

B.S. in Chemical Engineering

Four-Year Plan

Catalog Year 2014-2015

Below is the *advised sequence* of courses for this degree program.

The official degree requirements can be found in the University General Catalog.

Course Number and Title	Units	Prerequisites
1ST SEMESTER		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	
ENGL 101 First-Year Composition	3	
ENGR 102 Introduction to Engineering Or ENGR102A and ENGR102B	3	Completion or Concurrent enrollment MATH 122B or MATH 125
Tier I General Education	3	
2ND SEMESTER		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
CHEM 152 General Chemistry II	4	CHEM 151
AME 105 Introduction to MATLAB I	1	Concurrent enrollment or completion of MATH 122B or MATH 125
ENGL 102 First-Year Composition	3	ENGL 101
PHYS 141 Introductory Mechanics	4	MATH 122B or MATH 125; Concurrent enrollment MATH 129
3RD SEMESTER		
CHEE 201 Elements of Chemical Engineering I	3	MATH 122B or MATH 125; CHEM 152;
CHEE 201L Elements of Chemical Engineering I- Computational Lab	1	MATH 122B or MATH 125
MATH 223 Vector Calculus	4	MATH 129 with C or better
AME 205 Introduction to MATLAB II	1	AME105
CHEM 241A Lectures in Organic Chemistry	3	CHEM 152
CHEM 243A Organic Chemistry Laboratory	1	Completion or concurrent enrollment CHEM 241A
Tier I General Education	3	
4TH SEMESTER		
CHEE 202 Elements of Chemical Engineering II	4	CHEE 201, MATH 223
CHEE 203 Chemical Engineering Heat Transfer and Fluid Flow	3	CHEE 201, PHYS 241
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism	4	PHYS 141
CHEM 241B Lectures in Organic Chemistry	3	CHEM 241A

Course Number and Title	Units	Prerequisites
Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)		
5TH SEMESTER		
CHEE 303 Chemical Engineering Mass Transfer	3	CHEE 203
CHEE 402 Chemical Engineering Modeling	3	MATH 254; CHEE 202; Co-requisite: CHEE 303
CHEE 301A Chemical Engineering Lab I	1	CHEE 202; CHEE 203; MATH 254; Co-requisite: CHEE 303, CHEE 402
CHEE 477R Microbiology for Engineers or BIOC 462A Biochemistry	3	
CHEM 480A Physical Chemistry	3	CHEM 151; MATH 129; Completion or concurrent enrollment PHYS 241
Tier I General Education	3	
6TH SEMESTER		
CHEE 305 Chemical Engineering Transport Phenomena	3	CHEE 303; CHEE 402
CHEE 326 Chemical and Physical Equilibrium	3	CHEE 480A; CHEE 201
CHEE 301B Chemical Engineering Lab II	1	CHEE 303; Concurrent Enrollment: CHEE 305; CHEE 326
Engineering Elective	3	
Technical Elective	3	
Tier I General Education	3	
7TH SEMESTER		
CHEE 420 Chemical Reaction Engineering	3	CHEE 326
CHEE 442 Chemical Engineering Design Principles	3	CHEE 303; CHEE 326; concurrent enrollment CHEE 420
CHEE 401A Chemical & Environmental Engineering Laboratory I	1	CHEE 301B; Concurrent Enrollment CHEE 420
Engineering Elective	3	
Advance Science Requirement: CHEM 480B Physical Chemistry or CHEM 480 Biophysical Chemistry or BIOC 462B Biochemistry or BME 410 Biology for BME or BME/PSIO 411 Physiology for BME	3	For CHEM 480B and CHEM 481: CHEM 480A. For BIOC 462B: BIOC 462
Tier II General Education	3	
8TH SEMESTER		
CHEE 413 Process Control and Simulation	4	CHEE 402
CHEE 443 Chemical Engineering Plant Design	3	CHEE 420; CHEE 442
Engineering Elective	3	
Technical Elective	3	
Tier II General Education	3	

*Tier I and II General Education Courses must meet University general education requirements. One course must be recognized by the university as meeting the Diversity Requirement.