

B.S. IN CHEMICAL ENGINEERING

CATALOG YEAR 2021-2022

Below is the *advised sequence* of courses for this degree program and prerequisites as of 12/18/20.

The official degree requirements and prerequisites 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 161/163	4	Appropriate Math Placement
ENGL 101 or 107 or 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering or ENGR 102	3	<u>ENGR102A</u> : MATH 112; <u>ENGR102B</u> : Concurrently enrolled or completion of MATH 122B or 125; FR & SOPH Status
Tier I General Education	3	
Semester Total	18/16	
2ND SEMESTER		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or appropriate Math Placement Level
ENGL 102 or 108 First-Year Composition	3	ENGL 101 or ENGL 107
CHEM 152 General Chemistry II Or CHEM 162/164 or MSE 110	4	For CHEM 152 and MSE 110: CHEM 151 or 161/163
Semester Total	14	
3RD SEMESTER		
CHEE 201 Elements of Chemical and Environmental Engineering I (Fall Only)	3	MATH 122B or 125; Completion or concurrent enrollment MATH 129, CHEM 152 or 162/164
CHEE 205 Intro to MATLAB and Excel	3	MATH 122B or 125
MATH 223 Vector Calculus	4	MATH 129 with C or better
CHEM 241A Lectures in Organic Chemistry or CHEM 242A or 246A	3	CHEM 152 or 162/164
CHEM 243A Organic Chemistry Laboratory or CHEM 247A	1	CHEM 152 or 162/164; Prerequisites or concurrent in CHEM 241A or 242A or 246A
Tier I General Education	3	
Semester Total	17	
4TH SEMESTER		
CHEE 202 Elements of Chemical & Environmental Engineering II	4	CHEE 201 and (201L, AME 105, AME 205 or CHEE 205); Completion or concurrent enrollment in 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 or 223 with C or better
CHEM 241B Lectures in Organic Chemistry OR CHEM 242B OR CHEM 246B	3	<u>For CHEM 241B/246B</u> : CHEM 241A or 242A or 246A; <u>For CHEM 242B</u> : CHEM 242A, Active in Honors College
PHYS 241 Introductory Electricity and Magnetism Or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129 or appropriate Math Placement Level
Semester Total	17	

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 377 Microbiology for Engineers	3	
CHEM 480A Physical Chemistry	3	
Tier I General Education	3	
	Semester Total	16
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 – Review list of courses on CHEE website or consult with your advisor	3	
SIE 305 Introduction to Engineering Probability and Statistics or MATH 363 Introduction to Statistical Methods	3	
Tier I General Education	3	
	Semester Total	16
7TH SEMESTER		
CHEE 420 Chemical Reaction Engineering	3	
CHEE 442 Chemical Engineering Design Principles	3	
CHEE 401A Chemical and Environmental Engineering Laboratory I	1	
Engineering Elective – Review list of courses on CHEE website or consult with your advisor	3	
Technical Elective – Upper Division Math, Science, Business or Engineering; Consult with your advisor	3	
Tier II General Education	3	
	Semester Total	16
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 – Review course list on CHEE website or consult with you advisor	3	
Technical Elective – Upper Division Math, Science, Business or Engineering; Consult with advisor	3	
Tier II General Education	3	
	Semester Total	16

*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.