

The background of the page is a collage of aerospace-related images. The top half shows a grey fighter jet in flight against a blue sky. The bottom half shows a white space capsule with a person in a white spacesuit standing next to it. A large green rectangular area on the right side contains the main text.

# AEROSPACE ENGINEERING CONCENTRATION

Study the design, manufacturing, and operating techniques of air-flight-capable machines. Courses cover a range of engineering disciplines such as fluid mechanics, chemical propulsion, structures, and stability and control as they apply to aircraft and rockets that fly within and above Earth's atmosphere.



# WHEN AND HOW TO DECLARE

To declare a concentration in aerospace engineering, you must have completed MECH 342: Mechanics and Thermodynamics of Flow Processes. Once you have completed this course, work with your advisor to declare the concentration.

## THE COURSEWORK

Students who complete 12 credit hours from the lists of courses below will earn a concentration in aerospace engineering. The 12 credit hours fulfill the technical elective requirement for mechanical engineering students. Courses in bold are recommended if students have a specific interest in that thematic area. Courses can be selected from a single theme or multiple.

For 500-level courses, students must have a 3.0 GPA or instructor approval.

### FLUID FLOW

<b>MECH 460</b>	<b>Aeronautics</b>
MECH 478	Computational Fluid Dynamics
MECH 480A6	Compressible Flow
MECH 507	Laser Diagnostics for Thermosciences
MECH 539	Advanced Fluid Mechanics
MECH 551	Physical Gas Dynamics

### PROPULSION

<b>MECH 450</b>	<b>Aerospace Propulsion</b>
MECH 468	Space Propulsion & Power Engineering
MECH 517	Chemical Rocket Propulsion
MECH 557	Turbomachinery
MECH 558	Combustion
MECH 567	Broad-Beam Ion Sources

### STRUCTURES & SYSTEMS

MECH 417	Control Systems
<b>MECH 420</b>	<b>Aerospace Structures</b>
MECH 425	ME Vibrations
MECH 426	Advanced Machine Design
MECH 515	Advanced Topics in Mechanical Vibrations
MECH 520	Finite Element Analysis in ME

### MATERIALS & MANUFACTURING

MECH 530	Advanced Composite Materials
MECH 535	Mechanics of Composite Materials
MECH 581A9	Processing of Polymer Composites

