

Aeronautical/Aerospace Engineering

Minimum credit hour requirements for the Bachelor's Degree in Aeronautical Engineering: 129

FIRST YEAR					
	FALL	Credits		SPRING	Credits
CHEM-1100	Chemistry I ¹	4	PHYS-1200	Physics II	4
PHYS-1100	Physics I	4	MATH-1020	Calculus II	4
ENGR-1200	Engineering Graphics & CAD ²	1	MANE-2060	Fundamentals of Flight	1
MATH-1010	Calculus I	4	ENGR-1100	Introduction to Engineering Analysis ¹	4
HASS	Hum., Arts or Soc. Sci. Elective	4	HASS	Hum., Arts or Soc. Sci. Elective	4
		17			17
SECOND YEAR					
	FALL	Credits		SPRING	Credits
ENGR-1300	Engineering Processes ¹	1	CSCI- 1190	Beginning Programming for Engineers ¹	1
ENGR-2050	Introduction to Engineering Design ^{1,3}	4	MATH-2010	Multivariable Calculus and Matrix Algebra	4
ENGR-2530	Strength of Materials ¹	4	ENGR-2090	Engineering Dynamics ⁴	4
MATH-2400	Introduction to Differential Equations ¹	4	ENGR-2250	Thermal and Fluids Engineering I ⁴	4
HASS	Hum., Arts or Soc. Sci. Elective	4	ENGR-2600	Modeling and Analysis of Uncertainty ¹	3
		17			16
THIRD YEAR ⁵					
	Summer Arch Semester	Credits		Fall or Spring ⁵	Credits
MANE-4060	Aerospace Structures and Materials	4	MANE-4800	Boundary Layers and Heat Transfer	3
MANE-4070	Aerodynamics I	4	MANE-4900	Aeroelasticity and Structural Vibration	3
MATH-4800	Numerical Computing	4	MANE-4920	Aerospace Structures and Controls Lab	2
HASS	Hum., Arts or Soc. Sci. Elective	4	HASS	Hum., Arts or Soc. Sci. Elective	4
				Free Elective ¹	4
		16			16
FOURTH YEAR					
	FALL	Credits		SPRING	Credits
ENGR-4010	Professional Development III ¹	1	MANE-4050	Modeling & Control of Dynamic systems ¹	4
MANE-4080	Propulsion Systems	3	MANE 4xxx	Capstone Design Elective ⁹	3
MANE-4910	Fluid Dynamics Lab ¹	2		Free Elective ¹	4
MANE-4xxx	Computation Intensive Elective ^{1,6}	3		Free Elective ¹	4
MANE-4xxx	Flight Mechanics Elective ⁷	4			
	Professional Development II ^{1,8}	2			
		15			15

1. These courses may be taken in any order in the year indicated.

2. Choice of: ENGR-1200 Engineering Graphics & CAD or ENGR-1400 Engineering Communication; ENGR-1200 is recommended.

3. Aeronautical engineering students may use MANE-2200 Inventor's Studio 1 as a substitute for ENGR-2050 Intro to Engineering Design.

4. MATH-2400 Introduction to Differential Equations is a co-requisite for these courses; these courses may not be moved to fall if MATH-2400 is taken in spring.

5. Aeronautical Engineering students should start planning for their Flight Mechanics/Capstone track during third year. Those on the Space Flight track must take MANE-4100 Spaceflight Mechanics during spring semester of third year (in place of the free elective) to assure timely graduation.

6. Choice of: MANE-4140 Intro to Computational Fluid Dynamics, MANE-4240 Intro to Finite Elements, or MANE-4280 Design Optimization: Theory and Practice.

7. Choice of: MANE-4090 Flight Mechanics, MANE-4200 Rotorcraft Performance, Stability & Control, or MANE-4100 Spaceflight Mechanics (as noted, the latter must be taken in spring semester of third year to assure timely graduation).

8. For a list of courses that satisfy the PD II requirement refer to the link "Courses which satisfy the PD II requirement" on the SIS home page.

9. Choice of: MANE-4230 Air Vehicle Design, MANE-4850 Space Vehicle Design, or MANE-4860 Intro to Helicopter Design (students on the Space Flight track take MANE 4850 in fall of fourth year).