


# Aerospace Engineering Curriculum

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Hum. or Soc. Sci. Elective, *Credit Hours: 4*

## First Year

### Fall

Hum. or Soc. Sci. Elective *Credit Hours: 4*

CHEM 1100 - Chemistry I *Credit Hours: 4*

ENGR 1100 - Introduction to Engineering Analysis *Credit Hours: 4*

ENGR 1200 - Engineering Graphics and CAD *Credit Hours: 1*

(See Footnote 1 Below)

MATH 1010 - Calculus I *Credit Hours: 4*

### Spring

Hum. or Soc. Sci. Elective *Credit Hours: 4*

ENGR 1300 - Engineering Processes *Credit Hours: 1*

(See Footnote 1 Below)

MANE 2060 - Fundamentals of Flight *Credit Hours: 4*

MATH 1020 - Calculus II *Credit Hours: 4*

PHYS 1100 - Physics I *Credit Hours: 4*

## Second Year

### Fall

Hum. or Soc. Sci. Elective *Credit Hours: 4*

ENGR 2530 - Strength of Materials *Credit Hours: 4*

MATH 2400 - Introduction to Differential Equations *Credit Hours: 4*

PHYS 1200 - Physics II *Credit Hours: 4*

### Spring

CSCI 1190 - Beginning C Programming for Engineers *Credit Hours: 1*

ENGR 2050 - Introduction to Engineering Design *Credit Hours: 4*

ENGR 2090 - Engineering Dynamics *Credit Hours: 4*

ENGR 2250 - Thermal and Fluids Engineering I *Credit Hours: 4*

MATH 2010 - Multivariable Calculus and Matrix Algebra *Credit Hours: 4*

## Third Year

### Fall

Hum. or Soc. Sci. Elective *Credit Hours: 4*

ENGR 2600 - Modeling and Analysis of Uncertainty *Credit Hours: 3*

MANE 4060 - Aerospace Structural Analysis *Credit Hours: 3*

MANE 4070 - Aerodynamics I *Credit Hours: 3*

MATH 4800 - Numerical Computing *Credit Hours: 4*

## Spring

Professional Development II *Credit Hours: 2*  
(See Footnote 2 Below.)

Hum. or Soc. Sci. Elective *Credit Hours: 4*

MANE 4050 - Modeling and Control of Dynamic Systems *Credit Hours: 4*

(See Footnote 3 Below)

MANE 4900 - Aeroelasticity and Structural Vibrations *Credit Hours: 3*

MANE 4920 - Aerospace Structures and Control Laboratory *Credit Hours: 2*

## Fourth Year

### Fall

Flight Mechanics Elective *Credit Hours: 4*  
(See Footnote 4 Below)

ENGR 4010 - Professional Development III *Credit Hours: 1*

(See Footnote 3 Below)

MANE 4080 - Propulsion Systems *Credit Hours: 4*

MANE 4800 - Boundary Layers and Heat Transfer *Credit Hours: 3*

MANE 4910 - Fluid Dynamics Laboratory *Credit Hours: 2*

### Spring

Capstone Design Elective *Credit Hours: 3*  
(See Footnote 5 Below)

Free Elective *Credit Hours: 4*

Free Elective *Credit Hours: 4*

Free Elective *Credit Hours: 4*

## Humanities or Social Sciences Electives

In this area, the electives are based on the Institute and School of Engineering requirements for these electives. Students are urged to elect humanities and social science sequences through which they will obtain adequate breadth and depth in subject areas. Students desiring minors in Humanities, Arts, and Social Sciences must consult the school or department in which the courses are offered to obtain further information and specific requirements.

## Footnotes

*These required courses may be taken in any order.*

*This course will be fulfilled from a list published at the start of each semester.*

*Can be taken either semester.*

*Choice of: MANE 4090, MANE 4100, or MANE 4200.*

*Choice of: MANE 4230, MANE 4850, or MANE 4860.*

## Dual Major Programs

A dual major in Aerospace Engineering and Mechanical Engineering is available to students who follow a prescribed program that can be completed in eight semesters. General requirements and procedures for dual degrees are described within the Academic Information and Regulations section of this catalog. Degree templates for Dual Majors offered by the MANE department may be found here: <http://www.eng.rpi.edu/mane/undergraduate.cfm>