

B.S. IN SOFTWARE ENGINEERING

CATALOG YEAR 2021-2022

Below is the *advised sequence* of courses for this degree program and prerequisites as of 5/13/21.

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	
ENGR102A/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
SFWE 101 Introduction to Software Engineering	3	ENGR 102A/B
ECE 175 Computer Programming for Engineering Applications	3	Concurrent Enrollment or completion of MATH122B or 125
ENGL 102 or 108 First-Year Composition	3	ENGL 101 or ENGL 107
Tier I General Education	3	
Semester Total		15
3RD SEMESTER		
CHEM 152 General Chemistry II or CHEM 162/164 or MSE 110 Solid State Chemistry or MCB 181R/L Intro Biology I	4	<u>For CHEM 152 and MSE 110</u> : CHEM 151 or 161/163; <u>For MCB181R/L</u> : Appropriate Math Placement level
PHYS 141 Introductory to Mechanics or PHYS 161H	4	MATH 122B or 125 or appropriate Math Placement Level
SFWE 201 Sophomore Colloquium	1	
ECE 274A Digital Logic	4	ECE 175; Concurrent Enrollment or completion of MATH 129
ECE 275 Computer Programming for Engineering Applications II	3	ECE 175
Semester Total		16
4TH SEMESTER		
SIE 277 Object Oriented Modeling and Design	3	ECE 175 or 110
SFWE Tech Elective–Select course in consultation with faculty advisor	3	
MATH 243 Discrete Mathematics in Computer Science	3	MATH 122B or 125 with C or better
PHYS 241 Introductory Electricity and Magnetism or PHYS 261H	4	<u>For PHYS 241 or 261H</u> : PHYS 141 or 161H; MATH 129 or Appropriate Math Placement Level
Tier I General Education	3	
Semester Total		16

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	
SIE 305 Introduction to Engineering Probability and Statistics	3
SFWE 301 Software Requirements Analysis and Test	3
ECE 311 Engineering Ethics	1
ECE 369A (or 369) Computer Organization	3/4
SFWE Tech Elective – Select course in consultation with faculty advisor	3
Semester Total	13/14
6TH SEMESTER	
SFWE 302 Software Design Process	3
CSC 345 Analysis of Discrete Structures and Algorithms	3
MATH/PHYS/STAT Elective – Select course in consultation with faculty advisor	3
Tier I General Education	3
Tier II General Education	3
Semester Total	15
7TH SEMESTER	
SFWE 401 Software Assurance and Security	3
SFWE 403 Software Project Management	3
SIE 464 Cost Estimation	3
ENGR 498A Cross-disciplinary Design (Fall Only) – Senior Status	3
Tier II General Education	3
Semester Total	15
8TH SEMESTER	
SFWE 402 Software DevOps	4
SFWE Tech Elective – Select course in consultation with faculty advisor	3
SFWE Tech Elective – Select course in consultation with faculty advisor	3
SFWE 404 Software Preceptor	1
ENGR 498B Cross-disciplinary Design (Spring Only) – Senior Status	3
Semester Total	14

*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.