Will a Computer Science Degree Prepare Me to be a Computer Network Architect?

If you’re interested in technology and business management, you may want to consider becoming a computer network architect. It’s a somewhat advanced position that requires five to 10 years of experience in database administration, information technology or network engineering. Network architects have bachelor’s degrees in computer-related subjects such as [computer science](http://www.computersciencedegreehub.com/faq/famed-silicon-valley-matter-computer-science-major/), computer systems engineering and management information systems.

# Network Engineering Responsibilities

Computer science is a good major for this occupation because it teaches students discrete math concepts that are essential for designing efficient data networks. [Quantitative analytical skills](http://www.bls.gov/ooh/computer-and-information-technology/computer-network-architects.htm#tab-4) are the most important qualification for getting this job, but there’s more to being a network architect than solving technical problems. This job is a leadership position that requires management skills, so employers often hire applicants with master of business administration degrees with a focus on information systems.

It’s not necessary to have an MBA to become a network architect, but it allows job seekers to apply for higher-salary positions. Usually, a bachelor’s degree and adequate job experience are enough, but if a candidate has experience in management, there’s an even better chance of being hired. A computer network architect designs the networks that link all the employees of an organization, so this job is critical to a business’s operations and ability to communicate. It’s a very important job, and the network engineers of an organization report directly to the Chief Technology Officer to discuss the future networking needs of the business.

# Keeping a Business Operating Smoothly

Network architects are the decision makers in the IT department, and they spend a large amount of time looking for new hardware and software to make the business more efficient. A lot of responsibility is placed on the network architects, and a business depends on their understanding of computing and networking protocols to deliver goods and services to customers.

Another important role of the network architect is preventing security breaches and detecting vulnerabilities before they become problems. It’s the architect’s job to find solutions for insecure software, such as a particular version of Java that a business depends on to run its enterprise software. Web frameworks such as Java and Flash are notorious for security breaches and require regular patches to prevent serious attacks on a company’s proprietary data.

While a computer science degree is really intended to prepare students for software engineering or research jobs, the math concepts taught in this major cover some of the basics of [cryptography and code-breaking](http://en.wikipedia.org/wiki/Cryptography). Most of a CS major’s coursework will be related to software engineering and computer science theory, but students who choose the business degree track will also take several business courses.

# Leadership and Organizational Skills

Companies that require network architects to write software look for candidates with computer science degrees, but software engineering isn’t usually a requirement for this job. Any computer-related degree that qualifies applicants to become database administrators will also allow them to become network engineers. The important detail is management training and experience because it provides the necessary leadership and organizational skills.

Technology is one of the most critical areas of business, and network engineers can expect 15 percent job growth over the next 10 years. If you have a strong interest in business operations, management and technology, enroll in a computer science program with a focus on business to become a computer network architect.