SO YOU WANT TO BE AN ENGINEER

An introductory guide to the wonderful world of engineering.

What Is Engineering?

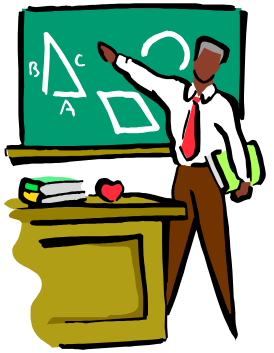
Engineering is the art of applying scientific and mathematical principles, experience, judgment, and common sense to make things that benefit people.

Engineers are problem-solving people who make things work better, more efficiently, quicker, and less expensively. They use skills and dedication to search for better ways to solve problems in our modern world.

Why Be An Engineer?

There are many great benefits to being an engineer. Engineers work on many exciting, interesting, and cutting-edge projects in numerous fields. As an engineer, you will also have the opportunity to meet new people and participate in team projects. Engineers are also paid very well and have good job security. As an engineer, you will have the ability to help society in many important ways.

What Can I Do To Become An Engineer?



All engineering fields require a college degree. In order to succeed in college, it is important to take advanced math and science classes in high school. These classes will form the foundation of your engineering education.

If you want to become an engineer, you should take the following math and science classes:

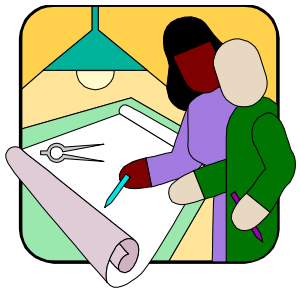
Algebra I & II	Geometry
Trigonometry	Calculus
Biology	Physics
Chemistry	Ecology

While science and math classes are important, do not forget to include other subjects such as social studies, foreign languages, English, computer applications, and fine arts. Extracurricular activities are also very important. Joining sports teams, clubs, and volunteer programs are fun ways to learn teamwork and enhance your college application.

Historical Electronics Museum Location: 1745 West Nursery Road, Linthicum, MD 21090 (410) 765-0230 Mailing Address: P.O. Box 746 M.S. 4015, Baltimore, MD 21203 www.hem-usa.org

Types of Engineering Careers

- **Aerospace Engineer:** Designs and tests all types of aircraft including gliders, space shuttles, and rockets.
- **Agricultural Engineer:** Deals with the use and conservation of soil, water, and forest resources. Develops technologies to improve crop, livestock, and food production techniques.
- **Biomedical Engineer:** Studies different areas of medicine focusing on various ways that technology can be used to treat or alleviate biological and medical problems.



- **Chemical Engineer:** Solves problems relating to the production and use of chemicals, with things such as air pollutants, refining gasoline, purifying drinking water, treating waste products, recovering raw materials, and processing food.
- **Civil Engineer:** Designs and supervises the creation of structures including tunnels, dams, highways, airports, and other transportation systems.
- **Computer Engineer:** Applies scientific theory and engineering design to develop new computer hardware, software, and robotics.
- **Electrical Engineer:** Designs power plants, space communication systems, and industrial robotics. Creates the electronic devices for computers, TVs, stereo systems, automated factories, and laser beams.
- **Environmental Engineer:** Develops processes that control pollutants to protect our air and water sources in order to create a cleaner environment.
- **Industrial Engineer:** Develops and implements plans to maximize the efficiency and effectiveness of an organization.
- **Materials Engineer:** Develops materials such as metals, plastics, ceramics, super- and semi-conductors.
- **Mechanical Engineer:** Researches, designs, manufactures, and tests all types of mechanical devices: tools, engines, machines, and robotics.
- **Nuclear Engineer:** Develops the methods, instruments, and systems to harness the power of nuclear energy and radiation.

Additional Information

Information from the following websites was used to produce this brochure. To learn more about engineering and how to become an engineer, visit these websites.

- National Academy of Engineering: www.nae.edu
- American Society for Engineering Education: www.asee.org
- Discover Engineering Online: www.discoverengineering.org
- Engineer Girl: www.engineergirl.com
- Institute of Electrical and Electronics Engineers: www.ieee.org