



Aerospace Engineering

The sky's the limit! For those who enjoy putting things in motion, aerospace engineering strikes a chord. Be it a satellite observing the Martian atmosphere, a turbine engine from a commercial airliner, a fixture for testing performance of a defensive missile, or an active ballast for reducing sway in an ocean liner, aerospace engineers are on the job.

Where do Aerospace Engineers Work?

Aerospace engineers work in a variety of organizations, including:

- NASA Flight and Research Centers
- Robotics Companies
- Automotive Facilities
- Department of Defense
- Private/Commercial Space Firms

Explore Our Aerospace Curriculum

Grades 3-5:

Rocket Power
Pop Rockets
Strawkets and Weight

Grades 6-8:

Action-Reaction! Rocket
Solar Sails: The Future of Space Travel
Building-Testing-Improving Paper Airplanes...

Grades 9-12:

Rocket Launch Time: Flying with Style
Linear Equations Game
Rocketry Calculations: Houston, We Have a Problem!

Aerospace engineering spans many disciplines, but is generally broken into a few subfields:

astrodynamics, flight structures and materials, propulsion and fluid dynamics, instrumentation, control systems, and navigation.

What do Aerospace Engineers Study?

Aerospace engineers study parts of other engineering disciplines in order to create larger systems. Combining aspects of mechanical, electrical, software, and chemical engineering with math and physics, aerospace engineers design ways of fitting multiple parts of a project together. They focus on things like optimizing performance, and characterizing new technologies. Aerospace engineers are exposed to lots of useful tools, like mechanical CAD (*for designing structures*), circuit analysis software (*for creating electrical systems*), computation programs (*for handling complex calculations like interplanetary trajectory planning*), and data acquisition tools (*for testing and analyzing design performance*).