# Chemical Engineering

## First Year
### Fall Semester
- **GE A**
- **WRIT 150**
- **MATH 125 (GE F)**
- **CHEM 105aL (GE E)**
- **ENGR 102**

### Spring Semester
- **CHE 120**
- **CHE 205**
- **MATH 126 or MATH 129**
- **CHEM 105bL (GE E)**
- **PHYS 151L**

## Second Year
### Fall Semester
- **CHE 330**
- **CHEM 300L**
- **MATH 226 or MATH 229**
- **PHYS 152L**
- **Optional Elective**

### Spring Semester
- **GE B**
- **CHEM 322aL**
- **MATH 245**
- **Approved Elective**
- **CHE 350**

## Third Year
### Fall Semester
- **GE C**
- **Technical Elective**
- **CHEM 430**
- **CHE 405**
- **CHE 442**

### Spring Semester
- **GE B**
- **CHEM 444aL**
- **Approved Elective**
- **CHE 443**
- **CHE 476**

## Fourth Year
### Fall Semester
- **GE D**
- **CHEM 444bL**
- **CHEM 445**
- **CHE 485**
- **Approved Elective**

### Spring Semester
- **GE C**
- **CHEM 446**
- **CHEM 460L**
- **CHE 480**
- **CHEMISTRY Elective**

## Mathematics (16 units)
- **MATH 125**: Calculus I
- **MATH 126 or MATH 129**: Calculus II
- **MATH 226 or MATH 229**: Calculus III
- **MATH 245**: Mathematics of Phys. and Engr.

## Physics (8 units)
- **PHYS 151L**: Mechanics and Thermodynamics
- **PHYS 152L**: Electricity and Magnetism

## Chemistry (24 units)
- **CHEM 105aL**: General Chemistry
- **CHEM 105bL**: General Chemistry
- **CHEM 300L**: Analytical Chemistry
- **CHEM 322aL**: Organic Chemistry
- **CHEM 430**: Physical Chemistry: Thermodynamics & Kinetics
- **CHEMISTRY ELECTIVE**: CHEM 322bL or 431

## General Education (32 units)
- **GE A**: The Arts (1 Course)
- **GE B**: Humanistic Inquiry (2 Courses)
- **GE C**: Social Analysis (2 Courses)
- **GE D**: Life Sciences (1 Course)
- **GE E**: Physical Sciences (1 Course)
- **GE F**: Quantitative Reasoning (1 Course)
- **GE G,H**: Global Perspectives (2 Courses)*
- **GESM**: General Education Seminar (1 Course)*

## Writing (7 units)
- **WRIT 150**: Writing and Critical Reasoning
- **WRIT 340**: Advanced Writing

## Engineering (54-57 units)
- **CHE 120**: Intro. to Chemical Engineering
- **CHE 205**: Numerical Methods in Chemical Engineering
- **CHE 330**: Chemical Engr. Thermodynamics
- **CHE 350**: Intro to Separation Processes
- **CHE 405**: Probability and Statistics for CHE
- **CHE 445**: Chemical Reactor Analysis
- **CHE 443**: Viscous Flow
- **CHE 444aL**: Chemical Engineering Lab
- **CHE 444bL**: Chemical Engineering Lab
- **CHE 445**: Heat Transfer in CHE Processes
- **CHE 446**: Mass Transfer in CHE Processes
- **CHE 460L**: Chem. Proc. Dynamics & Control
- **CHE 476**: Chemical Engineering Materials
- **CHE 480**: Chem. Process and Plant Design
- **CHE 485**: Computer Aided Process Design
- **ENGR 102**: Engineering Freshman Academy

## Technical Elective
### APPROVED ELECTIVES
- 8-9 units of approved electives including GE 205 (2), EE 438L (3), and ISE 480 (3) or BUAD 301 (3) or other courses with department approval.

## Special Notes
Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 17 for more information.

GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by exam. Additionally, your GESM course should be taken in categories A, B, C, or D only. See pp. 16-17 for more information and consult your advisor for detailed assistance.

**Optional Electives:** Consult with your academic advisor to explore optional elective courses. These courses are not required.

**Technical Elective:** Any upper division CHE course that is not already required.

2017-18 Major Course Plan