

Calculate your EQ (Engineering Quotient)!

I like to solve problems and be creative.

Engineering is all about using science and math to solve problems. Engineers work on pollution control, communication systems, transportation issues, and safety designs, as a few examples. They use their skills to make things work better, faster, and less expensively.

I want to make the world a better place to live.

In the year 1900, the average life expectancy was 46 years. In the year 2000, the average life expectancy was 76 years, a 30 year improvement. Twenty of those thirty years have been attributed to engineering developments in the areas of clean water and sanitary sewerage. Engineers design wheelchairs, cell phones, infant monitors, artificial organs, computer software and all kinds of innovations that improve our lives on a daily basis.

I do well in my math and science classes.

Engineering is the art of applying scientific and mathematical principles, experience, judgment and common sense to make things that benefit people. If you enjoy science and math, you most likely have an aptitude for engineering.

I want to combine my interest in science with my interests in music or history.

A strong background in science can be combined with interests in other fields, such as humanities and the arts, to make you even more successful in the engineering world. Engineers need to have the communication skills, good judgment and sense of perspective that comes from a broad educational and personal background.

I want an education that will let me keep my options open.

With an engineering background, you can go into management, teaching, research, consulting, business, industry, government or marketing. As an example, the medical school admission rate for students with engineering degrees is in excess of 80%, compared with a national average of 48%.

I like to work as part of a team.

Engineers typically work with other engineers or with scientists and other experts to solve problems in a group setting. Most projects are built around teams of people who work together to find the best solution.

I want a job that will let me balance career and family.

A recent study showed that 16% of women scientists and engineers were employed part-time. Nearly 42% cited family responsibilities as the reason. Because women have been under-represented in this field, employers have developed programs such as mentoring, advanced studies and flexible work schedules to help attract women to technological careers and to promote women's professional growth.

Ready to take the next step? Here is additional information that will help you as you consider engineering as a field of study or as a life-long career.

Academic Essentials

Colleges vary in their high school course requirements, so you need to check with individual institutions about what they want to see on your transcript. The courses listed here are what we recommend for students who wish to pursue engineering in college:

Algebra I & II
Trigonometry
Geometry
Precalculus
Calculus
Biology
Chemistry

Physics
Social Studies
English
Foreign Languages
Fine Arts
Humanities
Computer Programming

College Options

A sampling of U.S. colleges and universities that specialize in engineering and technology:

Carnegie Mellon University
Cooper Union College
Drexel University
Harvey Mudd College
Illinois Institute of Technology
Kettering University
Massachusetts Institute of Technology

Polytechnic University
Rensselaer Polytechnic Institute
Rochester Institute of Technology
Rose-Hulman Institute of Technology
Stevens Institute of Technology
Worcester Polytechnic Institute

Engineering “A to Z”

Some of the many areas of engineering available:

Aerospace Engineering
Agricultural Engineering
Biomedical Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Environmental Engineering
Fire Protection Engineering
Geological Engineering
Industrial Engineering

Manufacturing Engineering
Materials Engineering
Mechanical Engineering
Nuclear Engineering
Plant Engineering
Plastics Engineering
Robotics Engineering
Safety Engineering
Software Engineering
Transportation Engineering

Web Resources

These sites have great information about everything from college scholarships to summer programs for high school students:

Society of Women Engineers	www.swe.org/takeoff
American Society for Engineering Education	www.asee.org/precollege
Discover Engineering Online	www.discoverengineering.org
Women in Engineering Organization	www.wieo.org
National Engineers Week	www.eweek.org
National Society for Professional Engineers	www.nspe.org/students