

# COMPUTER 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.

### COMPUTER

Information Protection  
Communications and Wireless Networks  
Computational Science  
Operating Systems  
Computer Networks  
Computer Systems  
Embedded Systems  
Computer Vision and Robotics  
Circuit Design  
Signal, Image and Speech Processing  
VLSI  
Bioinformatics

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

Financial and business service companies

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

***Discipline involves the design and development of computer hardware and software and hardware-software integration.***

Expect to take classes in engineering fundamentals, math, science and computer science.

Develop strong attention to detail, analytical skills and the ability to persevere through lengthy projects.

Seek ways to enhance interpersonal, communication and teamwork skills for work with people of differing backgrounds.

Join student chapters of organizations such as Institute for Electrical and Electronics Engineers (IEEE) and Association for Computing Machinery (ACM) to build contacts with peers and mentors, participate in student competitions and develop job leads.

## 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.

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