THE RIGHT CLASSES TO TAKE IN HIGH SCHOOL

The following is a list of classes that you can take in high school to make college easier.

**Best Classes:**

- **Math**
  - Algebra
  - Geometry
  - Trigonometry
  - Calculus

- **Science**
  - Biology
  - Chemistry
  - Computer
  - Environmental
  - Physics

- **Computer Applications/Typing**

**May be useful:**

- Music
- Art
- Languages
- Creative Writing
- Geography
- History

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**FUN/INFORMATIVE SITES**

http://www.engineeringk12.org
http://www.discoverengineering.org
http://www.engineergirl.org
http://asee.org
http://www.alice.org

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http://www.learnmoreindiana.org/students/
http://www.learner.org/exhibits/
http://www.nspe.org/media/mr1-tenfacts.asp
http://www.greatachievements.org
http://www.bios.niu.edu/wis/profiles.html
http://women.cs.cmu.edu/ada/Resources/Women/
http://www.uic.edu/orgs/gem-set/
http://www.greatwomen.org

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IEEE Women in Engineering (WIE) of South Jersey
President: Holly Cyrus

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**WHY BECOME AN ENGINEER?**
WHAT IS AN ENGINEER?

Engineers affect every facet of life from space travel and cars, to roller coasters and soft drinks. Engineering can be loosely defined as “…the application of math and science to create something of value from our natural resources…” (www.discoverengineering.org).

KINDS OF ENGINEERS

There are many different kinds of engineers:
1. Aerospace/Aeronautical
2. Agricultural
3. Biological
4. Biomedical
5. Chemical
6. Civil
7. Computer/Software
8. Electrical
9. Environmental
10. Geological/Geophysical
11. Industrial
12. Manufacturing
13. Marine/Ocean
14. Materials (Ceramics, Metallurgy, …)
15. Mechanical
16. Method (Operations productivity)
17. Mineral and Mining
18. Nanotechnology (Cross-discipline)
19. Nuclear
20. Robotics
21. Transportation
... and more.

WHY BECOME AN ENGINEER?

Salary

The average starting salary for an engineer is significantly higher than salaries for graduates with bachelor's degrees in many other fields. For example, according to CNN Money, 2007 graduates in civil engineering may expect salaries of $47,000, computer science graduates may expect $51,000, electrical or mechanical engineering graduates may expect $54,500, and chemical engineering graduates may expect $60,000. Engineering salaries have been higher than average salaries for the last 40 years.

Time

Most entry-level engineering jobs only require a bachelor’s degree, which usually takes 4 to 5 years to get. Becoming a lawyer takes at least 7 years. Becoming a medical doctor takes even longer; school and residency can take about 11 years.

Work

As an engineer you could have the opportunity to do cool stuff like design roller coasters, planes, bridges, and games. You could invent a product, like a new cell phone, or a device that improves the lives of people. You might develop new technology with many different uses; for example, technology developed for space communications have been used in pacemakers to save lives.

You can make a difference in the world by becoming an engineer.

HISTORY

Women engineers have been particularly active in cutting-edge technologies.

Ada Byron Lovelace wrote a paper in 1843 that anticipated the development of computer software (including the term "software"), artificial intelligence, and computer music.

Rear Admiral Grace Murray Hopper was a computer pioneer who was awarded the National Medal of Technology, the nation's highest honor in engineering and technology. (AMUSING FACT: Grace is also credited for first using the word “bug” to mean a computer error. Grace discovered that the computer she was working on crashed because a moth flew through a Harvard lab window, whacked into a vacuum tube, and brought the whole system down!)

Stephanie Louise Kwolek developed Kevlar, a material used in planes, fiber optic cables, and bulletproof vests.

Hedy Lamarr, WWII actress, invented an anti-jamming device to use against Nazi radar.

Dr. Bonnie J. Dunbar helped to develop the tiles that enable the space shuttle to re-enter the earth’s atmosphere and survive.

Mary Anderson designed and patented the first windshield wiper.

Evelyn Boyd Granville developed software used in both the Mercury & Apollo Projects.

Beulah Louise Henry was known as the “Female Edison” for her many inventions.

Some women to watch: Randice-Lisa Altschul, toy inventor; Zhenan Bao, chemical engineer; Laurie Marshall, NASA engineer; Anna Nagurney, network systems expert; Allison Yale, engineering psychologist.