

## AEROSPACE ENGINEERING PROGRAM CHART

**12/3 UNITS OF GENERAL EDUCATION ACTIVITIES**

6/3 UNITS H&A SUFFICIENCY	See WPI Requirements
3/3 UNIT INTERACTIVE QUALIFYING (IQP) PROJECT	See WPI Requirements
2/3 UNIT SOCIAL SCIENCE	See WPI Requirements
1/3 UNIT PHYSICAL EDUCATION	See WPI Requirements

**3/3 UNITS OF FREE ELECTIVE**

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**12/3 UNITS OF MATHEMATICS AND BASIC SCIENCE**

MATHEMATICS 5/3 Units Required	PHYSICS 3/3 Units Required	CHEMISTRY 2/3 Units Required	ELECTIVES 2/3 Units Required
MA 1021 Calculus I MA 1022 Calculus II MA 1023 Calculus III MA 1024 Calculus IV MA 2051 Ordinary Differential Equations	PH 1110 or PH 1111 General Physics- Mechanics PH 1120 or PH 1121 General Physics-Electricity & Magnetism PH 2201 Intermediate Mechanics I	CH 1010 Chemistry I or CH 1020 Chemistry II CH 3510 Chemical Thermodynamics	Student Selected Courses from the General Category of Mathematics and Basic Science

**18/3 UNITS OF ENGINEERING SCIENCE AND DESIGN (Note 1)**

15/3 UNITS OF ENGINEERING SCIENCE AND DESIGN			
FLUIDS AND PROPULSION 6/3 Units Required	MATERIALS AND STRUCTURES 4/3 Units Required	DYNAMICS AND CONTROL 4/3 Units Required	SYSTEMS DESIGN 1/3 Units Required
ES 3003 Heat Transfer ES 3004 Fluid Mechanics ME 3602 Incompressible Fluid Dynamics ME 3410 Compressible Fluid Dynamics ME 3711 Aerodynamics ME 4710 Gas Turbines for Propulsion and Power Generation or ME 4719 Rocket Propulsion	ES 2001 Intro to Materials ES 2502 Stress Analysis ME 3712 Aerospace Structures ME 4718 Advanced Materials with Aerospace Applications	ES 3011 Control Engineering I ME 2713 Astronautics ME 4733 Guidance, Navigation and Communications ME 4723 Aircraft Dynamics and Control or ME 4713 Spacecraft Dynamics and Control	ME 4770 Aircraft Design or ME 4771 Spacecraft and Mission Design

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

3/3 UNITS OF ENGINEERING SCIENCE AND DESIGN
MAJOR QUALIFYING PROJECT (MQP)

Note 1: 1/3 unit of an activity must be in Capstone Design (can be satisfied with MQP, ME 4770, ME4771)