**Requirements for the Bachelor of Science in Chemical Engineering**

**Gallogly College of Engineering**

**The University of Oklahoma**

**Academic Year**

For Students Entering the Oklahoma State System for Higher Education

Summer 2019 through Spring 2020

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<table>
<thead>
<tr>
<th>Year</th>
<th>First Semester</th>
<th>Hours</th>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FRESHMAN</strong></td>
<td></td>
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<tr>
<td>ENGL 1113</td>
<td>Principles of English Composition (Core I)</td>
<td>3</td>
<td>ENGL 1213 or EXPO 1213</td>
<td>Principles of English Composition (Core I) or Expository Writing</td>
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<tr>
<td>CHEM 1315</td>
<td>General Chemistry (Core II)</td>
<td>5</td>
<td>CHEM 1435</td>
<td>General Chemistry II: Signature Course</td>
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<tr>
<td>MATH 1914</td>
<td>Differential and Integral Calculus I (Core I)</td>
<td>4</td>
<td>MATH 2924</td>
<td>Differential and Integral Calculus II</td>
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<tr>
<td>HIST 1483 or HIST 1493</td>
<td>United States, 1492 to 1865</td>
<td>3</td>
<td>PHYS 2514</td>
<td>General Physics for Engineering and Science Majors</td>
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<tr>
<td>ENGR 1411</td>
<td>Freshman Engineering Experience</td>
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<tr>
<td><strong>CREDIT HOURS</strong></td>
<td>16</td>
<td><strong>CREDIT HOURS</strong></td>
<td>16</td>
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| **SOPHOMORE** | | | | |
| MATH 2934 | Differential and Integral Calculus III | 4 | MATH 3113 | Introduction to Ordinary Differential Equations | 3 |
| PHYS 2524 | General Physics for Engineering and Science Majors | 4 | ENGR 2002 | Professional Development | 2 |
| CH E 2033 | Chemical Engineering Fundamentals | 3 | CH E 2003 | Chemical Engineering Computing/Statistics | 3 |
| CHEM 3053 | Organic Chemistry I: Biological Emphasis | 3 | CH E 3113 | Momentum, Heat and Mass Transfer I | 3 |
| Approved Elective, Social Science (Core III) | | 3 | CHEM 3152 | Organic Chemistry Laboratory: Biological Emphasis | 2 |
| | | | CHEM 3423 | Physical Chemistry I | 3 |
| **CREDIT HOURS** | 17 | **CREDIT HOURS** | 16 |

| **JUNIOR** | | | | |
| CHEM 3421 | Physical Chemistry Laboratory | 1 | CH E 3333 | Separation Processes | 3 |
| | Choose one of the following: | | CH E 3432 | Unit Operations Laboratory | 2 |
| MBIO 2815 | Introduction to Microbiology | 5 | CH E 4473 | Kinetics | 3 |
| MBIO 3813 & MBIO 3812 | Fundamentals of Microbiology and Fundamentals of Microbiology Laboratory | | CH E 5243 | Biochemical Engineering (Alt. Sp) | 3 |
| CH E 3123 | Momentum, Heat and Mass Transfer II | 3 | Approved Elective, Western Civ. & Culture (Core IV) | 3 |
| CH E 3473 | Chemical Engineering Thermodynamics | 3 | Approved Elective, Non-Western Culture (Core IV) | 3 |
| CH E 3723 | Numerical Methods for Engineering Computation | 3 | | |
| **CREDIT HOURS** | 15 | **CREDIT HOURS** | 17 |

| **SENIOR** | | | | |
| CHEM 3653 | Introduction to Biochemistry | 3 | CHEM 3753 | Introduction to Biochemical Methods | 3 |
| CH E 4153 | Process Dynamics and Control | 3 | ENGR 2411 | Applied Engineering Statics | 1 |
| CH E 4253 | Process Design & Safety | 3 | CH E 3313 | Structure and Properties of Materials | 3 |
| CH E 4262 | Chemical Engineering Design Laboratory | 2 | CH E 4273 | Advanced Process Design (Capstone) | 3 |
| ENGR 2431 | Electrical Circuits | 3 | Approved Elective, Artistic Forms (Core IV) | 3 |
| ENGR 3431 | Electromechanical Systems | 1 | | |
| P SC 1113 | American Federal Government (Core III) | 3 | | |
| **CREDIT HOURS** | 16 | **CREDIT HOURS** | 13 |

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1. CHEM 1315 can be substituted with CHEM 1335 or CHEM 1425 (H). CHEM 1435 can be substituted with CHEM 1415.
2. MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.
3. Engineering transfer students may take ENGR 3511 in place of ENGR 1411.
4. To be chosen from the University-Wide General Education Approved Course List. Three of these 12 hours must be upper-division (3000-4000). See list in the Class Schedule.
5. It is recommended that ENGR 2431 and ENGR 3431 be taken in the same semester. The courses are offered in sequential five-week blocks during the semester.

Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses. Chemical engineering courses are sequential and usually offered only in the semester shown; note prerequisites. (Exception: CH E 5243 is taught alternate spring semesters).

Two college-level courses in a single foreign language are required; this may be satisfied by successful completion of 2 years in a single foreign language in high school. Students who must take foreign language at the University will have an additional 6-10 hours of coursework.

Courses designated as Core I, II, III, IV or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list.

OU encourages students to complete at least 32 hours of applicable coursework each year to have the opportunity to graduate in 4 years.