

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, Deloitte, Jack Henry & Associates

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 Information Systems Security Professional (CISSP)

SQL

Cisco Certified Network Associate

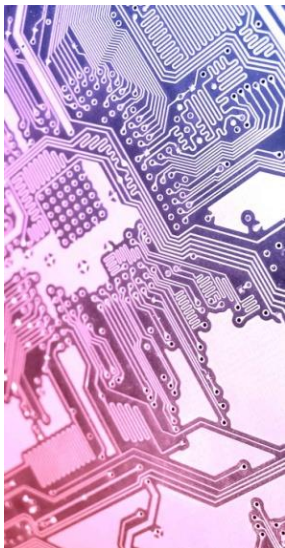
JAVA

Certified A+ Technician

Oracle

Certified Information Systems Auditor (CISA)

JacaScript



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.



SKILL PROFILE

Java

Java is a general-purpose computer programming language that is a class-based, object-oriented, and designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" meaning that compiled Java code can run on all platforms that support Java without the need for recompilation, and to be portable; making programs written for the Java platform able to run similarly on any combination of hardware and operating system with adequate runtime support. Java is a popular programming language, particularly for client-server web applications. Training for Java can be obtained through self-study tools, in-person training, or online classes.

Who Needs Java?

Java is most commonly requested in job ads for Software Developers.

Job ads requesting Java skills peaked in the 3rd quarter of 2015 and currently average 1,800 job ads per quarter. Some of the top jobs posting employers include:

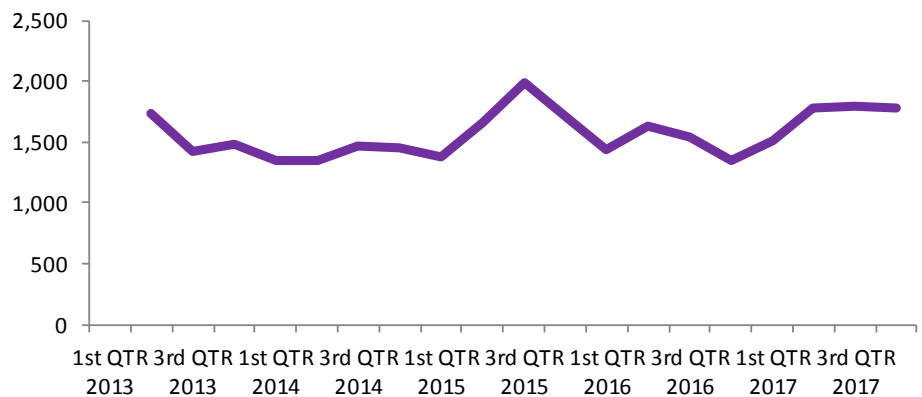
Accenture
Statewide

Spectrum
Statewide

Mastercard
St. Louis

Charter Communications
St. Louis

Java
Online Job Ads, Jan 2013 – Dec 2017



Java Top Jobs

Occupation	Online Job Postings
Software Developers, Applications	3,351
Computer Systems Engineers/Architects	370
Computer Systems Analyst	339
Web Developers	274
Database Administrators	228

Source: Online Job Ads from Jan. 1, 2017 - Dec. 31, 2017. Burning Glass Technologies.



OCCUPATION PROFILE

Computer Systems Analyst

Employees in this occupation analyze science, engineering, business, and other data processing problems to implement and improve computer systems. They analyze user requirements, software, procedures, and problems to improve existing systems and review computer system capabilities, workflow, and scheduling limitations. Computer Systems Analysts test and monitor computer programs and systems and troubleshoot when there are malfunctions. Computer Systems Analysts frequently uses various types of data base management and development software such as Apache and SQL. Knowledge of computers, electronics, and business and management principles are important in this occupation. They should have good critical thinking skills and customer service skills to meet customer's needs.

Entry Wage: \$58,010 | Average Wage: \$90,000 | Experienced Wage: \$105,990

Who's Hiring?

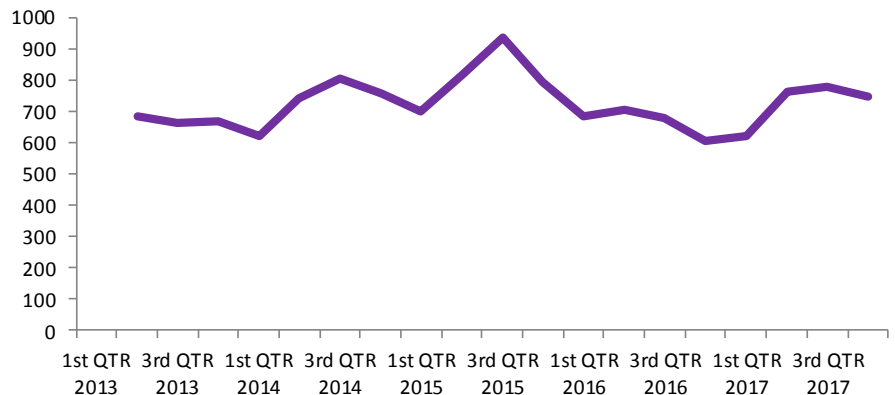
Computer Analysts job postings peaked in the 3rd quarter of 2015 and currently average 750 job ads per quarter. Some of the top jobs posting employers include:

Accenture
Statewide

Wells Fargo
St. Louis

Centene
St. Louis

Computer Systems Analyst
Online Job Ads, Jan 2013 – Dec 2017



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 2016 Occupational Employment Survey, Bureau of Labor Statistics.

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