

B.S. IN MECHANICAL 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
ECE 175 Computer Programming for Engineering Applications	3	Concurrent enrollment or completion of MATH122B 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
Tier I General Education	3	
3RD SEMESTER		
CE 214 Statics	3	PHYS 141 or PHYS 161H; MATH 129
MATH 223 Vector Calculus	4	MATH 129 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
ABE 221 Introduction to Computer Aided Design	3	
Tier I General Education	3	
4TH SEMESTER		
AME 230 Thermodynamics	3	MATH 223
AME 250 Dynamics	3	CE 214; Concurrent enrollment or Completion of MATH 254
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
ECE 207 Elements of Electrical Engineering	3	PHYS 241 or PHYS 261H; Completion or concurrent enrollment in MATH 254
AME 205 Introduction to MATLAB II	1	AME 105
Tier I General Education	3	

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	
AME 301 Engineering Analysis	3
AME 324A Mechanical Behavior of Engr. Materials OR CE 215 Mechanics of Solids	3
AME 331 Introduction to Fluid Mechanics	3
AME 352 Dynamics of Machines	3
Tier II General Education	3
6TH SEMESTER	
AME 324B Engineering Component Design	3
AME 300 Instrumentation Laboratory	3
AME 302 Numerical Methods	3
MSE 331R Fundamentals of Materials for Engineers	3
AME 324L Mechanics of Materials Laboratory	1
Tier II General Education	3
7TH SEMESTER	
ENGR 498A Cross-disciplinary Design	3
AME 432 Heat Transfer	3
AME 495S Senior Colloquium	1
AME 400 Senior Mechanical Laboratory	2
AME 313 Machine Shop	1
Technical Elective	3
Technical Elective	3
8TH SEMESTER	
ENGR 498B Cross-disciplinary Design	3
AME 455 Control System Design	3
Technical Elective	3
Technical Elective	3
Technical Elective	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.