

A Career Guide for the Immigrant Professional

BECOMING A SYSTEMS ANALYST

in Pennsylvania



Welcoming
Center *for*
NEW PENNSYLVANIANS

*Connecting immigrants, employers,
and communities*

This Career Guide for the Immigrant Professional includes a job description, job prospects, salary ranges, potential employers, and information about the certifications needed for entering a systems analyst profession.

This Guide also includes information about career options in the Information Technology field. In addition to reading this guide for logistical information, you may want to seek a mentor for advice on the specific career path you wish to pursue within this profession. Even if you have worked as a systems analyst or IT professional in your home country, there are certain educational credentials, certifications and work experience that employers in the United States may desire you to have before they will hire you. It may be necessary to take a survival-level job or find an internship in your field in order to gain valuable work experience in the meantime.

A JOB DESCRIPTION

What does a systems analyst do in the United States?

Systems analysts design new computer systems or update existing ones. They are responsible for networking an organization's computers.¹ Systems analysts analyze scientific, engineering and business problems for application to electronic data processing systems.² Because systems analysts typically work on a particular company's computers, they can often have experience that is related to that company's field. Many companies rely on systems analysts to provide "big picture" analysis to ensure that their computer systems and informational technology professionals are performing at their maximum potential for the benefit of the company.³

NOTE:

Duties and responsibilities as well as job titles for computer-related workers change often as new areas are developed and technology evolves. Therefore, it is necessary to constantly stay updated on current trends and new opportunities within the field of Information Technology.

B JOB PROSPECTS

What are my job prospects as a systems analyst in Pennsylvania?

Systems analysts are employed in every sector of our economy. They normally work in office or laboratory settings, for a 40-hour work week. They sometimes will work overtime if necessary for a project and often will telecommute, or work from a remote location on their computers.⁴ The Center for Workforce Information and Analysis predicts that by 2014 the number of systems analysts in Pennsylvania will increase by 21.2%, with approximately 610 annual openings.⁵

C SALARY RANGE

What kind of salary can I expect?⁶

Pennsylvania Entry-Level Salary	\$43,570
Pennsylvania Average Salary	\$66,150
United States Average Salary	\$70,430

¹ "Computer Systems Specialists." Pennsylvania Occupational Outlook Handbook, 2006 Edition. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/paooh/5_comp_%20sys_spls.pdf

² Pennsylvania Career Guide 2007-2008. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/carguide/CG_07-08_Part_2.pdf, pg.38

³ "Career: Computer Systems Analysts." College Board. http://www.collegeboard.com/csearch/majors_careers/profiles/careers/106089.html

⁴ "Computer Systems Analysts." Occupational Outlook Handbook, 2008-09. U.S. Department of Labor. <http://www.bls.gov/oco/ocos287.htm>

⁵ "Computer Systems Specialists." Pennsylvania Occupational Outlook Handbook, 2006 Edition. PA Department of Labor & Industry. at http://www.paworkstats.state.pa.us/paooh/5_comp_%20sys_spls.pdf

⁶ Pennsylvania Career Guide 2007-2008. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/carguide/CG_07-08_Part_2.pdf, pg.38

D POTENTIAL EMPLOYERS

Who employs systems analysts?

Systems analysts commonly work for:⁷

Manufacturing Firms

Computer Software and Equipment Companies

Data Processing Firms

Financial Institutions, including banks, stock brokerages, and asset management firms – such as Federated Investors

Insurance Companies – such as CIGNA

Accounting Firms – such as PricewaterhouseCoopers, Deloitte & Touche, Ernst & Young, and KPMG

Pharmaceutical Companies –such as Pfizer

Government Agencies – including the federal government, the Commonwealth of Pennsylvania, counties, and local municipalities

Large Public and Private Institutions – including hospitals and universities

Telecommunications Companies – such as Verizon

Consulting Services Firms – such as Accenture

These are simply a few examples of the many companies that hire systems analysts in Pennsylvania.

E QUALIFICATIONS

What are the educational requirements to become a systems analyst?

Employers generally seek college graduates who have a degree in computer science, information science, information systems, or data processing. Regardless of college major, employers look for people who are familiar with programming languages. Courses in computer concepts, systems analysis, computer programming, and database management systems offer good preparation for a job in this field. Since technology continues to rapidly advance and evolve, it is important for systems analysts to continue their education and study. Often employers will offer additional training on systems and software. You can also find training seminars and classes given by professional computing societies.⁷

⁷ California Occupational Guide #541. Employment Development Department. <http://www.calmis.cahwnet.gov/file/occguides/COMPUSYS.HTM>

Are there certifications or examinations that I can take to increase my chances of finding a job as a systems analyst?

