

# Computer Science, Computer and Network Security, Computer Network Administration



Careers in software development, computer networking and security, and information technology are expanding like never before. Computer professionals are in high demand in fields from education to business to science. To prepare graduates for the exciting challenges of careers in computer technology, the St. Ambrose University Computer and Information Sciences Department offers three distinctive undergraduate programs, leading to bachelor's degrees in Computer Science, Computer and Network Security, and Computer Network Administration.

**Computer Science.** From mobile apps to enterprise software solutions, computer programs are used to improve the lives of individuals, the function of organizations, and the management of resources. Companies need individuals who understand computer industry trends and developments and can integrate them into an organizational strategy. As a computer science (CS) major at St. Ambrose, your studies will concentrate on application development, computer architecture, software engineering, and operating systems.

**Computer and Network Security.** Almost all data is now stored on some type of digital device, including mission critical data in a corporate setting, data as it is transferred from one location to another, and data from illegal activities. What once was internal is now exposed to a universe of external users. It is important for computer and network security (CNS) professionals to provide access to legitimate users, prevent access by illegitimate users, maintain data integrity, and recover critical data. CNS courses focus on computer and network security along with criminal justice. The program prepares graduates with the knowledge and skills needed to recover lost or deleted data, identify a timeline of potentially illegal activities, and to perform in-depth investigations of server compromises.

**Computer Network Administration.** Networks touch virtually every corner of our global community and can greatly increase the efficiency, productivity, and cost-effectiveness of organizations ranging from financial companies to small non-profit agencies. As a result, networking professionals are valued members of the modern business team. When you graduate with a computer network administration (CNA) degree, you'll be prepared to assume a position on a network administration team in nearly any type of organization. Our program features courses in network principles and infrastructure, communication, English, and business. This gives you a solid technological background complemented with critical business communication and management skills to effectively work with end-users in all divisions of a company.



## Ambrose Advantages

**A focus on engagement.** Our computer and information sciences faculty members focus on student engagement. Students work side-by-side with faculty with real world experience, enabling them to translate theory and technical proficiency to the realities of the workplace. Our faculty track new technologies and prepare you to incorporate such innovations into organizational strategies, planning, and practices.

**Hands-on experience.** Computer and information science students are encouraged to participate in internship programs to receive quality hands-on experience. Students have landed internships at various regional and national corporations, including the National Security Administration (NSA), Deere & Company, Alcoa, and Genesis Health Systems. These internships frequently lead to job offers and excellent careers.

**Graduate school preparation.** The skills, purposefulness, and patience gained through studying computer and information sciences also prepare students for graduate school. Many St. Ambrose computer and information science undergraduates have successfully gone on to advanced studies at a variety of institutions,

including the department's own Master of Science in Information Technology Management, which prepares information technology professionals for movement into corporate IT leadership.

**Strong and lasting relationships.** Students can expect to get help inside and outside of class directly from faculty. They can also expect recommendation letters to help them find employment or enroll in graduate school. Students and faculty work side-by-side in our Computer Club and other technology related campus organizations. Our students build strong working relationships with faculty members and other students that last long after graduation.

## Career Opportunities

Computer science graduates typically work in software and technology or continue with graduate studies in the computer sciences. Computer network administration professionals may work as network administrators, systems administrators, network engineers, or systems integration senior technicians. Computer and network security graduates gain positions in the growing fields of computer security and digital investigations and forensics.

## Career Outlook

- > According to the U.S. Bureau of Labor Statistics, computer and math occupations will grow by 13% between 2014 and 2024.
- > The BLS projects the need for 186,000 additional software developers by 2024, up 17% from 2014. The median salary for a software developer was \$100,690 in 2015.
- > Computer network architect jobs are projected to increase by 9% by 2024. Median salary for this position was \$100,240 in 2015.
- > The position of information security analyst is projected to grow by 18% between 2014 and 2024 according the BLS. The median salary for information security analysts was \$90,120 in 2015.
- > The position of computer systems analyst is one of the fastest IT related careers. The BLS projects there will be 567,000 positions by 2024, up 21% from 2014. The median salary for computer systems analysts is \$85,800 in 2015.
- > There will be a need for 120,000 database administrator positions by 2024. This is a increase of 11% compared by 2014. Median pay for such jobs was \$81,710 in 2015.
- > Network and computer system administrator jobs are projected to grow by 30,000 by 2024 according to BLS projections. This position paid a median salary of \$77,810 in 2015.
- > The BLS projects an additional 53,000 information technology manager positions will be needed by 2024. Median pay for IT managers was \$131,600 in 2015.

## Where Some of Our Graduates Work

A few of the organizations that employ our graduates:

- > Apple Inc., software manager
- > Bandag Inc., network administrator
- > Bloomberg LP, field technician
- > Booze, Allen, Hamilton, security specialist
- > Carleton Life Support, PC support specialist
- > Command Business Systems, IT specialist
- > Deere & Company, infrastructure analyst
- > Equistar Chemical, process control technician
- > Google, software engineer
- > HNI Corporation, network engineer
- > IBM, Parallel Sysplex test and development
- > MA Ford Manufacturing, IT manager
- > McGladrey LLP, technology consultant
- > Mel Foster Co., vice president for information technology
- > Modern Woodmen of America, technical services manager
- > National Security Agency (NSA), security specialist
- > PeopleClick, software development engineer
- > Red Frog Events, network engineer
- > Southern Imperial Inc., data manager
- > TouchMint Mobile Applications, owner
- > Twin States Technology Services, network engineer
- > Von Maur e-Commerce Center, infrastructure manager

## Your Career: Networking, Internships and Jobs in the Quad Cities

This region continues to grow as a center for business and technology. Many companies have headquarters, branches, or administration centers in the region. These organizations provide exceptional opportunities for networking, internships and jobs.

## Get in Touch With Us Today

We invite you to visit St. Ambrose to learn more about the opportunities here. Our quality academic programs provide one of the best private education values in the Midwest. Check it out for yourself: contact our Admissions Office, 563/333-6300 (toll-free 800/383-2627) or [admit@sau.edu](mailto:admit@sau.edu), or go online to [www.sau.edu](http://www.sau.edu).

*St. Ambrose University offers a Bachelor of Science in Computer Science, a Bachelor of Arts in Computer and Network Security, and a Bachelor of Arts in Computer Network Administration. Minors are also available in these disciplines. For complete curriculum information and course descriptions, consult the Course Catalog at [www.sau.edu/catalog](http://www.sau.edu/catalog).*