### Freshman Year

#### First Semester
- **MATH 123** Calculus I: 4 credits
- **CHEM 114** General Chemistry I: 3 credits
- **CHEM 114L** General Chemistry I Lab: 1 credit
- **CBE 111/111L** Intro. Chem. Proc. Mod.: 2 credits
- **ENGL 101** Composition I: 3 credits
- Humanities or Social Sciences Elective(s): 3 credits
- **TOTAL**: 16 credits

#### Second Semester
- **MATH 125** Calculus II: 4 credits
- **CHEM 114** General Chemistry II: 3 credits
- **CHEM 114L** General Chemistry II Lab: 1 credit
- **PHYS 211** University Physics I: 3 credits
- **CBE 117L** Programming for CBE: 1 credit
- Humanities or Social Sciences Elective(s): 6 credits
- **TOTAL**: 18 credits

### Sophomore Year

#### First Semester
- **CBE 217** ChemE Material Balances: 3 credits
- **MATH 321** Differential Equations: 3 credits
- Biology Elective: 3 credits
- **CHEM 326** Organic Chemistry I: 3 credits
- **CHEM 220L** Exp. Organic Chem. IA: 1 credit
- **PHYS 213** University Physics II: 3 credits
- **TOTAL**: 16 credits

#### Second Semester
- **CBE 218** ChemE. Fluid Mech.: 3 credits
- **CBE 222** ChemE Process Thermo: 3 credits
- **CBE 250** Computer App. in ChemE: 2 credits
- **CHEM 328** Organic Chemistry II: 3 credits
- **MATH 225** Calculus III: 4 credits
- **ENGL 279** Technical Communications I: 3 credits
- **TOTAL**: 18 credits

### Junior Year

#### First Semester
- **CBE 317** ChemE Heat Transfer: 3 credits
- **CBE 321** ChemE Equil. Thermo: 3 credits
- **CBE 333** Process Measure and Control: 1 credit
- **CBE 333L** ChemE Process Controls Lab: 1 credit
- **CBE 361L** ChemE Fluids Lab: 1 credit
- **CHEM 332** Analytical Chem for Engr: 2 credits
- **CHEM 332L** Analytical Chem Lab: 1 credit
- **CHEM 342** Physical Chem I: 2 credits
- **ENGL 289** Technical Communications II: 3 credits
- **TOTAL**: 17 credits

#### Second Semester
- **CBE 318** ChemE Mass Transfer: 3 credits
- **CBE 343** Chem Kinetics/Reactor Dsgn: 3 credits
- **CBE 362L** ChemE Heat Transfer Lab: 1 credit
- **CBE 417** ChemE Equilibrium Seps: 2 credits
- **CHEM 344** Physical Chem II: 2 credits
- **CHEM 344L** Physical Chem II Lab: 1 credit
- Engineering Elective: 3 credits
- Hum/SS Elective(s): 3 credits
- **TOTAL**: 18 credits

### Senior Year

#### First Semester
- **CBE 433** Process Control: 3 credits
- **CBE 463** Process Design & Econ for ChE: 3 credits
- **CBE 465** Chemical Process Safety: 2 credits
- Chemical Engineering Elective: 4 credits
- Department Approved Elective: 3 credits
- **TOTAL**: 15 credits

#### Second Semester
- **CBE 461L** ChemE Mass Trans/Reac Eng Lab: 1 credit
- **CBE 466** Capstone Design for ChE: 2 credits
- or
- **CBE 467** Proc/Product Design for CBE: 2 credits
- **CBE 487** Global and Cont Issues in ChemE: 1 credit
- Chemical Engineering Elective: 4 credits
- Chemical Engineering Lab Elective: 1 credit
- Department Approved Elective: 3 credits
- **TOTAL**: 12 credits

**130 credits required for graduation**

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**Curriculum Notes**

Board of Regents General Education Requirements: Students, working in conjunction with their advisor, need to ensure General Education Requirements are completed in the required timeframe. Hum/SS electives require 6 cr hr each from Humanities and Social Sciences.

Optional specialization and emphases in ChE: The academic advisor recommends and approves courses to take if students are interested in a specialization in biochemical engineering or an emphasis in: advanced materials (nano materials, polymers, ceramics, materials processing, corrosion, or solid state/semi-conductors), biomedical engineering, energy technology, environmental engineering, or petroleum engineering.

**BIOL Elective (3):** Select 3 credits from BIOL 341, 371 or other approved by advisor.

**ChE Elective (8):** Select 8 credits from CBE 410/410L, 424, 434/434L, 444, 450, 455, 467, 474, 474L, 475, 476, 482, 483, 484, 484L, 485, 485L, 486, 488, 489, 491, 492, 498 or others approved by advisor.

**ChE Lab Elective (1):** Select 1 credit from CBE 410L, 434L, 474L, 484L, 485L, 498 or other approved by advisor.

**Engineering Elective (3):** Select 3 credits from engineering courses other than CBE prefix; requires advisor approval. These courses are typically at a 200 level or higher.

**Department Approved Elective (6):** Select from the following: CBE, Chem, or other approved courses to fulfill emphasis electives. These courses are typically at a 120 level or higher. May include up to three (3) credits of advanced military science, up to six (6) credits of cooperative education (CP 297, CP 397, OR CP 497), up to six (6) credits (total in any category) CBE 467, up to three (3) credits of 300 level or above Humanities, Social Sciences or Business, or one (1) credit of PE or MUEN.
Courses that are offered in Fall ONLY or Spring ONLY are indicated by F or S semesters, respectively. Courses indicated F/S are offered Fall and Spring semesters.

*1-6 Indicates courses that may be used to satisfy goals 1-6 of the system general education requirements.

Refer to the 2016-17 academic catalog for additional information regarding system general education requirements, elective courses, pre-/co-requisites and grade requirements.

A list of approved or recommended electives and other supplemental information may be obtained from your academic department.

Revised: June 2019