



# WHAT TO DO WITH A MAJOR IN...

## COMPUTER SCIENCE & SOFTWARE ENGINEERING

### Description of Major

Computer Science is the study of the principles, applications, and technologies of computing and computers. It involves the study of data and data structures and the algorithms to process these structures; principles of computer architecture-both hardware and software; problem solving and design methodologies; and language design, structure, and translation techniques. Computer Science provides a foundation of knowledge for students with career objectives in a wide range of computing and computer-related professions.

Software engineers work with a variety of programming languages such as C++ and Java. Aside from computer application design, these professionals are also capable of modifying existing computer applications. Duties of a software engineer may also include setting up and maintaining computer networks.

### Possible Job Titles

Note: This list is not comprehensive, and some positions may require further education or training.

Chief Information Officer	Professor
Computer and Information Systems Manager	Sales Engineer
Computer Applications Software Engineer	User Interface Designer
Computer Systems Software Engineer	Video Game Designer

The following links are excellent resources on specific careers such as those listed above:

- **O-net:** <http://www.onetonline.org/>
- **Occupational Outlook Handbook:** <https://www.bls.gov/ooh/>

### Possible Employment Settings/Fields

Automotive Companies	Public School Systems
Bureau of Standards	Research Centers
Clinics/Hospitals	Semiconductor Industry
Defense Industry	Start-up Companies
IT Consulting Firms	Telecommunications Industry
Manufacturing Firms	United States Government
National Institutes of Health	Universities and Colleges

### Strategies for Success

- Prepare for graduate school if a pre-professional or advanced position is desired.
- Consider a part-time job at a relevant company.
- Invest in a personal computer.
- Develop leadership skills by joining community or campus organizations.
- Ask to job shadow or interview a professional.
- Talk to faculty, recent graduates, and current students in the field.
- Volunteer to gain relevant experience.
- Participate in MSU's Cooperative Education program.

- Join a relevant student organization, such as the Association for Computing Machinery (ACM).
- Develop excellent oral and written communication skills.
- Practice oral presentation, technical, and budgeting skills.

**Departmental Information for Software Engineering**

**Office Address:** 300 Butler Hall, Mississippi State University

**Mailing Address:** P.O. Box 9637, Mississippi State, MS 39762

**Phone:** (662) 325-2756 **Fax:** (662) 325-8997

**Website:** <http://www.cse.msstate.edu/>