

Careers and Training in Computers



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Careers and Training in Computers

- There are many types of careers in computers.
- They range from using computers, to supporting others using computers, to developing and maintaining complex computer systems.
- Most jobs today require workers to *use* computers in the work place.
- We will focus on the jobs that *support others* in their computer usage and jobs involved with *developing* and *maintaining* computer systems.

Job Titles



- Desktop Support
- Web Developer
- Web Designer
- Database Administrator
- Database Designer
- Network Installer
- Network Designer
- Network Administrator
- Network Engineer
- Security Specialist
- Computer Programmer
- Computer Scientist/Engineer
- Software Developer
- Systems Analyst

Job Outlook

- Job outlook in IT (Information Technology) is excellent
- Which jobs are “hot” changes yearly depending on many economic factors.
- One thing we know for sure:
 - Computer hardware, software, networks, computer systems and the Internet will continue to produce many high-paying jobs in designing, programming, installing, administering, securing, troubleshooting and repair of these systems.
- Current fastest growing areas are:
 - Desktop Support
 - Network Administration
 - Security

Skills Required for all Information Technology Careers



- Written and Oral Communication
- Team Skills
- Customer Service
- Problem Solving/Logic/Critical Thinking
- Ethics
- Time and Project Management
- Ability to Learn Quickly
- Interest in Technology - How it Works and Changes

Individual IT Areas

- The following slides describe the various job categories in IT, and describe the skills, pay, and education normally required to move into these positions. Additionally, the relationship to these jobs and the training available at Edmonds Community College is shown.

Desk Top Support



- Description:
 - Support others in their usage of computer software and hardware.
- Daily Skills Used:
 - Customer service
 - Configuring and troubleshooting hardware, software and operating systems.
 - Researching how to accomplish tasks in various software packages

Desk Top Support - Continued



- Where would you work?
 - Any business having more than 20 employees
 - Consulting firms
 - Computer sales and repair shops
- Pay:
 - Ranges from \$30K to \$60K yearly
- Education Required:
 - Self-taught to 2-year technical degree

Desk Top Support - Continued



- Industry Certifications:
 - A+
- Programs at EdCC:
 - Computer Information Systems (CIS)
 - Desktop Support Certificate (25 Credits) (formerly Microcomputer Application/Support Specialist Certificate)
 - 2-year ATA in CIS (91 Credits)
 - Computer, Electronics and Networks (CEN)
 - Computer Support and Network Installation Certificate (64 Credits)

Web Developer



- Description:
 - Build and maintain Web applications using programming, scripting and Web server administration skills.
- Daily Skills Used:
 - Logic, programming, creativity, customer service, communication, writing.
 - Requires knowledge of current tools used to develop web sites.

Web Developer- Continued



- Where would you work?
 - Private consultant
 - Any company that has a web site
 - Consulting companies that build web sites for others
- Pay:
 - Ranges from \$45K to \$90K yearly
- Education Required:
 - Ranges from self-taught to 4-year degree

Web Developer- Continued



- Industry Certifications:
 - CIW Certified Internet Webmaster
 - CIW Web Developer
- Programs at EdCC:
 - Computer Information Systems (CIS)
 - Web Development Certificate (44 Credits)
 - Web Development 2-year ATA degree (91 Credits)

Web Designer



- Description:
 - Design Web sites and Web pages
 - Traditionally more “artistically” oriented than Web Developer
 - Some of these skills are taught within the CIS department at EdCC, but you can check out the Visual Communication department at EdCC for more information at <http://visco.edcc.edu/>

Database Design and Administration



- **Description:**
 - Responsible for designing, maintaining and configuring databases. They organize, track, and store information for organizations and businesses and coordinate security systems in order to protect vital information.
- **Daily Skills Required:**
 - Knowledge of latest or specific database software
 - Logic, programming
 - Understanding of database theory and modeling concepts.

Database Design and Administration - Continued

- Where would you work?
 - Any mid to larger size company requiring maintenance of data
 - Consulting Firms
- Pay:
 - Ranges from \$45K to \$80K yearly
- Education Required:
 - 2-year ATA to 4-year

Database Design and Administration - Continued

- Industry Certifications:
 - MCDBA – Microsoft Certified Database Administrator
 - OCP DBA – Oracle Certified Professional Database Administrator
 - Many others
- Programs at EdCC:
 - Computer Information Systems (CIS)
 - Database Information Technologies ATA Degree (91 Credits)

Network Installer



- Description:
 - Install cabling and cable systems required for complex networks.
 - May cross over with phone system installation.
- Daily Skills Used:
 - Wiring, cable testing, pulling cable to create cable runs through buildings/walls, wiring and testing outlets.

