COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Computer science and software engineering enable systems that the world depends on, from science and engineering to communication, commerce, transportation, health, education, and entertainment. Graduates of these programs push forward with innovative solutions to challenging problems that affect our lives, and engineer critical software systems to meet demanding performance, reliability, safety, and security standards. CSSE degree programs prepare our students for exciting and rewarding careers in areas that define the cutting edge of technology and innovation.

NOTABLE

- Largest engineering department at Auburn, with 1,102 undergraduates and 244 graduate students enrolled in fall 2024.
- 35 full-time faculty members
- NSA National Center of Academic Excellence in Cybersecurity (NCAE-C) designations in Cyber Defense (CAE-CD), Cyber Research (CAE-R) and Cyber Operations (CAE-CO).
- Highest ranked department in Alabama, fourth among SEC schools, a top-50 department among public universities and among the top 15% of all departments in the nation according to the latest rankings from U.S. News and World Report
- Department houses the Auburn Cyber Research Center, which integrates cutting-edge technology and research to develop innovative methods of protecting our nation's cybersecurity.
- Home of the Artificial Intelligence at Auburn University (AI@AU) Initiative, designed to cultivate collaborative and innovative campus-wide AI research, assemble a think tank of AI thought leaders and create educational opportunities in AI for all students.
- The department offers the opportunity to earn a concurrent degree in German and Engineering. Students in the program learn from expert faculty at Auburn and a partner university in Germany while gaining real-world practical experience, developing intercultural competence and attaining advanced German language proficiency.

SCHOLARSHIPS

The College of Engineering and the Department of Computer Science and Software Engineering provide scholarship opportunities to students at every stage of their academic career. To be eligible for scholarships at Auburn University, all students must apply through AUSOM.

For information about engineering scholarships, visit **www.eng.auburn.edu/scholarships**

UNDERGRADUATE PROGRAMS

Bachelor of Science in Computer Science
The computer science program provides an excellent preparation for students seeking careers as software professionals and in computing-related fields, as well for those planning to pursue graduate study. The curriculum builds on a strong foundation in science, mathematics, humanities and computing with advanced course work in theoretical computer science, database systems and computer networks. Elective courses allow students to specialize in areas of computer science such as artificial intelligence and cybersecurity.

Bachelor of Software Engineering
The software engineering program focuses on software design and construction, requirements analysis, security, verification and validation, as well as software engineering processes and tools appropriate for the development of complex software systems. The program prepares students for professional careers and graduate study with a balance of computer science theory and practical application of software engineering methodology. The curriculum is based on a strong core of computing, science, mathematics and humanities. Elective courses allow students to specialize in areas of software engineering and computer science, including artificial intelligence and cybersecurity.

Bachelor of Computer Science – Online
The online Bachelor of Computer Science degree allows students to finish their undergraduate degrees in a dynamic and innovative online learning environment, where pedagogy is combined with modern technology. The program is offered completely online, which allows both traditional and non-traditional students such as working adults to enroll from any location and earn a diploma from an accredited university. Applicants who already have a bachelor's degree or 60 hours of transferrable college credit are eligible to apply. With emphasis on both the theory of computer science and hands-on application of learned skills, this degree prepares students for the high-tech workplace through courses on computer networks, database management, mobile app development, operating systems and more.

Computer Science Minor and Cyber Defense Certificate
The department offers a six-course 19-hour Computer Science Minor for all Auburn undergraduates, and a six-course 16-hour Certificate in Cyber Defense for CSSE majors.

Scan this QR code to visit our website!

GRADUATE PROGRAMS

Graduate study in computer science and software engineering provides students with opportunities to further their education through advanced courses in their area(s) of interest, and to exercise and sharpen skills developed during their undergraduate education. The graduate curriculum is directed toward creative research with a faculty mentor. All degrees are designed to appeal to working professionals as well as full-time students, and available both online and on campus.

Master of Science in Computer Science and Software Engineering (MS) thesis option — requires completing a set of courses approved by the student's advisory committee, carrying out research on a chosen topic, completion and defense of a thesis and passing the final examination (thesis defense).

Master of Science in Computer Science and Software Engineering (MS) non-thesis option — this degree can be earned by successfully completing a set of courses including three required courses and an optional capstone engineering project.

Master of Science in Cybersecurity Engineering — this program prepares students for analyzing, developing, investigating, protecting and defending the cyber ecosystem(s) of organizations by focusing on the engineering and technical aspects of cybersecurity. This program requires completion of a set of mandated and elective courses and a capstone engineering project. A three-course nine-hour **Graduate Certificate in Cybersecurity Engineering** is also offered.

Master of Science in Data Science and Engineering — this program prepares students to pursue careers in data science and engineering, where valuable insights are derived from massive amounts of raw data. Our high-quality curriculum offers an excellent balance between theory and application, equipping students with foundational skills and state-of-the-art technologies related to the next generation of big data applications. A four-course 12-hour **Graduate Certificate in Data Science and Engineering** is also offered.

Doctor of Philosophy (PhD) — this program requires successful passing of a qualifying examination covering foundational materials and general examination covering areas of specialization, the preparation of a research-based dissertation reflecting high achievement in scholarship and independent investigation and the passing of a defense and oral examination on the dissertation.

LIFE AFTER GRADUATION

Students in computer science and software engineering enjoy high demand for their expertise. According to 2021 data from the U.S. Bureau of Labor Statistics, average annual salaries in the computing profession range from $90,000 to more than $100,000. Employers include Amazon, Apple, Boeing, Department of Defense, ExxonMobil, Facebook, Google, IBM, Intel, Lockheed Martin, Microsoft, NEC, Verizon, Visa and many more.

RESEARCH, LABS AND CENTERS

Research areas include:

- Artificial intelligence
- Augmented and virtual reality
- Cloud and energy-efficient computing
- Computational biology and bioinformatics
- Computer and wireless networks
- Computer games
- Computer vision
- Cybersecurity and cyber-physical systems
- Data science, data security and databases
- Educational and assistive technologies
- Human-computer interaction
- Internet security
- Machine learning
- Modeling and simulation
- Software security, analytics and engineering

The department is affiliated with the following:

- Auburn Cyber Research Center (ACRC)
- McCrary Institute for Cyber and Critical Infrastructure Security
- Wireless Engineering Research and Education Center (WEREC)

TEAMS & ORGANIZATIONS

Computer science and software engineering students are encouraged to participate in various campus and departmental organizations, including:

- Association of Computing Machinery (ACM)
- Auburn University Ethical Hacking Club
- Society of Women Engineers

For more information, visit **www.eng.auburn.edu/organizations**

CONTACT US

Clint Lovelace, Manager, Academic Programs
3101 Shelby Center
Auburn, AL 36849
334.844.6313
clint@auburn.edu
www.eng.auburn.edu/csse

Office of Engineering Student Services
1161 Brown-Kopel Student Achievement Center
Auburn, AL 36849
334.844.4310
engineering@auburn.edu
www.eng.auburn.edu/ess

Follow Auburn Engineering on Social Media