Computers

Computer Systems Analysts

Computer Systems Analysts use information technology tools to help organizations of all sizes achieve their goals. They may design and develop new computer systems by choosing and configuring hardware and software, or they may devise ways to apply current system resources to do additional tasks. A computer system is one or more computers and attached devices (such as a printer) that are connected to other computers by a telecommunications network.

To begin an assignment, systems analysts consult with an organization's managers and users to define the goals of the system and then design a system to meet those goals. Analysts use various techniques to ensure their plans are efficient and complete. They may occasionally prepare cost-benefit analyses to help management decide whether implementing the proposed technology would be affordable.

When a system is approved, systems analysts oversee the implementation of the required hardware and software components. They coordinate tests and observe the initial use of the system to ensure that it performs as planned. They prepare specifications, flow charts, and process diagrams for computer programmers to follow; then they work with programmers to "debug," or eliminate errors, from the system. Many systems analysts are involved with "networking," which is connecting all the computers within or between organizations together.

Computer systems analysts work in offices or laboratories in comfortable surroundings. Many work about 40 hours a week, but some work more than 50 hours a week. Some analysts telecommute, using computers to work from remote locations. Computer systems analysts, like other workers who spend long periods typing on a computer, are susceptible to eyestrain, back discomfort, and hand and wrist problems such as carpal tunnel syndrome.

Education/Training

How to Obtain:

Computer Systems Analyst positions usually require the completion of a bachelor's degree (BA/BS) program, generally in a field related to the prospective employer's environment. For example, employers in a technical or scientific environment, look for applicants who have a degree in a technical field, such as computer science, information science, applied mathematics, engineering, or the physical sciences. For jobs in a business environment, employers often seek applicants with a degree in a business-related field such as management information systems (MIS).

A Master's Degree (MA/MS), in one of these fields may be required for some more complex jobs or for career advancement (completion time is generally 2 years). Increasingly, employers are seeking individuals who have a master's degree in business administration (MBA) with a concentration in information systems. Some degree programs include a relevant certification program, such as those which participate in the Information Systems Model Curriculum.

Voluntary certification is available through various organizations, such as the Institute for Certified Computing Professionals (ICCP) or CompTIA.

The ICCP offers the Certified Computing Professional (CCP) designation. To earn this certification, a candidate must:

- Pass the core exam and
- Pass two specialty exams

Examples of specialty exams include:

- Information Systems - CORE
- Business Information Systems
- Business Process Management
- Data Management
- Database Administration
- Data and Information Quality

CompTIA: A+ Certification. This certification requires a candidate to pass:

- The 'essentials' examination, and
- The 'practical application' exam.

More Information on Certification:

- ICCP Certified Computing Professional (CCP): http://www.iccp.org/iccpnew/ccp.html
- CompTIA A+ Certification: http://www.comptia.org/certifications/listed/a.aspx

Average Costs:

Tuition and fees for a master's degree earned at a public university in the following areas average per year* as follows: Computer science, information science, applied mathematics, engineering: $12,800; Physical Sciences: $10,200; Management information systems: $11,400; Business Administration (MBA): $16,000. Completion time is generally two years.

Total Cost of Certification Exams, not including the cost of exam study aids:

- ICCP Certified Computing Professional (CCP): $855
- CompTIA A+ Certification: $168

*Note: This figure does not include federal, state, or university financial aid resources such as grants, fellowships, scholarships or work study. It also does not include vocational rehabilitation or other state resources available specifically to people with disabilities. Out-of-pocket expense may be significantly less.