# Chemical Engineering Bachelor’s Degree

## Suggested four-year program plan

### YEAR 1

**First semester**
- CHEM 202: Accelerated Chemistry 3 hours
- CHEM 203: Accelerated Chemistry Lab 2 hours
- MATH 221: Calculus I 4 hours
- RHET 105: Composition I 4 hours
- ENG 100: Engineering Orientation 1 hour
- General Education/Electives 1-3 hours

**Second semester**
- CHEM 442: Physical Chemistry 4 hours
- CHEM 420: Instrumental Characterization 2 hours
- CHEM 315: Instrumental Chemical Systems Lab 2 hours
- IE 300: Analysis of Data 3 hours

### YEAR 2

**First semester**
- CHBE 221: Principles of Chemical Engineering 3 hours
- CHEM 236: Fundamental Organic Chemistry 4 hours
- CHEM 237: Structure and Synthesis 2 hours
- MATH 241: Calculus III 4 hours
- PHYS 212: Electricity & Magnetism 4 hours

**Second semester**
- CHBE 321: Chem. Engineering Thermodynamics 4 hours
- CHBE 421: Momentum and Heat Transfer 4 hours
- CHEM 436: Fundamental Organic Chemistry II 3 hours
- MCB 450: Introductory Biochemistry* 3 hours
- MATH 285: Introduction to Differential Equations 3 hours
- MATH 415: Applied Linear Algebra 3 hours
- MATH 257: Linear Algebra w/ Comp. Applications 3 hours
- PHYS 214: Quantum Physics 2 hours
- Technical/General Electives 3 hours

### YEAR 3

**First semester**
- CHBE 321: Thermodynamics 4 hours
- CHBE 421: Momentum and Heat Transfer 4 hours
- CHEM 442: Physical Chemistry 4 hours
- CHEM 420: Instrumental Characterization 2 hours
- CHEM 315: Instrumental Chemical Systems Lab 2 hours
- IE 300: Analysis of Data 3 hours

**Second semester**
- CHBE 422: Mass Transfer Operations 4 hours
- CHBE 424: Chemical Reaction Engineering 3 hours
- Technical/General Electives 3 hours

### YEAR 4

**First semester**
- CHBE 430: Unit Operations Laboratory 4 hours
- CHBE 431: Process Design 4 hours
- CHBE 440: Process Control and Dynamics 3 hours

**Second semester**
- CHBE 430: Unit Operations Laboratory 4 hours
- CHBE 431: Process Design 4 hours

Contact scs-advising@illinois.edu with any questions.