHEM 2325, CHEM 2125, CHEM 2401, and CHEM 4448, and in all required Physics and Mathematics courses.

2. After 5 years of study (3 at Sam Houston State University and 2 at another school with a chemical engineering degree program), the student earns two bachelor's degrees. Completing the 3-year sequence at SHSU is not sufficient to earn a degree by itself.