Often certification can increase your chance of getting a higher salary. You can locate various certification exams and proficiency tests at the Institute for Certification of Computing Professionals (ICCP) at <http://www.iccp.org/>. ICCP recommends that you have some practical experience before you try to take a certification exam. You do not have to have a college degree to take a certification exam, but a degree will give you more credits and reduce the amount of experience required. ICCP suggests that if you want to be a systems analyst, you need the highest standard professional designation: Certified Computing Professional or Information Systems Professional; Certified Data Management Professional or the Certified Business Intelligence Professional.⁸

It is important to realize that getting certified will not guarantee that you will get a job as a systems analyst. Since the computer-related industry is always changing, it is difficult to take one common test that will evaluate everything that a systems analyst should know. Make sure to thoroughly investigate certification examinations and programs, asking many questions to determine their worth to your career path or the specific job you are considering before you register for them or spend any money. Talk to a person who has already gotten the certification you are considering, and ask him or her if it is worth doing.

F

CAREER OPTIONS

Educational requirements for careers in Information Technology.

Employers will most likely favor candidates with a college education and relevant work experience. Most positions require an associate's or bachelor's degree. For more complex jobs, a graduate degree is often required. To work in a research laboratory or academic institution, a Ph.D. in computer science or engineering may be necessary. Technical or professional certification is a way to show the level of your skills in a particular field. Product vendors or software firms offer their own certification for specific products and may require professionals who work with their products to be certified. Professional certification may provide a job seeker with a competitive advantage. There are many training providers. You can find a list of training and continuing education programs that are pre-approved by the Institute for Certification of Computing Professionals on their website at: <http://www.iccp.org/iccpnew/trainpartners.html>. You can find additional training from employers, vendors, formal training institutions, and professional computing societies.⁹

⁸ See <http://www.iccp.org/iccpnew/faq.html> for more information.

⁹ "Computer Systems Specialists." Pennsylvania Occupational Outlook Handbook, 2006 Edition. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/paoooh/5_comp_%20sys_spls.pdf

An example of a professional computing society is the Association for Computing Machinery (<http://www.acm.org/>) which provides resources including educational activities, conferences, and online books and courses that advance computing as a science and a profession. The Pennsylvania Chapter of the Association for Computing Machinery can be contacted at the following address:

Philadelphia ACM SIG CHI

1900 Hamilton Street, Unit C11

Philadelphia, PA 19130

PHONE: 215-575-0734

WEB: <http://phillychi.acm.org>

What are some career options in the Information Technology field?

Advanced technology and the increase of new computer applications have created a demand for computer specialists. There are many career options in the Information Technology field. While most careers require a bachelor's degree, workers with certification and practical experience may enter the field in lower-level positions. Here is a sample of occupational titles and salaries for Information Technology careers in Pennsylvania.¹⁰

Occupational Title	Average Annual Wage	Entry Level Wage
Computer Support Specialist	\$41,180	\$27,230
Applications Engineer	\$79,410	\$52,510
Computer Programmer	\$65,090	\$40,540
Network Systems Administrator	\$64,040	\$41,380
Systems Engineer	\$81,530	\$53,650
Network Systems Analyst	\$68,550	\$43,480

Computer support specialists provide technical support for hardware, software, and system problems. Job titles include technical support specialists, help-desk technicians and customer service representatives. Typically, a computer support specialist must have strong English communication, excellent customer service, and problem-solving skills. In addition to repairs and troubleshooting, they also can educate users about how to solve their own computer problems in the future.¹¹ Community colleges, technical institutes, and proprietary schools offer an associate's degree in computer science.¹²

¹⁰ Pennsylvania Career Guide 2007-2008. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/carguide/CG_07-08_Part_2.pdf, pg.38

¹¹ California Occupational Guide #589. Employment Development Department, State of California. 2005. <http://www.calmis.ca.gov/file/ocguide/compusup.pdf>

¹² "Computer Systems Specialists." Pennsylvania Occupational Outlook Handbook, 2006 Edition. PA Department of Labor & Industry. http://www.paworkstats.state.pa.us/paooh/5_comp_%20sys_spls.pdf

Computer programmers develop or write programs to store, find, or retrieve information. They also can be involved in coding projects into programming languages, programming Web sites, testing and maintaining programs and software, and revising existing programs for efficiency. Computer programmers typically have a bachelor's degree in computer science, math or information systems and have substantial knowledge of operating systems. The Institute for Certification of Computing Professionals administers a program of study and examination to qualify members for certification. Candidates must have four years of experience or two years of experience and a college degree to qualify to take the examination.¹³

Network systems administrators install, configure, and support an organization's network systems and maintain the hardware and software for those networks. A network systems administrator can deal with security for network systems and monitor the network for effective usage and availability. S/he will also be involved with the backup of files and data, the maintenance of extranets and internets, and system configuration. A bachelor's degree in computer science, computer information systems, or a related field is often required. Sometimes, smaller companies (with fewer computers) might hire a system administrator with an associate degree in computer science or certificate, as long as s/he has two or more years of experience. There are hundreds of certifications available to network systems administrators. Courses and testing are offered through community colleges or adult education training programs. Examples of professional certifications are Cisco Certified Internetwork Expert and Microsoft Certified Systems Engineer.¹⁴

