

Florida Institute of Technology– Career Management Services

Career Profile: Electrical Engineering

Electrical engineers design, develop, test, and supervise the manufacture of electrical equipment. Some of this equipment includes electric motors; machinery controls, lighting, and wiring in buildings; radar and navigation systems; communications systems; and power generation, control, and transmission devices used by electric utilities. Electrical engineers also design the electrical systems of automobiles and aircraft. Although the terms electrical and electronics engineering often are used interchangeably in academia and industry, electrical engineers traditionally have focused on the generation and supply of power, whereas electronics engineers have worked on applications of electricity to control systems or signal processing. Electrical engineers specialize in areas such as power systems engineering or electrical equipment manufacturing.



Engineers typically enter the occupation with a bachelor's degree in an engineering specialty, but some basic research positions may require a graduate degree. Engineers offering their services directly to the public must be licensed. Continuing education to keep current with rapidly changing technology is important for engineers.

All 50 States and the District of Columbia require licensure for engineers who offer their services directly to the public. Engineers who are licensed are called professional engineers (PEs). This licensure generally requires a degree from an ABET-accredited engineering program, 4 years of relevant work experience, and completion of a State examination. Recent graduates can start the licensing process by taking the examination in two stages. The initial Fundamentals of Engineering (FE) examination can be taken upon graduation. Engineers who pass this examination commonly are called engineers in training (EITs) or engineer interns (EIs). After acquiring suitable work experience, EITs can take the second examination, called the Principles and Practice of Engineering exam. Several States have imposed mandatory continuing education requirements for re-licensure. Most States recognize licensure from other States, provided that the manner in which the initial license was obtained meets or exceeds their own licensure requirements.

Electrical engineers are expected to have employment growth of 2 percent over the projections decade. Although strong demand for electrical devices—including electric power generators, wireless phone transmitters, high-density batteries, and navigation systems—should spur job growth, international competition and the use of engineering services performed in other countries will limit employment growth. Electrical engineers working in firms providing engineering expertise and design services to manufacturers should have better job prospects.

The average salary offer for a new graduate with a Bachelor's degree in Electrical Engineering is: \$61,690. With a Master's degree the average starting salary is \$79,233.

For more information on a career in Electrical Engineering contact the Career Management Services Office or your academic advisor.

Sources: Occupational Outlook Handbook, Bureau of Labor Statistics www.bls.gov/oco
National Association of Colleges and Employers Salary Survey: Winter 2011



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