

# What can I do with this degree?

## **ELECTRONICS ENGINEERING TECHNOLOGY**

### **AREAS**

#### **ENGINEERING SCIENCE AND MECHANICS**

Engineering Mechanics  
Biomedical Engineering  
Computational Mechanics  
Engineering Materials

### **EMPLOYERS**

Industry  
Manufacturing  
Research organizations

### **STRATEGIES**

Interdisciplinary program with broad training in engineering science, mathematics, and physical or biological science.

### **AREAS**

#### **ANY ENGINEERING DISCIPLINE**

Production  
Sales and Marketing  
Management  
Consulting  
Research and Development  
Teaching  
Law

### **EMPLOYERS**

Industry  
Business  
Federal, state, and local government  
Colleges and universities

### **STRATEGIES**

Obtain related experience through co-op or internships for business/industry-related career. MBA degree provides best opportunities in technical management. Obtain Ph.D. for optimal teaching and research careers. Develop strong verbal and written communication skills. Learn federal, state, and local government job application procedures.

## **AREAS**

### **BIOSYSTEMS ENGINEERING**

Natural Resources: Soil and Water Conservation  
International Consulting  
Environmental Control  
Agricultural Structures  
Power and Machinery  
Electronic Systems  
Food Engineering  
Genetic Engineering  
Engineering Technology

## **EMPLOYERS**

Technological agricultural industries  
Land grant universities: Experimental farm stations, Research laboratories  
Consulting firms  
Equipment design, testing, and manufacturing firms  
Equipment and food industries including processing, packaging, and storing  
Quality control for food, feed, fiber, etc.  
Biotechnology research firms  
Foreign Service

## **STRATEGIES**

A broad, basic engineering discipline with a close relationship to the environment, food production, and agricultural productivity.

Participate in internship or co-op programs. Acquire strong computer skills.

Learn a foreign language for work in foreign service. Develop strong math and problem solving skills.

## **AREAS**

### **ELECTRICAL/COMPUTER**

Power Electronics  
Power Systems  
Communications  
Electronics  
Control Systems  
Digital Signal Processing  
Microelectronics  
Image Processing & Robotics  
Computer Engineering  
Plasma Engineering  
Computer Vision

## **EMPLOYERS**

Manufacturing firms and industry including: Aeronautical/Aerospace, Automotive, Business

machines, Professional and scientific equipment, Consumer products, Chemical and petrochemical, Computers, Construction, Defense, Electric utilities, Electronics, Environmental, Food and beverage, Glass, ceramics, and metals, Machine tools, Mining and metallurgy, Nuclear, Oceanography, Pulp and paper, Textiles, Transportation, Water and wastewater  
Public utilities

Federal government including: Armed forces, National Aeronautics and Space Administration (NASA), National Institutes of Health, Bureau of Standards, Department of Defense, Various commissions

Consulting firms

Free-lance consulting

## **STRATEGIES**

A field in touch with a wide and growing range of applications such as high speed and wireless communication, exploration of outer space, and a revolution in medical diagnosis and treatment.

Develop effective verbal and written communication skills. Gain experience in team work. Acquire capacity for details. Develop interpersonal skills. Obtain research experience.

## **AREAS**

### **INDUSTRIAL**

Operations Research

Applied Behavioral Science Systems

Manufacturing Management

Information Engineering

Computer Systems Design and Development

## **EMPLOYERS**

Manufacturing industries

Accounting firms

Retail distribution organizations

Banks and financial institutions

Hospitals and healthcare organizations

Educational and public service agencies

Transportation industries

Construction industries

Public utilities

Electrical and electronics machinery industries

Consulting firms

## **STRATEGIES**

Discipline links management and operations by improving productivity through a "big picture" approach; serves human needs and works with people.

Take courses in psychology, sociology and anthropology to learn more about people and how they behave. Earn an MBA for advancement in management or administration.

## **AREAS**

### **MATERIALS SCIENCE AND ENGINEERING**

Metallurgy  
Ceramics  
Plastics/Polymers  
Composites  
Research  
Extractive  
Process  
Applications  
Management  
Sales  
Service  
Consulting

## **EMPLOYERS**

Materials producing companies  
Manufacturing companies including automobiles, appliances, electronics, aerospace equipment, machinery, medicine  
Service companies including airlines, railroads, and utilities  
Consulting firms  
Government agencies: Department of Defense, National Aeronautics Space Administration (NASA)  
Research institutes  
Publishers

## **STRATEGIES**

Studies properties of various types of materials and how they are made and behave under different conditions. Many positions require a graduate degree.  
Some areas benefited by additional study in business administration, medicine, management and/or law. Develop good communication skills. Gain laboratory and research experience as an undergraduate.

## **GENERAL INFORMATION**

Bachelor's degree provides wide range of career opportunities in industry, business, and government.

Graduate degrees offer more opportunities for career advancement.

Bachelor's degree is good background for pursuing technical graduate degrees as well as professional degrees in Business Administration, Medicine or Law.

Related work experience obtained through co-op, internships, part-time or summer jobs, or regular employment is extremely beneficial.

Develop computer expertise within field.

Engineers need to think in scientific and mathematical terms, have ability to study data, sort out important facts, solve problems, and be logical thinkers. Creativity is useful.

Other helpful traits include intellectual curiosity, technical aptitude, perseverance, ability to communicate and work well with others, a commitment to teamwork, and a basic understanding of the economic and environmental context in which engineering is practiced.

Develop excellent verbal and written communications skills including presentation and technical report writing.

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.

Join related professional organizations.

Most fields offer overseas opportunities with businesses or government agencies.

Because of rapid changes in most engineering fields, both continued education and keeping abreast of new developments are very important.

Most states require an EIT (Engineer-In-Training) test before taking a state examination to become a Professional Engineer (PE).

Search the Internet for additional information about individual disciplines.

Prepared by the Career Planning staff at Career Services of The University of Tennessee, Knoxville. (2005) UTK is an EEO/AA/Title VI/Title IX/Section 504/ADA /ADEA Employer