B.S. IN CHEMICAL ENGINEERING

CATALOG YEAR 2016-2017

Below is the *advised sequence* of courses for this degree program and prerequisites as of 2/10/16. 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
1ST SEMESTER		
MATH 122A/B **OR** MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I **OR** CHEM 105A/ 106A	4	
ENGL 101 **OR** 107 **OR** 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering **OR** ENGR 102	3	Concurrent enrollment or completion of 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
AME 105 Introduction to MATLAB I	1	Concurrent enrollment or completion of MATH 122B or MATH 125
PHYS 141 Introductory Mechanics **OR** PHYS 161H	4	MATH 122B or MATH 125; Concurrent enrollment or completion of MATH 129
ENGL 102 **OR** 108 **OR** 109H First-Year Composition	3	ENGL 101, ENGL 107
CHEM 152 General Chemistry II OR CHEM 105B/106B or MSE 110	4	CHEM 151 or CHEM 105A/106A
3RD SEMESTER		
CHEE 201 Elements of Chemical Engineering I **AND** CHEE 201L Elements of Chemical Engineering I Computational Lab	3 1	MATH 122B or MATH 125, CHEM 152, ECE 175, AME 105, Concurrent enrollment or completion of AME 205, ENGR102
MATH 223 Vector Calculus	4	MATH 129 with C or better
AME 205 Introduction to MATLAB II	1	AME 105
CHEM 241A Lectures in Organic Chemistry **OR** CHEM 242A **OR** CHEM 246A	3	CHEM 152 or 105B/106B
CHEM 243A Organic Chemistry Laboratory **OR** CHEM 247A	1	Concurrent enrollment or completion of CHEM 241A or CHEM 242A or CHEM 246A
Tier I General Education	3	
4TH SEMESTER		
CHEE 202 Elements of Chemical Engineering II	4	CHEE 201, 201L, MATH 223
CHEE 203 Chemical Engineering Heat Transfer and Fluid Flow	3	CHEE 201, PHYS 141
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
PHYS 241 Introductory Electricity and Magnetism **OR** PHYS 261H	4	PHYS 141 or PHYS 161H; MATH 129; MATH 223 is recommended not required
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
CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG	
ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)	
5TH SEMESTER	
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
6TH SEMESTER	
CHEE 305 Chemical Engineering Transport Phenomena	3
CHEE 326 Chemical and Physical Equilibrium	3
CHEE 301B Chemical Engineering Lab II	1
Engineering Elective – See major advisor for course approval	3
Technical Elective – See major advisor for course approval	3
Tier I General Education	3
7TH SEMESTER	
CHEE 420 Chemical Reaction Engineering	3
CHEE 442 Chemical Engineering Design Principles	3
CHEE 401A Chemical & Environmental Engineering Laboratory I	1
Technical Elective – See major advisor for course approval	3
Advanced Science Requirement: CHEM 480B Physical Chemistry **OR** CHEM 481 Biophysical Chemistry **OR** BIOC 462B Biochemistry	3
Tier II General Education	3
8TH SEMESTER	
CHEE 413 Process Control and Simulation	3
CHEE 401B Process Dynamics and Control Laboratory	1
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.