### GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student’s major. Courses graded P/NP will not apply.

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

### UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Area I: Symbolic and Oral Communication</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1113</td>
<td>Principles of English Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1213</td>
<td>Principles of English Composition</td>
<td>3</td>
</tr>
<tr>
<td>or EXPO 1213</td>
<td>Expository Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Language (0-10 hours in the same language)**

This requirement can be met by two years of the same language in high school:

- Beginning Course (0-5 hours)
- Beginning Course, continued (0-5 hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Mathematics</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1914</td>
<td>Differential and Integral Calculus I (Core I)</td>
<td>1, 2</td>
</tr>
<tr>
<td>PHYS 2514</td>
<td>General Physics for Engineering and Science Majors (Core II)</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 1315</td>
<td>General Chemistry (Core II-Lab)</td>
<td>2, 3</td>
</tr>
</tbody>
</table>

**Core Area II: Natural Science (including one laboratory)**

- PHYS 2514
- CHEM 1315

**Core Area III: Social Science**

- P SC 1113: American Federal Government | 3

**Choose one course**

**Core Area IV: Arts & Humanities**

**Artistic Forms**

- Choose one course

**Western Culture**

- HIST 1483: United States to 1865 | 3
- or HIST 1493: United States, 1865 to the Present | 3

**World Culture**

- Choose one course

**Core Area V: First-Year Experience**

- Choose one course

**Total Credit Hours**: 40-50

---

### MAJOR REQUIREMENTS

#### Code

- Required Courses
  - CH E 2033: Chemical Engineering Fundamentals | 3
  - CH E 2003: Chemical Engineering/Statistics | 3
  - CH E 3113: Momentum, Heat and Mass Transfer I | 3
  - CH E 3123: Momentum, Heat and Mass Transfer II | 3
  - CH E 3473: Chemical Engineering Thermodynamics | 3
  - CH E 3723: Numerical Methods for Engineering Computation | 3
  - CH E 3333: Separation Processes | 3
  - CH E 3432: Unit Operations Laboratory | 2
  - CH E 4473: Kinetics | 3
  - CH E 4262: Chemical Engineering Design Laboratory | 2
  - CH E 4153: Process Dynamics and Control | 3
  - CH E 4325: Process Design & Safety | 3
  - CH E 4273: Advanced Process Design | 3
  - CH E 3313: Structure and Properties of Materials | 3

#### Credit Hours**: 40

### MAJOR SUPPORT REQUIREMENTS

#### Code

- Math and Science
  - BIOL 1124: Intro Biol: Molecule/Cell/Phys | 4
  - BIOL 3101: Principles of Physiology Lab | 1
  - BIOL 3103: Principles of Physiology | 3
  - CHEM 1435: General Chemistry II: Signature Course | 5
  - CHEM 3053: Organic Chemistry I: Biological Emphasis | 3
  - CHEM 3152: Organic Chemistry Laboratory: Biological Emphasis | 2
  - CHEM 3153: Organic Chemistry II: Biological Emphasis | 3
  - CHEM 3421: Physical Chemistry Laboratory | 1
  - CHEM 3423: Physical Chemistry I | 3
  - CHEM 3653: Introduction to Biochemistry | 3
  - MATH 2924: Differential and Integral Calculus II | 4
  - MATH 2430: 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 1411: Pathways to Engineering Thinking | 2
  - ENGR 2002: Professional Development | 2
  - ENGR 2411: Applied Engineering Statics | 1
  - ENGR 2431: Electrical Circuits | 1
  - ENGR 3431: Electromechanical Systems | 1

#### Total Credit Hours**: 55

1. MATH 1914, MATH 2924, and MATH 2934 can be substituted with MATH 1823, MATH 2423, and MATH 2443.
2. Major support requirements that also satisfy University General Education requirements.
3. CHEM 1315 can be substituted with CHEM 1335 or CHEM 1425.
4. To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). One of these courses should be an English course 2000-level or above. See list in the Class Schedule.

