

# B.S. IN ENGINEERING MANAGEMENT

## 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
<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 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		<b>18/16</b>
<b>2<sup>ND</sup> SEMESTER</b>		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
CHEM 152 General Chemistry II or CHEM 162/164 or MSE 110 Solid State Chemistry or MCB 181 R/L Into Biology I	4	<u>For CHEM 152 &amp; MSE 110</u> : CHEM 151 or 161/163; <u>For MCB 181R/L</u> : Appropriate Math Placement
ECE 175 Computer Programming for Engineering Applications OR CSC 110 Introduction to Computer Programming I	3/4	<u>For ECE 175</u> : Concurrent Enrollment or completion of MATH122B or 125 <u>For CSC 110</u> : MATH 112 with C or better
ENGL 102 or 108 First-Year Composition	3	ENGL 101 or ENGL 107
Tier I General Education	3	
Semester Total		<b>16</b>
<b>3<sup>RD</sup> SEMESTER</b>		
MATH 223 Vector Calculus	4	MATH 129 with C or better
PHYS 141 Introductory Mechanics or PHYS 161H	4	MATH 122B or 125 or appropriate Math Placement Level
SIE 265 Engineering Management I	3	MATH 122B or 125
Tier I General Education	3	
Tier II General Education	3	
Semester Total		<b>17</b>
<b>4<sup>TH</sup> SEMESTER</b>		
CE 214 Statics	3	PHYS 141 or 161H; MATH 129
CHEE 201 Elements of Chemical & Environmental Engr I (Fall Only) or AME 230 Thermodynamics or BE 284 Biosystems Thermal Engineering (Fall Only)	3	<u>For CHEE 201</u> : MATH 122B or 125, concurrent enrollment or completion MATH 129 & CHEM152 or 162/164; <u>For AME 230</u> : PHYS 141 or PHYS 161H; <u>For BE 284</u> : MATH 129, PHYS 141
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
SIE 295S Systems & Industrial Engineering Sophomore Colloquium	1	SIE 265 (concurrently enrolled)
SIE 270 Mathematical Foundations of Systems and Industrial Engineering	3	MATH 129, PHYS 141, ECE 175 or CSC 110
Tier I General Education	3	
Semester Total		<b>17</b>
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)****5<sup>TH</sup> SEMESTER**

SIE 305 Introduction to Engineering Probability and Statistics	3	
SIE 340 Deterministic Operations Research	3	
ECE 207 Elements of Electrical Engineering or ECE 220 Basic Circuits	3/5	If taking ECE 220, See advisor regarding class schedule
Engineering Minor Course	3	
Engineering Minor Course	3	
Semester Total		<b>15/20</b>

**6<sup>TH</sup> SEMESTER**

SIE 367 Engineering Management II	3	
SIE 431 Simulation Modeling and Analysis	3	
SIE 462 Production Systems Analysis	3	
Engineering Minor Course	3	
Engineering Minor Course	3	
Semester Total		<b>15</b>

**7<sup>TH</sup> SEMESTER**

SIE 415 Technical Sales and Marketing	3	
SIE 498A or ENGR 498A Cross-Disciplinary Design (Fall Only) – Senior Status	2/3	
SIE 457 Project Management	3	
ENGL 308 Technical Writing or CE 301 Engineering Communication (Fall Only)	3	
Engineering Minor Course	3	
Semester Total		<b>14/15</b>

**8<sup>TH</sup> SEMESTER**

SIE 498B or ENGR 498B Cross-Disciplinary Design (Spring Only) – Senior Status	3	
SIE 414 Law for Engineers and Scientists	3	
SIE 464 Cost Estimation	3	
SIE 406 Quality Engineering	3	
Tier II General Education	3	
Engineering Minor Course	3	
Semester Total		<b>18</b>

\*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.