Department Research

Our faculty conduct research in many areas, including artificial intelligence, computer networks, data mining, computational biology, computer vision, human-computer interaction, robotics, theory, algorithms, and information security. Undergraduate students are encouraged to participate in ongoing research projects, or to suggest their own! These research assistant positions often provide the student with a stipend, either from a research grant or from USC’s Magellan program.

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Employment

Software developers are in great demand, and their starting salaries reflect that. There are many jobs for developers in every part of the world, with a growing number of telecommuting jobs, which means that you can live anywhere you want!

- Right now, there are more people in the US employed in the computer industry than are employed in all other STEM disciplines, combined.
- Computer jobs are expected to continue growing faster than all other STEM jobs.
- $65,578 is the average starting salary reported by our May 2014 graduates.
- The average national salary for software developers is $96,260.
Software and computers have become ubiquitous in business, education, and research settings. There is scarcely any area of human endeavor that does not use computers. Thus, the ability to program computers is a much sought-after skill. Our Computer Science Bachelor’s in Science and Engineering degree will provide you with all the training and knowledge needed to start a successful career in software development.

Our curriculum is designed to transform someone who has never programmed before into a professional developer and software expert. Many of our courses are project-based and emphasize the ability to get things done, rather than test-taking. The curriculum also offers a wide range of related topics such as databases, computer networks, operating systems, computer architecture, and digital logic design.

Why Computer Science?

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Project-based Learning

Our curriculum emphasizes project-based learning. Small team projects are required in most classes. These culminate in the two-semester Capstone project class where students form teams and meet with a client, gather requirements, design, implement, test and deploy an app using the latest technologies: Android, iOS, Ruby on Rails, etc.

Programming Foundation

You will start learning programming and algorithmic design with your first class, CSCE 145. This laboratory course teaches the Java programming language using eclipse, the industry-standard Integrated Development Environment. We offer twice-weekly laboratory classes and lectures, along with frequent assignments so you learn to code by getting lots of practice. The labs are always manned by our Teaching Assistants and faculty, so you will receive personal help whenever you need it.

CSCE 146, CSCE 240, CSCE 350 and several other programming classes will follow in the next semesters. These courses delve deeper into data structures and algorithms, software techniques, and programming languages.

Application Area and Electives

Professional Software Engineers write software for some particular domain: video games, finance, scientific simulations, business accounting, data analysis, etc. As such, they need to learn the language of their chosen domain and specialize in specific technologies.

Our degree lets you specialize in your chosen domain by requiring three classes from another major, as well as three elective classes from our department. These six courses can be chosen carefully to form a cluster of expertise which will give you an edge when finding employment in your chosen career field or practice. Some sample clusters:

- **Game Design** CSCE classes in game development, computer graphics, and artificial intelligence; along with Media Arts classes in media culture, digital imaging, animation.
- **Data Science** CSCE classes in databases, big data analytics, Bayesian networks; along with Statistics classes.
- **Bioinformatics** CSCE classes in bioinformatics algorithms, computer graphics, Bayesian networks; along with Biology classes.