What can I do with a major in...
Aerospace engineering and mechanics

Aerospace engineers design, develop, and test new technologies for use in aviation, defense systems, and space exploration, often specializing in areas such as aerodynamics, structural design, guidance, navigation and control, instrumentation and communication, or production methods. They often use computer-aided design (CAD) software, robotics, and lasers and advanced electronic optics. They also may specialize in a particular type of aerospace product, such as commercial transports, military fighter jets, helicopters, spacecraft, or missiles and rockets. Aerospace engineers may be experts in aerodynamics, thermodynamics, celestial mechanics, propulsion, acoustics, or guidance and control systems. Aerospace engineers often apply their knowledge to related fields such as environmental engineering and mechanical engineering.

INDUSTRIES
- Aircraft design
- Aircraft parts manufacturing
- Airlines
- Consulting
- Heating, Ventilation, AC
- Higher education
- Insurance
- Marketing
- National defense
- Propulsion Engineering
- Research
- Rocketry
- Satellites
- Space flight
- Transportation

EMPLOYERS
- 3M
- Aster Labs
- Boeing
- Boston Scientific
- Carl Zeiss Industrial Metrology, LLC
- Eaton Corporation
- Federal Aviation Administration
- Ford Motor Company
- General Electric
- Honeywell
- HUSCO International
- Lockheed Martin
- NASA
- NAVAIR
- Northrop Grumman
- Medtronic
- Orbital ATK
- Sierra Nevada Corporation
- United Launch Alliance
- UTC Aerospace Systems
- Virgin Galactic

TECHNICAL SKILLS
- AutoCAD
- C, C++, Dynamic C
- Java
- Mathematica
- MATLAB/Simulink
- ANSYS
- Python
- SolidWorks
- STK

CSE Career Outcomes
Average Starting Salary: $66,280*
Post-graduation Outcomes:*
POSSIBLE POSITIONS

- **Analytical engineer**: Conducts in-depth assessments of proposed products and evaluates whether the design of each product meets customer requirements.
- **Controls engineer**: Designs, develops, installs, manages, and maintains equipment which is used to monitor and control engineering systems, machinery, and processes.
- **Design engineer**: Takes the concept or working model of a product to create a design that meets the customer’s requirements, industry standards, and can be manufactured economically.
- **Development engineer**: Applies research findings to develop new or improved products or manufacturing processes.
- **Field service engineer**: Examines performance reports on products and makes recommendations to solve problems.
- **Manufacturing engineer**: Plans the tooling, construction, and assembly of the product as dictated by the design specifications.
- **Materials engineer**: Tests and evaluates materials, conventional or composite, used in aerospace structures.
- **Project engineer**: Plans, directs, and coordinates activities of company projects.
- **Systems engineer**: Performs the requirements, analysis, and definition of the overall system and its subsystem.
- **Test engineer**: Designs and oversees the performance testing of products in wind tunnels and in flight.

**Some of these positions may require an advanced degree.**

GET INVOLVED

- Active Energy Club
- American Institute of Aeronautics and Astronautics
- Copter Club
- Liquid Propellant Rocket Design
- National Society of Black Engineers
- Rocket Team
- Science and Engineering Student Board
- Society of Asian Scientists and Engineers
- Society of Automotive Engineers – Formula Race Car
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Solar Vehicle Project
- Tesla Works

RESOURCES

- Aerospace Industries Association: [aia-aerospace.org](http://aia-aerospace.org)
- Aerospace Medical Association: [asma.org](http://asma.org)
- Aerospace-Technology: [aerospace-technology.com](http://aerospace-technology.com)
- American Astronautical Society: [astronautical.org](http://astronautical.org)
- American Council of Engineering Companies: [acec.org](http://acec.org)
- American Institute Of Aeronautics & Astronautics: [aiaa.org](http://aiaa.org)
- Department of Aero Engineering: [aem.umn.edu](http://aem.umn.edu)
- NASA: [nasa.gov](http://nasa.gov)
- National Aeronautical Association: [naa.aero](http://naa.aero)
- National Institute of Aerospace: [nianet.org](http://nianet.org)
- Society of Flight Engineers: [sfte.org](http://sfte.org)

*Salary and Career Outcomes gathered from the 2016-2017 CSE Graduation Survey
Post-graduation outcomes reflect the percentage of students who were employed full-time in their field or were enrolled in a graduate program.
For detailed starting salary information see the CSE Career Center website.*