

# Computer Science

## Curriculum

The computer science degree provides you the background, knowledge, and skills to design and implement software systems or computer programs. The program emphasizes the software of programming aspects of computing, with research directed toward applied computing. Most of the required computer science classes require extensive programming using languages such as JAVA, UNIX, C and C++. This program also prepares students to pursue Master's or Ph.D. degrees.

## Computer Science majors develop the following skills:

- Problem Solving: recognizing levels of abstraction in software, hardware systems, and multimedia
- Practical skills: building and using database management systems and other software tools
- Programming skills: Use existing software to carry out a variety of computing tasks, such as creating a user interface
- Awareness to the many uses of computers, recognizing issues to do with security and safety
- Looking at innovative ways of using computers, creating tools, and providing tools for support
- Communicating in writing, giving effective presentation and product demonstrations, and being a good negotiator
- Recognizing the challenges and opportunities of keeping skills current
- Literacy/fluency in computing: organizing all profession information effectively

## Job and Internship Websites

- Apple  
<http://www.apple.com/jobs/us/>
- Association for Computing Machinery  
<http://jobs.acm.org>
- Central Intelligence Agency (CIA)  
<https://www.cia.gov/careers>
- Computer World  
<http://www.computerworld.com/>
- Cobol Jobs  
<http://www.mycoboljobs.com/>
- Code Jobs  
<http://www.code-jobs.com/>
- College Monster  
[http://college.monster.com/?wt.mc\\_n=monstertrak](http://college.monster.com/?wt.mc_n=monstertrak)
- Computer work  
<http://computerwork.com>
- Computer jobs  
<http://computerjobs.com>
- Computing Research Association  
<http://www.cra.org/>
- Dice  
<http://www.dice.com/>
- Dell  
<http://www.dell.com/learn/us/en/uscop1/careers>
- Exxon Mobile  
[http://exxonmobil.com/USA-English/HR/careers\\_campus\\_bachmast\\_it.aspx](http://exxonmobil.com/USA-English/HR/careers_campus_bachmast_it.aspx)
- Facebook  
<https://www.facebook.com/careers/teams/it>
- Fortune 500 computer science internship programs  
<http://www.computersciencedegreehub.com/internships-for-tune-500-companies/>
- Game Recruiter  
<http://www.gamejob.com/>
- Google  
<http://www.google.com/about/jobs/teams/ops-support/>
- IEEE  
<http://www.ieee.org/index.html>
- Jobs in C++  
<http://www.cplusplus.com/forum/jobs/>
- Just Tech Jobs  
<http://www.justtechjobs.com/>
- Microsoft  
<http://careers.microsoft.com/>
- National Security Agency (NSA)  
<https://www.nsa.gov/careers/index.shtml>
- Society for Technical Communication  
[http://jobs.stc.org/home/index.cfm?site\\_id=360](http://jobs.stc.org/home/index.cfm?site_id=360)
- Walmart  
<http://jobs.walmart.com/>

## Get Involved

Gamers of OSU  
Association for Computing Machinery  
Information Security and Assurance Club  
Oklahoma Women in Information Technology  
OSU Google Developers Group

A complete list of student clubs and organizations can be found online at:  
<https://campuslink.okstate.edu>

## College of Arts & Sciences Career Services

213 Life Science East  
Tel: 405 744 5658

For appointments and resources:  
<http://cascareers.okstate.edu>

# Computer Science Career Paths...

**Designing and Implementing Software:** This refers to the work of software development which has grown to include aspects of web development, interface design, security issues, and mobile computing. This is the career path that the majority of computer science graduates follow. While a bachelor's degree is generally sufficient for entry into this career path, many software professionals return to school to obtain a terminal degree. Career opportunities occur in a wide variety of settings including software companies, computer service companies, and organizations of all kinds in both large and small sizes.

**Devising New Ways to Use Computers:** This refers to innovation in the application of computer technology. A career path in this area can involve advanced graduate work, followed by a position in a research university or industrial research and development laboratory; it can involve entrepreneurial activity, such as was evident during the dot-com boom of the 1990's; or it can involve a combination of the two.

**IT Professional:** Work for a corporation, private school or government agency directing the entire IT program.

**Software Engineer:** Help develop the software programs that are used around the world using programming languages.

## **Developing Effective Ways to Solve Computing Problems:**

This refers to the application and development of computer science theory and knowledge of algorithms to ensure the best possible solutions for computationally intensive problems. A career path in the development of new computer science theory typically requires graduate work to the Ph.D. level, followed by a position in a research university or an industrial research and development laboratory.

**College Professor:** Instruct classes as to the basics of computer coding languages. You will also help classes understand how to learn the latest software programs. One of the benefits of this position is that you can also pursue continuous research.

**Computer Systems Analyst:** Complete regular maintenance check-ups for a business. The purpose of a computer systems analyst is to make sure that a business's computer system is in full working order and is free of cyber threats. You will regularly check to see whether there are any viruses that have affected the computer platform of a business. It is also essential for you to make sure that a computer system is running at its optimum speed.

**Computer Programmer:** Directly influence the types of computer programs that are released onto the market. You will help to develop word-processing software, gaming software and virus protection software. You will also analyze consumer trends to understand the needs that consumers have for computer programs on the market.

## Job Titles

Data Processing Manager	Senior Consultant End User
Software Sales Rep.	Telecommunications Specialist
.NET/ JAVA/ Web Developer	Application Support Specialist
System Administrator	Technical Support Engineer
Computer Operator	Database Analyst
Programmer Analyst	User Interface Specialist
Chief Information Officer	Project Manager
Technical Writer	Software Engineer
Computer Science Service	Web Service Developer
Technical Evaluator	Reference Data Analyst
Data Dictionary Specialist	Network Technician
Technical Analyst	Data Photographer
Database Administrator	Software Consultant
Records Manager	Support Technician
Documentation Specialist	Logistics Engineer
Security Officer	EDP Auditor
Technical Consultant	Analyst
Network Administrator	Info Systems Analyst
Quality Assurance Analyst	PC Sales Representative
Systems Analyst/Engineer	Application Developer
Scheduling/Control Specialist	Computer Manager
Training & Standards Manager	
Business Applications Consultant	

## Types of Employers

Computer firms  
Consulting firms  
Energy Industry: Oil and Gas Companies  
Hospitals and Health Care Services  
Higher Education  
Hospitality Organizations  
Banks and Financial Services  
Insurance Companies  
Investment Firms  
Manufacturing Companies  
Media Firms  
Non-Profit Agencies  
Publishing Companies  
Research Organizations/Centers  
Telecommunication Firms  
Utility Companies  
Software and Computer Retailers  
Technology Development Companies  
Accounting and Audit Firms  
Law Offices and public services  
Distribution and logistic businesses  
County and State Government Agencies  
Web and Programming Providers  
Shipping and Receiving Companies  
Software Development Companies