
Nuclear Engineers

(0*NET 17-2161.00)

Nature of the Work

Nuclear engineers research and develop the processes, instruments, and systems used to derive benefits from nuclear energy and radiation. They design, develop, monitor, and operate nuclear plants used to generate power. They may work on the nuclear fuel cycle—the production, handling, and use of nuclear fuel and the safe disposal of waste produced by the generation of nuclear energy—or on the production of fusion energy. Some specialize in the development of nuclear power sources for spacecraft; others find industrial and medical uses for radioactive materials, such as equipment to diagnose and treat medical problems.

Employment

Nuclear engineers held about 16,000 jobs in 2002. Almost half were employed in utilities, one-quarter in professional, scientific, and technical services firms, and 14 percent in the Federal Government. Many Federally employed nuclear engineers were civilian employees of the U.S. Navy, and most of the rest worked for the U.S. Department of Energy.

Job Outlook

Good opportunities should exist for nuclear engineers because the small number of nuclear engineering graduates is likely to be in rough balance with the number of job openings. Because this is a small occupation, projected job growth will generate few openings; consequently, most openings will result from the need to replace nuclear engineers who transfer to other occupations or leave the labor force.

Little or no growth in employment of nuclear engineers is expected through 2012. Due to public concerns over the cost and safety of nuclear power, no commercial nuclear powerplants have been built in the United States for many years. Nevertheless, nuclear engineers will be needed to operate existing plants. In addition, nuclear engineers may be needed to research and develop future nuclear power sources. They also will be needed to work in defense-related areas, to develop nuclear medical technology, and to improve and enforce waste management and safety standards.

Earnings

Median annual earnings of nuclear engineers were \$81,350 in 2002. The middle 50 percent earned between \$67,970 and \$92,930. The lowest 10 percent earned less than \$58,350, and the highest 10 percent earned more than \$111,260. In the Federal Government, nuclear engineers in supervisory, nonsupervisory, and management positions earned an average of \$73,769 a year in 2003.

According to a 2003 salary survey by the National Association of Colleges and Employers, bachelor's degree candidates in nuclear engineering received starting offers averaging \$50,104 a year.

Sources of Additional Information

Information on careers and related topics for nuclear engineers is available from:



Almost half of all nuclear engineers work in utilities.

► American Nuclear Society, 555 North Kensington Ave., LaGrange Park, IL 60526. Internet: <http://www.ans.org>

See the introduction to the section on engineers for information on working conditions, training requirements, and other sources of additional information.