



Virtual Learning

# Aerospace Engineering

**Career Exploration - Aerospace Engineer**

April 24, 2020



# Aerospace Engineering

## Lesson: April 24, 2020

### **Objective/Learning Target:**

Students will learn about the career of an aerospace engineer and what requirements are needed to become an one.



## **Bell Work:**

What do you think are the requirements for someone to become an aerospace engineer?

## Let's Get Started:

### Watch Videos:

- [Aerospace Engineers -- What is it?](#)
- [To The Moon & Mars - Aerospace Engineering: Crash Course Engineering #34](#)



## Definitions You Need to Know:

Astronaut - a person who is trained to travel in a spacecraft.

Aeronautics - an all-encompassing term that describes the design and production, operation, support and servicing of all types of aircraft.

Aerospace engineering is the primary field of engineering that deals with the development of aircraft and spacecraft. There are two major and overlapping branches: aeronautical engineering and astronautical engineering.

Avionics engineering is a very closely related field, but it deals with the electronics side of aerospace engineering.



Aerospace engineers are required to have a bachelor's degree in aerospace engineering or another field of engineering or science related to aerospace systems. Aerospace engineers who work on projects that are related to national defense may need a security clearance.



Space exploration, aviation, and national defense systems all use high end technologies that were developed by aerospace engineers. They usually focus on a specialty such as robotics, structural design, instrumentation, propulsion, communication, or navigation.

Aerospace engineers also design things like missiles, rockets, military and commercial aircraft, remote piloted planes and helicopters, and spacecraft.

An aerospace engineer could be an expert in more than one subject, such as thermodynamics, propulsion, aerodynamics, celestial mechanics, acoustics, flight mechanics, and guidance systems.



Aerospace engineers spend the majority of their time in an office setting working with advanced computer equipment and sophisticated programs. At times, an Aerospace Engineer could find themselves working in a manufacturing environment so that they can oversee the construction and implementation of one of their designs.

Aerospace engineers work full-time schedules. Sometimes managing larger projects will require overtime hours, especially when deadlines are approaching.



Here are some colleges where you can get an aerospace engineering degree:

Wichita State University

Missouri University of Science & Technology--Rolla

California Institute of Technology.

Massachusetts Institute of Technology.

Stanford University.

Georgia Institute of Technology.

University of Michigan--Ann Arbor.

Purdue University--West Lafayette.

University of Illinois--Urbana-Champaign.

Texas A&M University--College Station.



# Aerospace Engineering Understanding

Use the internet to research the following questions:

1. Description of the occupation including main duties and responsibilities.
2. What are the education and training requirements for the occupation?
3. List other required qualifications such as licensing, certifications, etc.
4. What field of Engineering works closely with Aerospace Engineer?
5. List the name of one person that you know of who is in an Aerospace Engineer (someone famous, use Google).