- Network Installer -Continued

- Where would you work?
 - Communications installation companies
 - Businesses with large network infrastructure
- Pay:
 - Ranges from \$25K to \$40K yearly
- Education Required:
 - On the job training to college certificates

Network Installer- Continued



- Industry Certifications:
 - Endless lists
- Programs at EdCC:
 - Computers, Electronics, Networks (CEN)
 - Computer Support and Network Installer Certificate (64 Credits)

Network Administrator/Designer/Engineer



- Description:
 - Continuum of jobs involving configuring, designing, maintaining, and troubleshooting complex network systems.
- Daily Skills Used:
 - In-depth knowledge of hardware and software used in today's networks.
 - Problem-solving, troubleshooting, monitoring

Network Administrator/Designer/Engineer - Continued



- Where would you work?
 - Companies with more than 20 employees
 - Network/Communication companies
- Pay:
 - Ranges from \$40K to 100K + yearly
- Education Required:
 - 2-year ATA up through 4 year

Network Administrator/Designer/Engineer - Continued



- Industry Certifications:
 - MCSE – Microsoft Certified Systems Engineer
 - CCNA – Cisco Certified Network Associate
 - CCDA – Cisco Certified Design Associate
 - CCIE – Cisco Certified Internetwork Expert
- Programs at EdCC:
 - Computer Information Systems (CIS)/Computers, Electronics and Networks (CEN) Joint Degree:
 - Network Technology (101 Credits)

Systems Analyst



- **Description:**
 - Systems Analysts interview users, design software and write requirements documents for programmers.
 - Overlaps programming jobs - some systems analysts are programmers.
 - Overlaps Business Analyst
- **Daily Skills Used:**
 - Oral and Written communication, logic, problem solving, project management, modeling.

Systems Analyst- Continued

- Where would you work:
 - Larger companies
 - Consulting firms
- Pay:
 - Ranges from \$60K to \$100K+ yearly
- Education Required:
 - 2-year ATA degree (requires working up)
 - 4-year Degree

Systems Analyst- Continued



- Industry Certifications:
 - There are some, but not as prevalent because of education required
- Programs at EdCC:
 - Computer Information Systems (CIS)
 - Business Systems Analyst Certificate (40 Credits)
 - ATA in Database Information Technology (91 Credits)
 - ATA in Computer Information Systems (91 Credits)

Computer Programmer/Scientist/Engineer /Software Developer



- **Description:**
 - Continuum of jobs which ranges from programmers who use the latest programming languages to create and maintain software and meet business requirements to engineers designing and building hardware.
 - Overlaps systems analyst jobs - some programmers/software developers are systems analysts.
- **Daily Skills Used:**
 - Logic, problem-solving, math, mathematical and electrical theory

Computer Programmer/Scientist/Engineer /Software Developer - Continued



- Where would you work?
 - Larger companies
 - Companies developing hardware and software
 - Consulting Firms
- Pay:
 - Ranges from \$60K to \$150K + yearly
- Education Required:
 - 4-year computer science degree through doctorate degrees

*Computer
Programmer/Scientist/Engineer
/Software Developer - Continued*



- Industry Certifications
 - Programming certifications are not as prevalent because of the education required to obtain these jobs.
- Programs at EdCC
 - Computer Science (CMPSC)
 - 2-year AAS Transfer degrees

IT Security



- Covers a broad range of jobs. Experts in security exist for each of the career areas previously covered. Sample job titles include:
 - Database Security Specialist
 - Network Security Specialist
 - IT Security Manager
 - Digital Forensics Analyst
 - Web Security Specialist
- Job descriptions, training and pay vary greatly, depending on the area of security expertise.

IT Security- Continued



- Where would you work?
 - Both large and small companies
 - Consulting Firms
- Pay:
 - Ranges from \$45K to \$100K + yearly
- Education Required:
 - Certificates up through Masters Degrees

IT Security- Continued



- Industry Certifications:
 - Security +, SCP, CISSP, CISA, CISM just to name a few
- Programs at EdCC:
 - Computer Information Systems (CIS)
 - Network Security Certificate (40 Credits)
 - Linux Security Certificate (35 Credits)
 - Information Security ATA degree (91 Credits)

IT Security- Continued

- More information on the CIS Department's Digital Forensics and Information Security Programs can be obtained at:

<http://infosec.edcc.edu/>

Free Info Tech Lecture Series

- The CIS Department would like you to know that we have a FREE lecture series, offering various topics to the public. Please go to <http://infosec.edcc.edu> and click on Free Computer Forensics Class for instructions on how to register and when lectures are offered.

Conclusion

- Many jobs exist in IT and the job market continues to grow.
- These careers offer enormous potential for gainful, rewarding employment, with endless advancement opportunities.
- The more education, industry certifications, and experience you have, the more opportunities for placement and advancement within IT.
- Planning sheets and course descriptions for degrees and certificates are available in the CIS Program Information Packet and on line at www.cis.edcc.edu

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