

Undergraduate Studies

Western Illinois University

Computer Science



Opportunities for WIU Computer Science graduates continue to be outstanding and expanding. According to the latest U.S. Bureau of Labor statistics, employment

in the computer and data processing field is projected to grow 6.4 percent per year through the year 2010, making this the fastest growing industry in the U.S. economy. Eight of the ten projected fastest growing occupations through the year 2010 are computer related. In addition to high growth rates, these eight occupations combined will add more than 1.9 million new jobs to the economy. In certain specific areas of the industry the percent of growth is projected to be even larger. For example, the demand for application software engineers is projected to grow by 145 percent. Employees in the computer and data processing services industry command higher earnings than the national average. The opportunities are excellent for new computer science graduates.

WIU's recent Computer Science graduates began their careers with a wide range of salaries. The average was in the upper 40's. Corporations hiring our graduates include: Boeing, Caterpillar, Country Companies Insurance, Deere & Co., Inforte, Kraft Foods, Levy Ray & Shoup, Lockheed Martin, Motorola Inc., Principal Financial Group, Rock Island Arsenal, State Farm, Ralston Purina, Blue Cross/Blue Shield, and several other software and business firms. During the past ten years, most students have received more than one employment offer.

These facts are not surprising and Illinois is always in the top 5 states for employing the largest number of computer employees in the nation. There are numerous opportunities within

the state. Over 50% of our graduates work in the Chicago or St. Louis area.

WIU Computer Science graduates have job titles such as: Systems Analyst, Database Administrator, Network Administrator, Operating Systems Programmer, Programmer, Software Engineer, Trainer, Web Security Administrator and Web Software Developer.

What exactly does a person with a Computer Science degree do?

Systems Analyst: This person reviews, analyzes, and modifies programming systems including encoding, testing, debugging and installation to support an organization's application system. This position is usually obtained after a few years of experience. This position requires "people skills" as it may require the person to lead and direct the work of others.

Database Administrator: This person administers, maintains and develops policies and procedures for ensuring the security and integrity of the company database. This is currently one of the fastest growing areas in Computer Science.

Network Administrator: This person plans, configures and maintains an organization's network. As organizations depend more and more on networks this position requires a wide degree of creativity and latitude. This is also one of the fastest growing areas in Computer Science.

Operating Systems Programmer: This person reviews, analyzes, develops, installs, and modifies computer operating systems. This position requires "people skills" as it may

require the person to lead and direct the work of others.

Programmer: This person reviews, analyzes, and modifies programming systems including encoding, testing, debugging and documenting programs. The person performs a variety of complicated tasks and may lead and direct the work of others.

Software Engineer: This person designs, modifies, develops and implements software-programming applications. The person must rely on judgement to plan and accomplish goals and will be expected to perform a wide variety of complicated tasks.

Trainer: This person trains others on use of software and or hardware. This person must have a strong set of "people skills" as the position requires them to work closely with others that are learning new skills.

Web Security Administrator: This person maintains and implements firewall technologies that secure an organization's website.

Web Software Developer: This person consults with clients and other project team members to design, build and manage web sites. This person develops installation programs for websites. This person must have "people skills" as they may negotiate contracts/agreements with software vendors and other internet companies. This person must have knowledge of a variety of concepts (i.e. SQL, C++, HTML, CGI, JavaScript, etc).

PROGRAM OF STUDY

The Computer Science program at WIU is based on the broad educational foundation built during the freshman and sophomore years. General education courses in written and oral communications, natural science and math, social sciences, humanities, multicultural and human well-being courses make up about one-third of the credit hours required for graduation. The remainder of the Computer Science major's degree program includes hands-on and theoretical courses to provide basic and fundamental knowledge in the science of

working with computers. The program includes the core courses of Principles I and II (with the language JAVA); Software Applications; Computer Organization; Data Structures; Automata and Computability Theory, and Software Engineering. With the completion of the majority of the core classes, students move into advanced areas of: Computer Architecture, Database Systems, Systems Programming, Computer Networking and Telecommunications, Artificial Intelligence, Computer Security, Graphics, and Simulation. Students also have the opportunity to take courses in COBOL, CICS, digital circuit design and GUI (graphical user interface) programming. Additionally, courses in mathematics, statistics, English, information management and decision sciences may be required to complement the students' special interest and career goals.

Our goal is to offer the students the knowledge to be well prepared for a variety of career opportunities in commercial, industrial, governmental, research, and educational organizations. We will provide you with a solid grounding in the fundamental concepts so that as technology changes, you can adapt and remain productive.



Consider a Career in Computer Science at Western Illinois University!

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