Computer Careers

A summary of careers in computer and information technology.

The education, certifications, experience, and average salaries of computer professionals.

Presented by:

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Paths to a Career

1. High School Diploma.

2. Professional Certifications.

3. Technical College / Associate Degree. ***

4. Computer Science / Bachelor's degree.

*** This booklet is focused on the opportunities available to computer professionals who graduate high school and complete an Associate Degree at a Technical or Community College.

Comparison notes: the medium income in Beaufort County is ~$27,000. The medium household income is ~$56,000.

Degree Specializations

Programming Specialization – Computer programmers are in-demand professionals who can find work in nearly any industry that uses computers and technology. If you enjoy technology and want to work in an exciting and growing field, you might consider becoming a programmer.

An associate degree in programming is a two-year degree that teaches aspiring programmers about computer science and information technology (IT). Students can enroll in online or in-person associate degrees programs, where they gain computer skills and training through classes, projects, and lab learning.

The two types of associate degrees in programming are an associate of science (AS) and an associate of applied science (AAS) in computer programming. After completing a programming associate degree, you can apply for jobs that involve writing code for websites, computer systems, video games, and apps.

A programming associate degree provides the fundamental skills you need to be a programmer. Its benefits include:

- Competitive pay
- Career advancement
- Skills development
- Internship opportunities
- Networking with other professionals
- Efficient entry into the workforce

For AS and ASS programming graduates, some mean salary estimates are:

- Software Developer: $56,000
- Computer Programmer: $43,000
- Information Security Analyst: $80,000
- Maintenance Scheduler: $80,000
- Project Manager: $49,000
- Quality Assurance Engineer: $104,000
- Web Developer: $60,000

Networking Specialization - Computer networking, and IT in general, is a fast-growing field. In addition to having excellent upside in terms of job availability, computer networking jobs also tend to pay very well. But some computer networking jobs have higher salaries than others.

The income figures presented below are averages. This means that there is a wide range of salaries reported for each career. This range is often tens of thousands of dollars. While the average salary reported might be quite high, this does not guarantee that this is the salary you would make in any given position.

That's because salary is affected by many factors. The more training, and skills you have, the higher the salary you can command. The more experience you have in a computer networking position, the higher the compensation will be. As you gain specialized skills in computer networking, you can get jobs that pay more.

Additionally, where you work – both in terms of geography and the particular employer you have – can influence your earnings. Computer networking professionals that work for small businesses tend

to make less money than those who work for large businesses. If you work in a rural area, you will likely earn less than a colleague that works in an urban area.

You must bear in mind the cost of living in the area in which you work. While a wireless network engineer in Los Angeles might make far more money each year than one in Des Moines, the cost of living in Los Angeles is far greater. At the end of the day, the wireless network engineer in Des Moines might have more disposable income because living in Iowa is much cheaper.

The two types of associate degrees in networking are an associate of science (AS) and an associate of applied science (AAS) in computer programming. For AS and ASS networking graduates, some mean salary estimates are:

- Network Security Manager: $96,000
- Network Administration: $83,000
- Wireless Network Engineer: $81,000
- Network Service Technician: $69,000
- Network Administrator: $68,000

Cyber Security Specialization - According to the Bureau of Labor Statistics, computer and information technology jobs are set to grow at 11% over the next 10 years, much faster than the average for all occupations. Common cyber security careers in this field include cyber security analyst, information technology security analyst, and network security analyst.

An associates degree in Cyber Security can help you train to be more analytical and detail oriented. It will improve your problem-solving skills and ability to thwart cyber security threats, and in turn give you an edge. Almost all industries today require cyber security professionals given the critical role that information technology plays in the business sector.

With a cyber security associate degree, you can qualify for entry-level IT positions ranging from database analysts, application analysts, system administrators, network administrators, and programmers. You might also get other entry-level positions in the cyber security field such as a security specialist, data scientist, or an information security engineer.

Beginning your career with a cyber security associate degree means you start off ahead of the game. Cyber security jobs are readily available, and companies are looking for well-educated individuals who have up-to-date knowledge.

IT security analysts are tasked with analyzing, monitoring, and resolving online security incidents. They regulate and identify potential Cyber Security issues. They are expected to prevent any security issues from happening by designing and implementing policies and procedures to make software and online systems more secure. Cyber security associates use their knowledge and skills to help their employers or clients in protecting their data. Another in-demand cyber security job would be to work as a cyber threat analyst. Cyber threat analysts develop internal procedures for the prevention of cyberattacks.

There are several cyber security associates degree specializations available such as data analytics, network security, and project management. Regardless of the specialization you choose, you should receive a strong foundation in programming, computer science, and networking.

While earning your degree in cyber security, you should have the opportunity to:

- Apply computer science and programming principles with problem-solving
- Create goals, plans, and deliverables
- Analyze and manage risks and threats to software and online programs
- Learn network security principles, cryptography, and ethical practices
- Study basic network and database configuration

Although the actual courses you take will vary depending on your specialization, you should take courses in programming, networking, cloud solutions, Linux administration, and cybersecurity. You should also learn cyber security skills like detecting intruders, collecting evidence, and defending against cyberattacks.

The two types of associate degrees in cyber security are an associate of science (AS) and an associate of applied science (AAS) in cyber security. For AS and ASS cyber security graduates, some mean salary estimates are:

- Info Security Analyst: $104,000
- Database Administrator: $99,000
- Computer Systems Analyst: $94,000
- Computer Programmer: $89,000
- Network Administrator: $85,000
- Computer Administrator: $85,000
- Web Developer: $77,000
- Computer Support Specialist: $56,000

About the Presenter

Mr. Aker is a computer scientist, consultant, the founder of an incorporated company, Gondolin, Inc., and the owner of a sole proprietorship, Les Aker Consulting. He has more than 35 years of professional experience working as a computer scientist, innovator, and disruptive technologist in advanced technology research and development.

He is currently focused on blockchain technology, and the organizer for the Beaufort County Blockchain Meetup Group at the Beaufort Digital Corridor. The transition was a natural fit given all his years of experience designing cryptographic systems using very similar cryptographic algorithms, hashing and data encoding.

His long-term goal is to never be a W-2 employee in any venture where he's not a founder, partner or in a position where he can make a significant impact on the product or service.

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