

INFORMATION TECHNOLOGY PATHWAY

What are Career Pathways?

Career Pathways are a sequence of training and education programs designed to develop a person’s academic and technical skills. By obtaining stackable credentials and developing new skills a worker can advance over time to successively higher levels of education and employment in a given industry or occupational sector.

Understanding the Basics

Soft skills, such as interpersonal skills, professionalism, and dependability, are important in all industries and occupations. Information Technology careers often involve interactions with clients and team members so good communication skills and maintaining a professional demeanor are important. With technology constantly evolving and new innovations being discovered, a willingness to learn and apply new knowledge and skills is crucial for employment success in this industry.

Information Technology also has a set of industry-wide technical competencies that represent the knowledge and skills needed to be successful in these industries. Knowledge of databases, applications, networks, telecommunications, and software are important in this industry. IT professionals need to be able to provide assistance and technical support to customers and clients. Ensuring products and services comply with legal and regulatory requirements and applying critical and analytical thinking to address problems are some of the skills needed for success in this industry.

STEM Career Pathways

Science, Technology, Engineering and Mathematics (STEM) pathways are usually technical in nature, and play a key role in developing new products and technological breakthroughs. STEM occupations are some of the most in-demand and highest paying jobs in Missouri.

Science: Diverse occupations in Physical, Life and Natural Sciences. Science workers can be involved in research, development, and design; as well as outdoor field work.

Technology: Data connect people and businesses on a global scale, and an unprecedented number of firms need information technology employees.

Engineering: Occupations, including drafters, technicians, and engineers, develop and test new products we use every day.

Mathematics is as part of many occupations and can be used to analyze data and help solve real-world problems in engineering, sciences, or other fields.

WHO’S HIRING?

Information Technology

Professional, Scientific, and Technical Services
 Insurance Carriers and Related Activities
 Credit Intermediation and Related Activities

Accenture, Spectrum, Wells Fargo

INFORMATION TECHNOLOGY PATHWAYS

Want a Quick Start? Some employers will hire an entry-level technology job applicant if the person has proven skills, such as industry-recognized certifications, but no college degree. In less than 3 months a *CompTIA* or *Microsoft Technology Associate* certification, for example, may get you on the road to a technology career.

NEXT OCCUPATIONS

Long-term OJT, Certificate, Assoc. Degree

Computer User Support Specialist
Web Developer
Comp. Network Support Specialist

LATER OCCUPATIONS

Bachelor's degree or Adv. Degree

Database Administrator
Software Developers
Computer Systems Analyst
Computer Programmer
Network & Computer Systems Admin.
Information Security Analysts
Comp. Systems Engineers/Architects
Computer Network Architects

Specialized Skills

Occupations in this pathway require specialized training and skills. Employees in Next occupations should be knowledgeable in technical and help desk support. Knowledge of JavaScript is a useful skill for Web Developers, with nearly one-half of recent on-line job postings requiring knowledge of JavaScript. Knowledge of programming languages, such as SQL, Java, and LINUX, are important to workers in Later occupations.

Certifications and Software

Certified A+ Technician

SQL

Cisco Certified Network Associate

JAVA

Network+ Certified

JavaScript

Cisco Certified Network Professional (CCNP)

LINUX

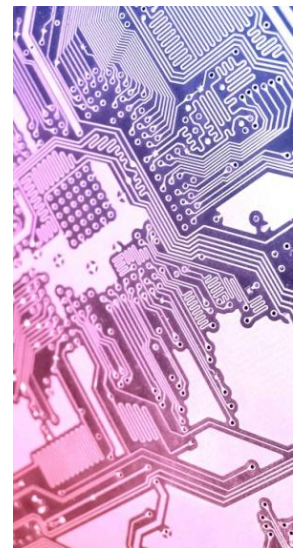
Why consider a career in Information Technology?

There is a high demand for Information Technology (IT) occupations across the state of Missouri. IT professionals interact with every level of an organization's structure, and are drivers of innovation at most businesses. Firms of all types and sizes need help with information technology products.

Missouri employs over 82,000 people in IT occupations in a wide variety of industries. Wages for these occupations are higher than average; the mean salary for Computer and Mathematical occupations in Missouri is \$78,270 compared to a state average of \$44,620 for all occupations (Bureau of Labor Statistics, 2016 OES).

Long term employment projections from the Missouri Economic Research and Information Center show Computer and Mathematical occupations are projected to grow 11.2% from 2014-2024, nearly double the 6.1% growth rate of all occupations.

High wages and projected growth make IT occupations a good career choice.



OCCUPATION PROFILE

Web Developers

Employees in this occupation design, create, and modify web sites using authoring or scripting languages, content creation tools, management tools, and digital media. They analyze user needs to implement web site content and may integrate web sites with other computer applications. People working in this occupation may write, design, or edit web page content themselves or direct others to do so. Web Developers frequently uses various types of software including Java, HTML, Adobe and Apache products to name a few. Knowledge of computers, electronics, design and media communications are important in this occupation. Web Developers should have good critical thinking skills and customer service skills to meet customer's needs.

"The certificate in Web Development will prepare students to begin a professional career in the field of electronic information presentation, creating websites for computer and mobile device clients. The program naturally blends communications, computing, and graphic arts topics with a focus on server-side creation and management of electronic resources to manipulate the look, layout, and organization of websites."