Systems engineers research, design, develop, and test operating systems-level software. Often they work for companies that create and sell computer systems to corporations or they are employed by large companies that have their own Information Technology departments. Employers usually require either a bachelor's degree or a master's degree in computer science, electrical engineering, business administration, or math. Applicants should have some knowledge of computer programming.¹⁵

NOTE:

If you do not have any experience in systems analysis or have not taken any certification exams or proficiency tests, you could start your training in a support role at the help desk in an organization like a large law firm or financial institution to begin to have internal training for the job.¹⁶

13 California Occupational Guide #81. Employment Development Department, State of California. 2002. <http://www.calmis.ca.gov/file/occguides/COMPUPRO.PDF>

14 California Occupational Guide #590. Employment Development Department, State of California. 2005. <http://www.calmis.ca.gov/file/occguides/COMPNETSYS.PDF>

15 California Occupational Guide #488. Employment Development Department, State of California. 1995. <http://www.calmis.ca.gov/file/occguides/ENGCOMP.HTM>

16 Systems Analyst. The Princeton Review. <http://www.princetonreview.com/Careers.aspx?page=1&cid=210&uidbadge=>

Credential Evaluation

If you received your degree from a university outside the United States, you may need to have a credential evaluation organization determine the equivalent degree in the United States. Be aware that in the Information Technology field, skills and certifications change rapidly and it may not be useful to get older, out-of-date degrees evaluated. **If you graduated more than 7 years ago, talk to professionals in the U.S. Information Technology field before deciding whether to spend your money on credential evaluation or an entirely new training course.** If you decide to get an evaluation, World Education Services is a reputable organization that provides this service.

World Education Services

Bowling Green Station
P.O. Box 5087
New York, NY 10274-5087
PHONE: 212-966-6311
FAX: 212-739-6100
WEB: <http://www.wes.org>

OTHER USEFUL LINKS

Association for Computing Machinery: <http://www.acm.org>
Association for Women in Computing: <http://www.awc-hq.org>
The Computing Technology Industry Association: <http://www.comptia.org>
DICE (Job Board for Information Technology Job Seekers): <http://www.dice.com>
Information Technology Association of America: <http://www.itaa.org>
Institute of Electrical and Electronics Engineers (IEEE) Computer Society:
<http://www.computer.org/portal/site/ieeecs/index.jsp>
The National IT Apprenticeship System: <http://www.nitas.us>
National Workforce Center for Emerging Technologies (NWCET): <http://www.nwcet.org/default.asp>
University of Washington Computer Science and Engineering Department:
<http://www.cs.washington.edu/WhyCSE>

HOW CAN I FIND A JOB?

WHAT ARE THE NEXT STEPS
TO GETTING A JOB?

In addition to this guide, the Welcoming Center has published *How to Succeed in the Workplace*, a general guide to conducting a successful job search in the United States. This guide is located at: www.welcomingcenter.org/documents/HowToSucceed.pdf.

The Welcoming Center has many years of experience working with immigrant professionals who are trying to rebuild their careers here in the United States. We have discovered that rebuilding your career requires accumulating social capital. Much like starting a business, where you must collect and save financial capital and resources, transferring your career to a new country requires collecting and building *social* capital. Social capital includes your knowledge of American business culture, your network of professional contacts, and similar resources.

Your educational credentials and professional certifications put you in a strong position to work in the Information Technology field. If you took a course in the United States, you may already have made contact with a career mentor or hiring manager, and if so, he or she is in the best position to give you advice about where to apply for jobs.

In addition, you should look for opportunities where you can network with others in the Information Technology field, such as career fairs, professional societies, public lectures, conferences, or any other event that might bring together systems analysts.

The Welcoming Center for New Pennsylvanians helps work-authorized immigrants with job placement regardless of your educational background and skill level. Please contact us:

Welcoming Center for New Pennsylvanians

1617 John F. Kennedy Boulevard, 13th Floor
Philadelphia, PA 19103

PHONE: 215-557-2626

EMAIL: info@welcomingcenter.org

WEB: www.welcomingcenter.org

Sources

We have drawn on a variety of sources for our research, but are most indebted to the Pennsylvania Department of Labor and Industry and the California Employment Development Department for their invaluable information.

For further assistance, please contact our
employment specialists at 215-557-2626
or visit us online at welcomingcenter.org.

Founded in 2003, the Welcoming Center for New Pennsylvanians is a nonprofit 501(c)(3) organization that works to promote immigrant participation in the region's economic, political, and social life. These individuals enhance the productivity, profitability, and stability of the region's businesses and contribute to the state's overall economic growth.

MAIN OFFICE

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www.welcomingcenter.org

Our United Way donor option
number is 14726.

**Welcoming
Center *for***
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