

B.S. IN CHEMICAL ENGINEERING

CATALOG YEAR 2020-2021

Below is the *advised sequence* of courses for this degree program and prerequisites as of 12/18/19.

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	ENGR102A: MATH 112 or 120R & CHEM 151; ENGR102B: Concurrent enrollment or completion of MATH 122B or 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 - (Seven Week 1)	1	Concurrent enrollment or completion of MATH 122B or 125
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
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 201L Elements of Chemical and Environmental Engineering I Computational Lab (Fall Only)	1	AME 105, Concurrent Enrollment or completion of AME 205
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
AME 205 Introduction to MATLAB II	1	AME 105
Tier I General Education	3	
4TH SEMESTER		
CHEE 202 Elements of Chemical & Environmental Engineering II	4	CHEE 201, 201L; 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	For CHEM 241B/246B: CHEM 241A or 242A or 246A; For CHEM 242B: 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
COURSE NUMBER AND TITLE	UNITS	PREREQUISITES

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 CHEE 489 Trends in Nanomedicine Engr – Fund. Therapeutics/Drugs Delivery Systems (Spring Only) or BIOC 462A Biochemistry or CHEE 481A Engineering of Biological Processes (Spring Only)	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 – 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 I General Education	3

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
Adv Science Requirement: CHEM 480B Physical 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 – 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

*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.