























Architecture and Engineering Occupations

	Occupation	Job Summary	Entry-Level Education	2010 MEDIAN PAY
	<u>Aerospace Engineering and Operations Technicians</u>	<p>Aerospace engineering and operations technicians operate and maintain equipment used in developing, testing, and producing new aircraft and spacecraft. Increasingly, they use computer-based modeling and simulation tools and processes in this work.</p>	Associate's degree	\$58,080
	<u>Aerospace Engineers</u>	<p>Aerospace engineers design aircraft, spacecraft, satellites, and missiles. In addition, they test prototypes to make sure that they function according to design.</p>	Bachelor's degree	\$97,480
	<u>Agricultural Engineers</u>	<p>Agricultural engineers—also known as biological and agricultural engineers—work on a variety of activities. These activities range from aquaculture (raising food, such as fish, that thrive in water) to land farming to forestry; from developing biofuels to improving conservation; from planning animal environments to finding better ways to process food.</p>	Bachelor's degree	\$71,090
	<u>Biomedical Engineers</u>	<p>Biomedical engineers analyze and design solutions to problems in biology and medicine, with the goal of improving the quality and effectiveness of patient care.</p>	Bachelor's degree	\$81,540
	<u>Chemical Engineers</u>	<p>Chemical engineers apply the principles of chemistry, biology, and physics to solve problems. These problems involve the production or use of chemicals, fuel, drugs, food, and many other products. They design processes and equipment for large-scale safe and sustainable manufacturing, plan and test methods of manufacturing products and treating byproducts, and supervise production.</p>	Bachelor's degree	\$90,300
	<u>Civil Engineering Technicians</u>	<p>Civil engineering technicians help civil engineers plan and design the construction of highways, bridges, utilities, and other major infrastructure projects. They also help with commercial, residential, and land development. Civil engineering technicians</p>	Associate's degree	\$46,290

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	<u>Civil Engineers</u>	<p>work under the direction of a licensed civil engineer.</p> <p>Civil engineers design and supervise large construction projects, including roads, buildings, airports, tunnels, dams, bridges, and systems for water supply and sewage treatment.</p>	Bachelor's degree	\$77,560
	<u>Computer Hardware Engineers</u>	<p>Computer hardware engineers research, design, develop, and test computer equipment such as chips, circuit boards, or routers. By solving complex problems in computer hardware, these engineers create rapid advances in computer technology.</p>	Bachelor's degree	\$98,810
	<u>Drafters</u>	<p>Drafters use software to convert the designs of engineers and architects into technical drawings and plans. Workers in production and construction use these plans to build everything from microchips to skyscrapers.</p>	Associate's degree	\$47,880
	<u>Electrical and Electronic Engineering Technicians</u>	<p>Electrical and electronic engineering technicians help engineers design and develop computers, communications equipment, medical monitoring devices, navigational equipment, and other electrical and electronic equipment. They often work in product evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment.</p>	Associate's degree	\$56,040
	<u>Electrical and Electronics Engineers</u>	<p>Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment such as electric motors, radar and navigation systems, communications systems, and power generation equipment. Electronics engineers design and develop electronic equipment, such as broadcast and communications systems—from portable music players to global positioning systems (GPS).</p>	Bachelor's degree	\$87,180
	<u>Electro-mechanical Technicians</u>	<p>Electro-mechanical technicians combine knowledge of mechanical technology with knowledge of electrical and electronic circuits. They install, troubleshoot, repair, and upgrade electronic and computer-controlled mechanical systems, such as robotic assembly machines.</p>	Associate's degree	\$49,550

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	<u>Environmental Engineering Technicians</u>	Environmental engineering technicians carry out the plans that environmental engineers develop. They test, operate, and, if necessary, modify equipment for preventing or cleaning up environmental pollution. They may collect samples for testing, or they may work to mitigate sources of environmental pollution.	Associate's degree	\$43,390
	<u>Environmental Engineers</u>	Environmental engineers use the principles of engineering, soil science, biology, and chemistry to develop solutions to environmental problems. They are involved in efforts to improve recycling, waste disposal, public health, and control of water and air pollution.	Bachelor's degree	\$78,740
	<u>Health and Safety Engineers</u>	Health and safety engineers develop procedures and design systems to keep people from getting sick or injured and to keep property from being damaged. They combine knowledge of health or safety and of systems engineering to make sure that chemicals, machinery, software, furniture, and other products are not going to cause harm to people or buildings.	Bachelor's degree	\$75,430
	<u>Industrial Engineering Technicians</u>	Industrial engineering technicians plan ways to effectively use personnel, materials, and machines in factories, stores, hospitals, repair shops, and offices. As assistants to industrial engineers, they help prepare machinery and equipment layouts, plan workflows, conduct statistical production studies, and analyze production costs.	Associate's degree	\$48,210
	<u>Industrial Engineers</u>	Industrial engineers find ways to eliminate wastefulness in production processes. They devise efficient ways to use workers, machines, materials, information, and energy to make a product or provide a service.	Bachelor's degree	\$76,100
	<u>Materials Engineers</u>	Materials engineers develop, process, and test materials used to create a range of products, from computer chips and aircraft wings to golf clubs and snow skis. They also help select materials and develop new ways to use materials.	Bachelor's degree	\$83,120

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	<u>Mechanical Engineering Technicians</u>	<p>Mechanical engineering technicians help mechanical engineers design, develop, test, and manufacture industrial machinery, consumer products, and other equipment. They may make sketches and rough layouts, record and analyze data, make calculations and estimates, and report their findings.</p>	<p>Associate's degree</p>	<p>\$50,110</p>
	<u>Mechanical Engineers</u>	<p>Mechanical engineering is one of the broadest engineering disciplines. Mechanical engineers design, develop, build, and test mechanical devices, including tools, engines, and machines.</p>	<p>Bachelor's degree</p>	<p>\$78,160</p>
	<u>Nuclear Engineers</u>	<p>Nuclear engineers research and develop the processes, instruments, and systems used to get benefits from nuclear energy and radiation. Many of these engineers find industrial and medical uses for radioactive materials—for example, in equipment used in medical diagnosis and treatment.</p>	<p>Bachelor's degree</p>	<p>\$99,920</p>
	<u>Petroleum Engineers</u>	<p>Petroleum engineers design and develop methods for extracting oil and gas from deposits below the earth's surface. Petroleum engineers also find new ways to extract oil and gas from older wells.</p>	<p>Bachelor's degree</p>	<p>\$114,080</p>

Publish Date: Thursday, March 29, 2012

U.S. Bureau of Labor Statistics | Office of Occupational Statistics and Employment Projections, PSB Suite 2135, 2 Massachusetts Avenue, NE Washington, DC 20212-0001

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