-Paula Glover, Vice President for Instruction, Moberly Area Community College

Entry Wage: \$35,760 | Average Wage: \$61,660 | Experienced Wage: \$74,610

Who's Hiring?

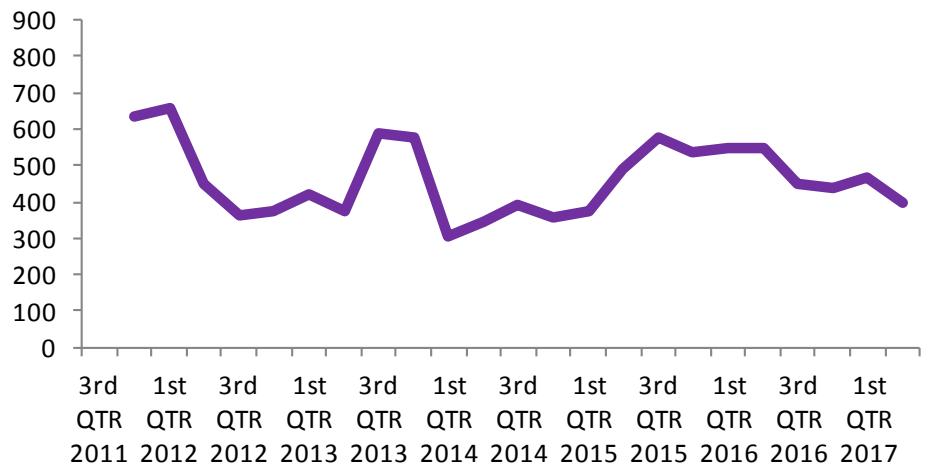
Web Developer job postings have averaged 400 online job ads per quarter over the last year. Some of the top jobs posting employers include:

Accenture
Statewide

General Dynamics
Kansas City

World Wide Technology
St. Louis

Web Developers
Online Job Ads, Jul 2011 – Jun 2017



SKILL PROFILE

Certified Information Systems Security Professional (CISSP)

Certified Information Systems Security Professional (CISSP) is a vendor neutral independent information security certification granted by the International Information System Security Certification Consortium. The CISSP exam covers security and risk management, asset security, security engineering, communications and network security, identity and access management, security assessment and testing, security operation, and software development security. To be eligible to take the exam a person must have five years of full time work experience in two or more of the areas covered in the exam. One year of experience may be waived by obtaining a relevant four year college degree. Training for the certification test can be obtained through self study tools, in-person training, or online classes.

Who Needs Network+?

Certified Information Systems Security Professional is most commonly requested in job ads for Information Security Analysts.

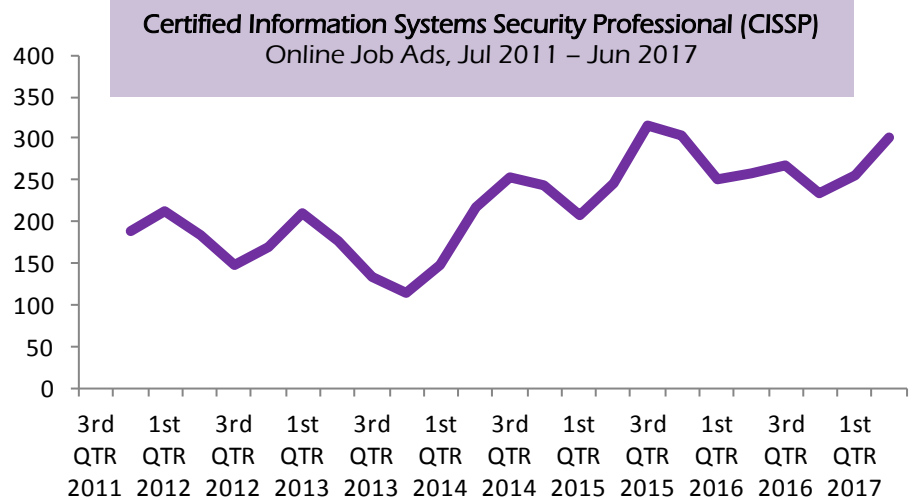
Job ads requesting CISSP certification have been rising over the last 5 years and currently average 300 job ads per quarter. Some of the top jobs posting employers include:

Accenture
Statewide

Wells Fargo
St. Louis

Express Scripts
St. Louis

Vencore
St. Louis



Certified Information Systems Security Professional Top Jobs

Occupation	Online Job Postings
Information Security Analysts	600
Computer Occupations, All Other	95
Software Developers, Applications	46
Financial Specialists, All Other	45
Business Operations Specialists, All Other	29

Source: Online Job Ads from Jul. 01, 2016 - Jun. 30, 2017. Burning Glass Technologies.

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Sources:

Data for this analysis has been extracted using Burning Glass Technologies Labor/Insight™ tool which collects information from over 35,000 web sources, including job boards, newspapers, and employer websites. While this analysis presents a broad picture of hiring activity and serves as a measure of labor demand, it does not capture openings that are filled through other networks. Other sources include the Employment and Training Administration, Competency Model Clearinghouse for information available on selected industries in this report. Wage data is 2015 Occupational Employment Survey, Bureau of Labor Statistics.

