

# ENGINEERING

## What can I do with this degree?

### AREAS

#### **ANY ENGINEERING DISCIPLINE**

Production  
Sales and Marketing  
Management  
Consulting  
Research and Development  
Teaching  
Law

#### **CIVIL**

Structural  
Urban and Community Planning  
Construction  
Environmental  
Water Resources  
Transportation and Pipeline  
Geotechnical  
Photogrammetry, Surveying and Mapping  
Materials

### EMPLOYERS

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

Construction industry  
Engineering or architectural firms  
Utility companies  
Oil companies  
Telecommunications businesses  
Manufacturing companies  
Consulting firms  
Railroads  
State and federal government agencies

### DESCRIPTIONS/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.

***Broad discipline of "doers" providing service to the community through development and improvement. Works extensively with other professionals involved with the community. Provides opportunity to work outdoors.***

Learn to work well within a team.  
Develop strong communication and interpersonal skills.  
Develop physical stamina for outdoor work.  
Get experience in organizing and directing workers and materials.  
Ability to visualize objects in three dimensions is helpful.  
Demand has remained steady due to broad nature of discipline.  
States may require licensing or registration.

## AREAS

## EMPLOYERS

## DESCRIPTIONS/STRATEGIES

### ELECTRICAL/COMPUTER

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

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

***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

## EMPLOYERS

## DESCRIPTIONS/STRATEGIES

### **MECHANICAL**

Mechanical Power Generation  
  Internal Combustion Engines  
  Jet Engines  
  Steam Power Plants  
  Rockets  
  Energy Utilization and Conservation  
Thermal/Fluids  
  Thermodynamics  
  Environmental Control  
  Refrigeration  
  Instrumentation and Control  
Machine Sciences  
  Mechanical Design  
  Manufacturing and Production  
  Robotics  
  Operation and Maintenance

Transportation  
  Automotive industry, aerospace industry, military laboratories  
Utilities  
  Steam driven electric power stations  
Equipment Design  
  Plants  
  Nuclear power stations  
Electronics industry  
Petro-Chemical  
  Drilling & production, plant operations  
Manufacturing  
  Consumer products, chemical products, farm equipment, industrial equipment, paper and wood products, textile equipment  
Consulting engineering firms

***Takes broad outlook on solving complex problems. Involves design, development and production. Keeps pace with technology. Acts as an interface between society and technology.***

Obtain related experience through internships or co-op.  
Take additional courses in area(s) of interest.  
Develop strong interpersonal and communication skills.

## **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.