

# B.S. IN AEROSPACE ENGINEERING

## CATALOG YEAR 2015-2016

Below is the *advised sequence* of courses for this degree program and prerequisites as of 7/30/15. 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
<b>1<sup>ST</sup> SEMESTER</b>		
MATH 122A/B <b>OR</b> MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I <b>OR</b> CHEM 105A/ 106A	4	
ENGL 101 <b>OR</b> 107 <b>OR</b> 109H First-Year Composition	3	
ENGR 102A/B Introduction to Engineering <b>OR</b> ENGR 102	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
<b>2<sup>ND</sup> SEMESTER</b>		
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
PHYS 141 Introductory Mechanics <b>OR</b> PHYS 161H	4	MATH 122B or MATH 125; Concurrent enrollment or completion of MATH 129
ENGL 102 <b>OR</b> 108 <b>OR</b> 109H First-Year Composition	3	ENGL 101, ENGL 107
ECE 175 Computer Programming for Engineering Applications	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
<b>3<sup>RD</sup> SEMESTER</b>		
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 <b>OR</b> PHYS 261H	4	PHYS 141 or PHYS 161H; MATH 129; MATH 223 is recommended not required
AME 205 Introduction to MATLAB II	1	AME 105
ABE 221 Introduction to CAD	3	
Tier I General Education	3	
<b>4<sup>TH</sup> SEMESTER</b>		
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, 223 or 250A with C or better
AME 220 Introduction to Aerospace Engineering	3	MATH 223; PHYS 141; Concurrent enrollment or Completion of MATH 254
Tier I General Education	3	

COURSE NUMBER AND TITLE	UNITS
<b>CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG</b>	
<b>ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)</b>	
<b>5<sup>TH</sup> SEMESTER</b>	
AME 320 Aerodynamics	3
AME 324A Mechanical Behavior of Engineering Materials	3
AME 301 Engineering Analysis	3
AME 300 Instrumentation Laboratory	3
MSE 331R Fundamentals of Materials for Engineers	3
AME 324L Mechanics of Materials Laboratory	1
<b>6<sup>TH</sup> SEMESTER</b>	
AME 324C Aerospace Structures	3
AME 321 Aircraft Performance	3
AME 323 Gasdynamics	3
AME 302 Numerical Methods	3
AME 313 Aerospace/Mechanical Engineering Laboratory	1
Tier II General Education	3
<b>7<sup>TH</sup> SEMESTER</b>	
AME 420 Aerospace Conceptual Design	3
AME 425 Aerospace Propulsion	3
AME 427 Stability and Control of Aerospace Vehicles	3
AME 457 Orbital Mechanics and Space Flight	3
AME 495S Senior Colloquium	1
Technical Elective	3
<b>8<sup>TH</sup> SEMESTER</b>	
AME 422 Aerospace Engineering Design (Offered in Spring 2016)	3
AME 401 Senior Aerospace Laboratory	2
AME 463 Finite Element Analysis with ANSYS <b>OR</b> AME 431 Numerical Methods in Fluid Mechanics and Heat Transfer	3
Technical Elective	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.