



Engineers are problems solvers. They use science, technology, math and even art to design, build, and repair everything from airplanes to bridges. The Engineering Pathway is about applying science, math, and technology to solve complex, open-ended problems in a real-world context. Students will use the actual technology and software used in the world's top companies. Students will design and investigate topics such as sustainability, structures, aerodynamics, digital electronics, manufacturing, and the environment, which gives them an opportunity to learn about different engineering areas before entering post-secondary college and careers.

	Year 1	Year 2	Year 3	Year 4	Advanced Education
Engineering	-Intro to Engineering Design	-Principles of Engineering	-Civil Engineering and Architecture	-Engineering Design and Development	College Campus Experience Clas-C209, Biol-L105, Chem-C105/125, Chem-C100, Math-M118, Eng-W131, Psy-P103, Spch-S121, Eng-L202, Hist-H113, Hist-H105, Phil-P100, Phil-P140, Info-I101, Acct-211, Educ-108, Art-131, Comm-110 Advanced/AP Courses -AP Statistics, AP Calculus
English	-English 9 -English 9 Honors	-English 10 -English 10 Honors	-English Composition -DC English Composition	-American Literature -DC American Literature	
Math	-Algebra 1	-Geometry -Honors Geometry	-Algebra 2 -Honors Algebra 2	-Pre Calculus	
Science	-Biology	-Chemistry 1 -Environmental Science -Physics	-Environmental Science -Physics -AP Chemistry	-Physics -AP Chemistry	
Social Studies	-World Geography -Civics	-World History -AP World History	-US History -AP US History	-Government -DC Government and -Economics -DC Economics	

Required Electives

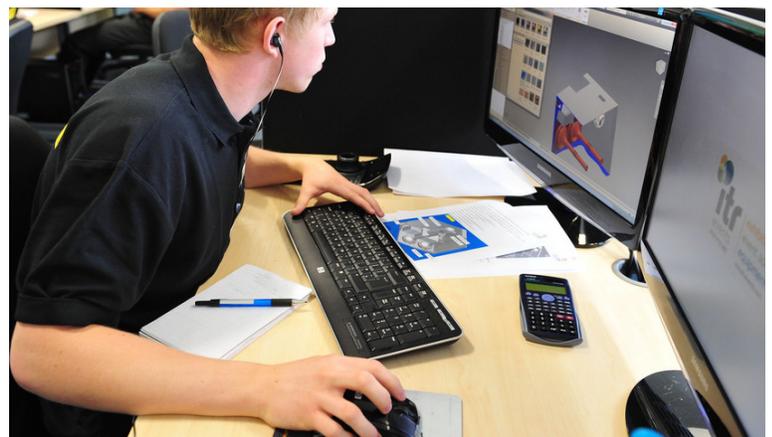
2 semesters of fine arts

2 semesters of physical education

1 semester of digital citizenship

1 semester of health

6 semesters of one foreign language or 4 semesters in two foreign languages





Overview

Engineering careers apply principles from mathematics, life sciences, physical science, earth and space science, and technology to solve problems and design everything from shoes to hydroelectric dams. In Grades 9-12, all future engineers should study mathematics each year, learning important mathematical concepts and processes that they can later apply to problem solving and design projects. Engineers work in nearly every industry.

Employment Outlook

The job outlook for engineers continues to look promising because competitive pressures and advancing technology will force companies to improve and update product designs and to optimize their manufacturing processes. Also, additional engineers will be needed to improve or build new roads, bridges, water and pollution control systems, and other public facilities. The median annual wage for engineering occupations is \$75,780.

Possible Careers

- Aerospace Engineer
- Agricultural Engineer
- Biomedical Engineer
- Paper Engineer
- Chemical Engineer
- Civil Engineer
- Computer Hardware Engineer
- Cost Estimator
- Engineering Drafter
- Electrical Engineer
- Electro-Mechanical Technician
- Electronics Engineer
- Engineering Teacher
- Environmental Engineer
- Fire-Prevention and Protection Engineer
- Health and Safety Engineer
- Engineering Inspector
- Industrial Engineer
- Industrial Safety and Health Engineer
- Marine Architect
- Marine Engineer
- Marine Engineers and Naval Architect
- Materials Engineer
- Mechanical Engineer
- Mining and Geological Engineers
- Safety Engineer
- Nuclear Engineer
- Nuclear Equipment Operation Technician
- Petroleum Engineer
- Product Safety Engineer

Table 1: Average starting salaries of Class of 2012 graduates, by field of major

Field of major	Average starting salary
Engineering	\$62,655
Computer science	59,221
Business	53,900
Health sciences	49,196
Communications	43,717
Math and sciences	42,471
Education	40,668
Humanities and social sciences	36,988

Engineering Type	Projected Growth Rate	Projected Number of New Jobs
Biomedical Engineers	29 percent or faster	5,000 to 9,999
Environmental Engineers	20 to 28 percent	10,000 to 49,999
Civil Engineers	10 to 19 percent	50,000 or more
Nuclear	10 to 19 percent	1,000 to 4,999
Petroleum Engineers	10 to 19 percent	5,000 to 9,999
Health and Safety Engineers	10 to 19 percent	1,000 to 4,999
Ship Engineers	10 to 19 percent	1,000 to 4,999
Marine Engineers	10 to 19 percent	1,000 to 4,999
Mining and Geological	10 to 19 percent	0 to 999
Sales Engineers	10 to 19 percent	5,000 to 9,999
Aerospace Engineers	0 to 9 percent	1,000 to 4,999
Agricultural	0 to 9 percent	0 to 999
Chemical	0 to 9 percent	1,000 to 4,999
Computer Hardware	0 to 9 percent	5,000 to 9,999
Electrical Engineers	0 to 9 percent	10,000 to 49,999
Electronics Engineers (except computer)	0 to 9 percent	5,000 to 9,999
Industrial	0 to 9 percent	10,000 to 49,999
Materials Engineers	0 to 9 percent	1,000 to 4,999
Mechanical	0 to 9 percent	10,000 to 49,999
Flight Engineers	0 to 9 percent	1,000 to 4,999