**FREE ELECTIVES**

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

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

Bachelor of Science in Chemical Engineering accredited by the Engineering Accreditation Commission of ABET, [https://www.abet.org](https://www.abet.org), under the General Criteria and the Chemical, Biochemical, Biomolecular and Similarly Named Program Criteria.

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.

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list. The University will have an additional 6-10 hours of coursework.

Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world language in high school. Students who must take a language at the University may substitute with an approved course.

Courses intended to prepare students for physical science requirements, including all prerequisite courses. Chemical engineering courses are sequential and usually offered only in the semester shown; note prerequisites.

### SUGGESTED SEMESTER PLAN OF STUDY

Bachelor of Science in Chemical Engineering accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical, Biochemical, Biomedical, and Similarly Named Program Criteria.

In order to progress in your curriculum in the Gallo Agency 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.

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

### Year | FIRST SEMESTER | Hours | SECOND SEMESTER | Hours
--- | --- | --- | --- | ---
**FRESHMAN**
ENGL 1113 | Principles of English Composition (Core I) | 3 | ENGL 1213 or EXPO 1213 | 3
CHEM 1315 | General Chemistry (Core II-Lab) | 1 | CHEM 1435 | 5
MATH 1914 | Differential and Integral Calculus I (Core I) | 2 | MATH 2924 | 4
ENGR 1411 | Pathways to Engineering Thinking | 5 | PHYS 2514 | 1
| Approved Elective: First-Year Experience (Core V) | 3 | | |

**CREDIT HOURS** | 16 | **CREDIT HOURS** | 16

**SOPHOMORE**
MATH 2934 | Differential and Integral Calculus III | 2 | MATH 3113 | 4
PHYS 2524 | General Physics for Engineering and Science Majors | 4 | CHEM 2003 | 3
CH E 2033 | Chemical Engineering Fundamentals | 4 | CH E 3113 | 1
CHEM 3053 | Organic Chemistry I: Biological Emphasis | 3 | CHEM 3135 | 1
BIOL 1124 | Intro Biol: Molecule/Cell/Phys | 4 | CHEM 3152 | 1
| Physical Chemistry I | 3 | |

**CREDIT HOURS** | 18 | **CREDIT HOURS** | 17

**JUNIOR**
ENGR 2002 | Professional Development | 2 | CH E 3333 | 1
CH E 3123 | Momentum, Heat and Mass Transfer II | 3 | CH E 3432 | 2
CH E 3473 | Chemical Engineering Thermodynamics | 3 | CH E 4473 | 1
CH E 3723 | Numerical Methods for Engineering Computation | 3 | CHEM 3421 | 1
CHEM 3653 | Introduction to Biochemistry | 3 | CHEM 3453 | 1
| Technical Elective I | 3 | | |
| Approved Elective, Social Science (Core III) | 3 | | |
| Technical Elective II | 3 | | |

**CREDIT HOURS** | 17 | **CREDIT HOURS** | 18

**SENIOR**
CH E 4153 | Process Dynamics and Control | 3 | ENGR 2411 | 1
CH E 4253 | Process Design & Safety | 3 | CH E 3313 | 2
CH E 4262 | Chemical Engineering Design Laboratory | 2 | CH E 4273 | 1
BIOL 3103 | Principles of Physiology | 3 | BIOL 3101 | 1
ENGR 2431 | Electrical Circuits | 6 | HIST 1483 or HIST 1493 | 1
| Approved Elective, World Culture (Core IV) | 4 | | |
| Approved Elective, Western Culture (Core IV) | 4 | | |

**CREDIT HOURS** | 16 | **CREDIT HOURS** | 17

---

1. CHEM 1315 can be substituted with CHEM 1335 or CHEM 1425 (H) (Fall only). 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 hours must be upper-division (3000-4000). One of these courses should be an English course 2000-level or above. See list in the Class Schedule.
5. Choose one of the following: BIOL 3113, BIOL 3333, or BIOL 4843. Pre-med students are required to consult the Pre-Med advisor as well as their Chemical Engineering advisor for necessary medical school information. Note: Additional Electives for Pre-Medical are required.
6. 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.