



# Engineering

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## An Overview...

Engineers design, develop, maintain and modify the tools of our technological society. It is a problem-solving profession that uses sciences, technology and common sense to design, construct, maintain and distribute goods, services and information. The broad profession of engineering is usually broken down into four basic categories: electrical and electronic, chemical, civil and mechanical. Most other engineering careers have specialized concentrations in the four basic categories.

## Skills:

Ability to operate computers	Sensitive to economic needs
Proficiency in math/physical science	Ability to conduct/explain scientific data
Ability to analyze, organize, & interpret data	Ability to make sound judgments
Ability to work well with others	Aptitude for accurate details
Research skills	Eye/hand coordination
Ability to concentrate	Logic and reasoning
Ability to follow systematic procedures	Ability to understand the art of measurement
Ability to apply physical principles to the solution	Ability to use technical equipment of problems
Ability to solve open-ended problems	

## Some Professional Careers:

Acoustical Engineer	Electrician	Nuclear Engineer
Aeronautical Engineer	Electronics Instructor	Operations Engineer
Aerospace Engineer	Engineering Educator	Physicist
Biomedical Engineer	Environmental Engineer	Project Engineer
Ceramic Engineer	Field Service Engineer	Quality Control Engineer
Chemical Engineer	Fire Protection Engineer	Radar Engineer
Circuit Engineer	Geologist	Research Engineer
Civil Engineer	Human Factors Engineer	Safety Engineer
Communication Systems Engineer	Illumination Engineer	Sales engineer
Computer Engineer	Industrial Engineer	Software Engineer
Consulting Engineer	Industrial Engineer	Systems Design Engineer
Control Engineer	Licensing Engineer	Systems Engineer
Decontamination Engineer	Maintenance Engineer	Teaching
Design Engineer	Mechanical Engineer	Technical Engineer
Development Engineer	Metallurgical Engineer	Test Engineer
Electrical Engineer	Mining Engineer	Transmission Engineer

## Hiring Organizations:

Aeronautics agencies  
Aerospace industries  
Automotive companies  
Chemical companies  
Colleges/Universities  
Computer companies  
Consulting firms  
Electrical industries  
Energy firms

Factories  
Government Agencies  
Machine/Tool companies  
Machinery plants  
Mining industries  
Research firms  
Transportation industries  
Utility companies

## Professional Organizations:

The American Ceramic Society  
P.O. Box 6136  
Westerville, OH 43086-6136  
(614) 890-4700 fax: (614) 899-6109  
[www.acers.org](http://www.acers.org)  
email: [info@acers.org](mailto:info@acers.org)

The American Society of Mechanical Engineers  
Three Park Avenue  
800-843-2763  
New York, NY 10016-5990  
[www.asme.org](http://www.asme.org)  
email: [infocentral@asme.org](mailto:infocentral@asme.org)

American Chemical Society  
1155 16<sup>th</sup> Street, NW  
Washington, DC 20036  
(800) 227-5558 fax: (202) 872-6067  
[www.acs.org](http://www.acs.org)  
email: [help@acs.org](mailto:help@acs.org)

Instrument Society of America  
67 Alexander Drive  
Research Triangle Park, NC 27709 USA  
(919) 549-8411 fax: (919) 549-8288  
[www.isa.org](http://www.isa.org)  
email: [info@isa.org](mailto:info@isa.org)

American Institute of Aeronautics and Astronautics  
1801 Alexander Bell Drive, Suite 500  
Reston, VA 20191-4344  
(703) 264-7500  
(800) 639-2422 fax: (703) 264-7551  
[www.aiaa.org](http://www.aiaa.org)  
email: [custserv@aiaa.org](mailto:custserv@aiaa.org)

The Minerals, Metals & Materials Society  
184 Thorn Hill Road  
Warrendale, PA 15086-7514  
(724) 776-9000 fax: (724) 776-3770  
[www.tms.org](http://www.tms.org)  
email: [tmsgeneral@tms.org](mailto:tmsgeneral@tms.org)

American Institute of Chemical Engineers  
3 Park Avenue  
New York, NY 10016-5991  
(800) 242-4363 fax: (212) 591-8888  
[www.aiche.org](http://www.aiche.org)  
email: [xpress@aiiche.org](mailto:xpress@aiiche.org)

The National Society of Professional Engineers  
420 King Street  
Alexandria, VA 22314-2794  
(703) 684-2800 fax: (703) 836-4875  
[www.nspe.org](http://www.nspe.org)  
email: [customer.service@nspe.org](mailto:customer.service@nspe.org)

American Nuclear Society  
555 North Kensington Avenue  
LaGrange Park, IL 60526  
(708) 352-6611 fax: (708) 352-0499  
[www.ans.org](http://www.ans.org)  
email: [outreach@ans.org](mailto:outreach@ans.org)

Society of Women Engineers  
230 East Ohio St., Suite 400  
Chicago, IL 60611  
(312)-596-5223  
[www.swe.org](http://www.swe.org)  
email: [hq@swe.org](mailto:hq@swe.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive  
Reston, VA 20191-4400  
[www.asce.org](http://www.asce.org)

Institute of Electrical and Electronics Engineers  
1828 L Street, N.W., Suite 1202  
Washington, D.C. 20036-5104 USA  
202 785 0017 Fax: 202 785 0835  
[www.ieee.org](http://www.ieee.org)

Society for Mining, Metallurgy and  
Exploration, Inc.  
8307 Shaffer Parkway  
Littleton, CO 80127  
(303) 973-9550 fax: (303) 973-3845  
[www.smenet.org](http://www.smenet.org)  
email: [sme@smenet.org](mailto:sme@smenet.org)

American Society of Heating, Refrigeration  
and Air-Conditioning Engineers  
1791 Tullie Circle, NE  
Atlanta, GA 30329  
(404) 636-8400 fax: (404) 321-5478  
[www.ashrae.org](http://www.ashrae.org)

Society of Petroleum Engineers  
PO Box 833836  
Richardson, TX 75083-3836  
(972) 952-9393 fax: (972) 952-9435  
[www.spe.org](http://www.spe.org)