

# B.S. in Chemical Engineering

## Four-Year Plan Catalog Year 2015-2016

Below is the *advised sequence* of courses for this degree program and prerequisites are as of 7/30/15. The official degree requirements and prerequisites can be found in the University General Catalog and the prerequisites are subject to change.

Course Number and Title	Units	Prerequisites
<b>1<sup>ST</sup> SEMESTER</b>		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	Appropriate Math Placement
ENGL 101 OR 107 OR 109H 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	
<b>2<sup>ND</sup> SEMESTER</b>		
MATH 129 Calculus II	3	MATH 122B or MATH 125 with C or better
CHEM 152 General Chemistry II OR CHEM 105B/106B OR MSE 110	4	CHEM 151 or CHEM 105A/106A
AME 105 Introduction to MATLAB I	1	Completion or concurrent enrollment in MATH 122B or MATH 125
ENGL 102 OR 108 OR 109H First-Year Composition	3	ENGL 101 or 107 or 109H
PHYS 141 Introductory Mechanics OR PHYS 161H	4	MATH 122B or MATH 125 or appropriate Math Placement Level
<b>3<sup>RD</sup> SEMESTER</b>		
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	AME 105, Concurrent Enrollment or completion of AME 205
MATH 223 Vector Calculus	4	MATH 129 with C or better
AME 205 Introduction to MATLAB II	1	AME105
CHEM 241A or CHEM242A (Honors) or CHEM246A Lectures in Organic Chemistry	3	For CHEM241A, CHEM242A, CHEM246A: CHEM 152 or CHEM 105B/106B
CHEM 243A or CHEM247A Organic Chemistry Laboratory	1	For Both: Completion or concurrent enrollment CHEM 241A or CHEM242A or CHEM246A
Tier I General Education	3	
<b>4<sup>TH</sup> SEMESTER</b>		
CHEE 202 Elements of Chemical Engineering II	4	CHEE 201, 201L, Completion or concurrent enrollment MATH 254
CHEE 203 Chemical Engineering Heat Transfer and Fluid Flow	3	CHEE 201, PHYS 141
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism OR PHYS 261H	4	PHYS 141 or PHYS 161H, MATH 129 or appropriate Math Placement Level
CHEM 241B Lectures in Organic Chemistry OR CHEM 242B OR CHEM 246B	3	For CHEM 241B/246B: CHEM 241A or CHEM 242A or CHEM 246A; For CHEM 242B:CHEM 242A

Course Number and Title	Units	Prerequisites
Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements & prerequisites)		
<b>5<sup>TH</sup> SEMESTER</b>		
CHEE 303 Chemical Engineering Mass Transfer	3	
CHEE 402 Chemical Engineering Modeling	3	
CHEE 301A Chemical Engineering Lab I	1	
CHEE 477R - Microbiology for Engineers or BIOC 462A - Biochemistry or CHEE 481A Engineering of Biological Processes	3	
CHEM 480A Physical Chemistry	3	
Tier I General Education	3	
<b>6<sup>TH</sup> SEMESTER</b>		
CHEE 305 Chemical Engineering Transport Phenomena	3	
CHEE 326 Chemical and Physical Equilibrium	3	CHEE 202, CHEM 480A
CHEE 301B Chemical Engineering Lab II	1	CHEE 301A, CHEE 303, Co-requisite: CHEE 305,326
Engineering Elective – See major advisor for course approval	3	
Technical Elective – See major advisor for course approval	3	
Tier I General Education	3	
<b>7<sup>TH</sup> SEMESTER</b>		
CHEE 420 Chemical Reaction Engineering	3	
CHEE 442 Chemical Engineering Design Principles	3	
CHEE 401A Chemical & Environmental Engineering Laboratory I	1	CHEE 301B, Co-requisite: CHEE 420
Engineeringl Elective – See major advisor for course approval	3	
Advance Science Requirement: CHEM 480B Physical Chemistry OR CHEM 481 Biophysical Chemistry OR BIOC 462B Biochemistry	3	
Tier II General Education	3	
<b>8<sup>TH</sup> SEMESTER</b>		
CHEE 413 Process Control and Simulation	3	CHEE 401A, CHEE 420
CHEE 401B Process Dynamics and Control Laboratory	1	CHEE 401A. Prerequisite or concurrent registration in CHEE 413
CHEE 443 Chemical Engineering Plant Design	3	
Engineering Elective – See major advisor for course approval	3	
Technical Elective – See major advisor for course approval	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.