

AEROSPACE ENGINEERING PROGRAM CHART

12/3 UNITS OF GENERAL EDUCATION ACTIVITIES

6/3 Units H&A REQUIREMENT	See WPI Requirements
3/3 Unit INTERACTIVE QUALIFYING (IQP) PROJECT	See WPI Requirements
2/3 Units SOCIAL SCIENCE	See WPI Requirements
1/3 Unit PHYSICAL EDUCATION	See WPI Requirements

3/3 UNITS OF FREE ELECTIVE

3/3 Units FREE ELECTIVE	See Catalog
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12/3 UNITS OF MATHEMATICS AND BASIC SCIENCE

Mathematics 5/3 Units	Physics 3/3 Units	Chemistry 1/3 Units	Electives 3/3 Units
MA 1021 Calculus I MA 1022 Calculus II MA 1023 Calculus III MA 1024 Calculus IV MA 2051 Ordinary Diff Eqs	PH 1110 or PH 1111 General Physics-Mechanics PH 1120 or PH 1121 General Physics-Elec & Magnet PH 2201 Intermediate Mechanics I	CH 1010 Chemistry I or CH 1020 Chemistry II	CH 3510 Thermodynamics (Note 1) Courses from the General Category of Mathematics and Basic Science

18/3 UNITS OF ENGINEERING SCIENCE AND DESIGN (Note 2)

12/3 Units in AERONAUTICAL ENGINEERING		OR	12/3 Units in ASTRONAUTICAL ENGINEERING	
Aerodynamics 3/3 Units	ME 3602 Incompressible Fluid Dyn. ME 3410 Compressible Fluid Dyn. ME 3711 Aerodynamics		Orbital Mechanics and Space Environments 1/3 Unit	ME 2713 Astronautics
Aerospace Materials 2/3 Units	ES 2001 Intro to Materials ME 4718 Adv. Materials Aerospace Appl.		Attitude Determination and Control 2/3 Units	ME 3703 Intro. to Control Dynam. Sys. ME 4713 Spacecraft Dyn. & Controls
Structures 2/3 Units	ES 2502 Stress Analysis ME 3712 Aerospace Structures		Telecommunications 1/3 Unit	ME 4733 Guidance, Navigation and Communications
Propulsion 2/3 Units	ES 3004 Fluid Mechanics ME 4710 Gas Turbines Prop. & Power		Space Structures 3/3 Units	ES 2001 Intro to Materials ES 2502 Stress Analysis ME 3712 Aerospace Structures
Flight Mechanics, and Stability and Control 2/3 Units	ME 3703 Intro. to Control Dynam. Sys. ME 4723 Aircraft Dyn.& Controls		Rocket Propulsion 4/3 Units	ES 3004 Fluid Mechanics ME 3602 Incompressible Fluid Dyn. ME 3410 Compressible Fluid Dyn. ME 4719 Rocket Propulsion
Major Design Experience 1/3 Unit	ME 4770 Aircraft Design		Major Design Experience 1/3 Unit	ME 4771 Spacecraft and Mission Design
2/3 Units in ASTRONAUTICAL ENGINEERING			2/3 UNITS IN AERONAUTICAL ENGINEERING	
Orbital Mechanics and Space Environments 1/3 Unit	ME 2713 Astronautics		Aerodynamics 1/3/ Unit	ME 3711 Aerodynamics
Telecommunications 1/3 Unit	ME 4733 Guidance, Navigation and Communications		Aerospace Materials 1/3 Unit	ME 4718 Adv. Materials Aerospace Appl.
4/3 Units in AERONAUTICAL AND ASTRONAUTICAL ENGINEERING		4/3 Units in AERONAUTICAL AND ASTRONAUTICAL ENGINEERING		
Experimentation 1/3 Unit	ME 3901 Engineering Experimentation	Experimentation 1/3 Unit	ME 3901 Engineering Experimentation	
Aerospace Design 3/3 Units	Major Qualifying Project in Aerospace Engineering	Aerospace Design 3/3 Units	Major Qualifying Project in Aerospace Engineering	

The courses in the above chart can be replaced by other equivalent courses, with the approval of the AE Program Committee

Note 1: 1/3 unit in Thermodynamics (can be satisfied with CH 3510 as a Mathematics and Basic Science Elective, or ES 3001 Intro to Thermodynamics as a Free Elective, or other equivalent courses with approval of the AE Program Committee)

Note 2: 1/3 unit of an activity must be in Capstone Design (can be satisfied with MQP, ME 4770, or ME 4771)