

# Career engineering research paper

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Aerospace or Aeronautical Engineering, is one of the most advanced and difficult forms of engineering. The roots of aeronautical engineering can be traced to the early days of mechanical engineering, to inventors' concepts, and to the initial studies of aerodynamics, a branch of theoretical physics. The earliest sketches of flight vehicles were drawn by Leonardo da Vinci, who suggested two ideas for sustentation. Aeronautical engineers design and test aircraft, space vehicles and military space weapons and missiles for commercial airplane manufacturers, military agencies & aerospace research laboratories.

This type of Engineer studies the necessary physics for designing aircrafts that will fly; they are involved primarily in designing aircraft and propulsion systems and in studying the aerodynamic performance of aircraft and construction materials. These engineers design aircraft structural components, decide and plan the engine propulsion design based upon the aircraft power requirements, also they request prototype versions of new designs for testing in laboratories prior to flights.

They work with the theory, technology, and practice of flight within the earth's atmosphere. An aerospace engineer experiments with new designs to enhance performance and cost. In addition, they test prototypes to make sure that they function according to design. Aerospace engineers are employed in industries whose workers design or build aircraft, missiles, systems for national defense, or spacecraft. One of the major career opportunities for aeronautic engineers is working with the US government, air force, army, etc.

Aerospace engineers are employed primarily in analysis and design, manufacturing, industries that perform research and development, and the federal government. This is a bright future career, in which you confer with test pilots, customer executives & research engineers to identify special needs and performance characteristics for future aircraft, space vehicles and military missiles. Aerospace Engineers are responsible for a lot of decisions and have to plan a lot of preparations. I selected this field based on a couple of factors, for one my father was partially in this field, he worked for Boeing, and he has always wanted me to be an engineer.

Another is everyone of my older family members think the same because of my creative imagination and leadership. Also, I selected this field because the job requires the skills that I believe I have, involves leadership, communication, accuracy, being structured, decision making and a lot of math. Math is one of my favorite subjects and at this occupation there is going to be a lot of calculus, statistics, and other forms of math used/comprehended.

Being an Aerospace Engineer you are able to use your creativity, a good level of income that makes you an independent person, hands on work and hands on work, you also get to make new technological advances while improving on others, there is teamwork and alone work, most of this career fits into the skills that I possess. This field does require a minimum of a bachelor degree for entry and masters degree for a higher level position. You need to take courses in chemistry, physics, and mathematics, including algebra, trigonometry, and calculus. The skills for this career are designing, mathematics, science and quality control.

The demand for this type of engineer is at regions where there is high population and well any other region that needs aerospace engineers, places near water, companies like NASA, etc. There are possibilities however that you would have to relocate to a bigger city or a different area because the local engineering careers are all occupied. There are big companies in Canada, and other various places in the US. As soon as you have spent four years of college (Bachelor Degree) and started working for a good firm, there is also a pretty good salary for you.

According to the Bureau of Labor Statistics, the mean annual salary for this occupation is \$104, 810. The lowest 10 percent earned less than \$60, 620, and the top 10 percent earned more than \$143, 360. The salary range is around the same for all areas ( it does change however based on the cost of living in your area) - entry level- but as you gain experience and promotions the salary could easily be doubled. The salary from this career would able me to live the lifestyle I would love to live in, allow me to choose where my family stays, what car I drive, etc.

The average per hour pay is about \$50 dollars so after every 8-hour work day I would make around \$400 which could pay for a car note, with pretty much less than two weeks of pay I could pay all the bills for the month and still have a little left over money. A lot of careers opportunities are blooming however that is not the case for this field of engineering, it is growing but at very slow rate of about 5%, these jobs are mildly difficult to find, however these are the careers that you work in till you retire (long term employment).

The job outlook in this field is slowly prosperous with an estimated amount of 4, 000 new availabilities in the next 10 years. Finding a career in this field

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would be kind of difficult right after graduation, however finding a good internship will be around mediocre. Working as an intern I would receive the skills necessary for the position I want, and give on site experience. When you do find a job in this field you are going to be working for companies like NASA, Boeing, Lockheed-Martin and various other big companies.

Things don't always go like planned in my life, so another occupation that is similar to this and in my interest is an Aerospace engineering technician. The technician's median salary is less than the Engineers at about \$58, 000, yet you only have to have an Associate's degree for it. These technicians operate and maintain equipment used in developing, testing, and producing new aircraft and spacecraft. They work at offices, laboratories, and industrial plants; they are at a risk of being exposed to hazardous and toxic materials but incidents are rare as long as proper procedures are followed.

There are a lot of other engineering jobs but another that I am interested in is an electrical engineer, they usually only require an associate's degree and do mostly the same work as an aerospace engineer. This type of engineers works with the aerospace engineers and designs, adjusts, tests, and repairs the equipment. An engineer is a person trained and skilled in the design, construction, and use of engines or machines, or in any of the various branches of engineering... an individual can be successful in any one of the branches, the one in which he chooses to prosper in is his decision.