

ELECTRICAL ENGINEERING

What can I do with this major?

AREAS

ANY ENGINEERING DISCIPLINE

Research and Development
Design
Production
Operations
Management
Teaching
Consulting
Sales and Marketing
Law
Manufacturing
Healthcare

EMPLOYERS

Engineering companies
Consulting companies
Industry
Local, state and federal government
Colleges and universities

STRATEGIES

Obtain relevant experience through co-ops or internships for industry-related career.
Develop strong verbal, written, teamwork and problem-solving skills.
Pursue Master of Science (MS), Master of Engineering (ME), or Master of Business Administration (MBA) degrees for increased opportunities in technical management.
Obtain Ph.D. for teaching and research careers.
Learn federal, state and local government job application procedures.
Pursue Professional Engineering licensure.

ELECTRICAL

Automatic Controls
Bioelectronics
Digital Systems
Electromagnetics
Analog electronics
Power and Energy Systems
Communications and Signal Processing

Industries including:

Aerospace, automotive, computer and electronics manufacturers, transportation, telecommunications, guidance and control systems, defense, electric power and energy, semiconductor, electronics, environmental, medical equipment, chemical, pharmaceutical, computer, pulp, paper, textile, metal

Scientific service companies (instruments, lab equipment, software)

Technical service companies (intelligence, information systems, defense)

Federal government:

Armed forces
National Aeronautics and Space Administration
Federal Bureau of Investigation
National Institute of Standards and Technology
Departments of Defense, Energy, Transportation
National Institutes of Health

Broad discipline applies engineering principles to the design and production of electronic systems and electrical devices.

Prepare for a course load including engineering fundamentals, math, science and electrical engineering.

Pursue design projects and laboratory experience throughout college career.

Seek related experience through research, internships, co-ops or part-time employment.

Join student chapters of industry organizations such as Institute for Electrical and Electronics Engineers (IEEE) to develop communication and leadership skills, to participate in competitions and to take advantage of professional networking opportunities.

GENERAL INFORMATION

- Utilize Sloan Career Cornerstone Center's website to learn more about opportunities in engineering.
- A bachelor's degree provides a wide range of career opportunities in industry, business and government.
- Bachelor's degree is good background for pursuing technical graduate degrees as well as professional degrees in Engineering, Business Administration, Medicine or Law.
- Graduate degrees offer more opportunities for career advancement, college or university teaching positions.
- Related work experience obtained through co-op, internships, part-time or summer jobs is extremely beneficial.
- Develop excellent verbal and written communications skills including presentation and technical report writing. Learn to work well on a team to maximize collaborations with other engineers and those outside of the profession.
- Develop computer expertise within field.
- Engineers need to think in scientific and mathematical terms and exhibit the abilities to study data, sort out important facts, solve problems and think logically. Creativity is useful.
- Other helpful traits include intellectual curiosity, technical aptitude, perseverance and a basic understanding of the economic and environmental context in which engineering is practiced.
- Because of rapid changes in most engineering fields, both continued education and keeping abreast of new developments are very important.
- Join relevant professional associations, attend meetings, participate in design competitions and stay up-to-date on research/publications.
- All states and the District of Columbia require registration of engineers whose work may affect the life, health or safety of the public.
- Professional or technical societies confer certification in some areas.
- Research Fundamentals of Engineering (FE) exam requirements, as this exam is typically the first step in becoming a Professional Engineer (PE).
- Professional Engineer (PE) licensing guidelines vary by state. Check with the National Council of Examiners for Engineering and Surveying (NCEES) for links to state boards.
- Become familiar with the federal job application and employment procedures.

© 1998 The University of Tennessee

Prepared by the Career Planning staff of Career Services at The University of Tennessee, Knoxville. (1998, Revised 1999, 2004, 2011)

Editorial assistance and additional information provided by The University of Tennessee College of Allied Health.

UTK is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Employer.