

NETWORKING SYSTEMS AND TECHNOLOGY, ASSOCIATE IN APPLIED SCIENCE



College(s): DA, KK, OH, TR, WR

Program Code: 0141

This program is for students interested in administering and maintaining network equipment as well as software and services common in modern network infrastructures. Curriculum covers both hardware and software components. It also offers students relevant skills required in a variety of industry certifications including A+, Network+, CCENT, CCNA, and CCNA Security.

Program Requirements

Code	Title	Hours
General Education Coursework ¹		
ENGLISH 101	Composition	3
	Mathematics (MATH 125 recommended)	4
	Fine Arts or Humanities course	3
	Social and Behavioral Sciences course	3
	Physical Sciences or Life Sciences course	3
Required Program Core		
BUSINES 111	Introduction To Business	3
CIS 101	Computer Science 101	3
CIS 111	Computer Operations	3
CIS 116	Operating System I	3
CIS 255	Operating Systems II	3
COMPSFI 102	Information Security Essentials	3
NET TEC 121	Internetworking I	3
NET TEC 122	Internetworking II	3
NET TEC 221	Internetworking III	3
NET TEC 222	Internetworking IV	3

	or NET TEC 245Cloud Computing and Services	
NET TEC 240	Operating Systems/Server I	3
Required Work-Based Learning Courses		
CIS 260	Computer Information Systems Field Project	3
	or CIS 265 Computer Information Systems Internship	
Program Electives		
	Students must complete a minimum of 9 credit hours in the subjects	9
	Computer Information Systems (0032), Networking Technologies (0165), or Cybersecurity (0162).	
Total Hours		61

¹ At least one course must be an HD course.

Pathway

This is an **example course sequence** for students interested in earning a degree in Networking Systems and Technology. If this pathway is followed as outlined, you will earn a Basic Certificate (BC), an Advanced Certificate (AC), and an Associate in Applied Science (AAS) Degree in Networking Systems and Technology. It does not represent a contract, nor does it guarantee course availability. One course will satisfy the Human Diversity (HD) requirement, and is labeled with an (HD) in the sequence below.

The Networking Systems and Technology AAS program is for students interested in administering and maintaining network equipment such as routers, switches, and servers, as well as, maintaining software and services that are common in modern network infrastructures. The curriculum covers both hardware and software components which help prepare students for jobs in the Information Technology (IT) market. It also offers students relevant knowledge and skills required in a variety of industry certifications including: A+, Network+, CCENT, CCNA and CCNA Security.

Semester-by-Semester Program Plan for Full-Time Students

All plans can be modified to fit the needs of part-time students by adding more semesters.

Semester 1		Hours
ENGLISH 101	Composition ¹	3
CIS 101	Computer Science 101	3
CIS 116	Operating System I	3
CIS 111	Computer Operations	3
NET TEC 121	Internetworking I	3
Hours		15
Semester 2		
BUSINES 111	Introduction To Business	3
CIS 255	Operating Systems II	3
MATH 125	Introductory Statistics (or other Mathematics)	4
NET TEC 122	Internetworking II	3
Fine Arts & Humanities course (HD) ¹		3
Hours		16
Semester 3		
COMPSFI 102	Information Security Essentials	3
NET TEC 221	Internetworking III	3
NET TEC 240	Operating Systems/Server I	3
Physical Sciences or Life Sciences course ¹		3
Program Elective ²		3
Hours		15
Semester 4		
NET TEC 222 or NET TEC 245	Internetworking IV or Cloud Computing and Services	3
CIS 260 or CIS 265	Computer Information Systems Field Project (Capstone or Internship) or Computer Information Systems Internship	3
Social and Behavioral Sciences course ¹		3
Program Elective ²		3
Program Elective ²		3
Hours		15
Total Hours		61

¹ General Education Requirement

² Students must complete a minimum of 9 credit hours in the subjects Computer Information Systems (0032) (<https://catalog.ccc.edu/courses-az/cis/>), Networking Technologies (0165) (https://catalog.ccc.edu/courses-az/net_tec/), or Cybersecurity (0162) (<https://catalog.ccc.edu/courses-az/compsfi/>).

Choose your courses with your College Advisor.

Careers

This program can prepare students for the jobs listed below. Click on each one to learn more, including average earnings, annual job openings, and how much education people in that field have. For additional guidance and resources on career options, current City Colleges students and alumni can contact the Career Services Office (<https://www.ccc.edu/departments/Pages/Career-Services.aspx>).

Computer User Support Specialists Job Description

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, via telephone, or

electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

Annual Wages

Entry-Level 10 th Percentile	\$39,015
Median 50 th Percentile	\$60,509
Senior-Level 90 th Percentile	\$96,927

Hourly Wages

Entry-Level 10 th Percentile	\$19
Median 50 th Percentile	\$29
Senior-Level 90 th Percentile	\$47

Annual Job Openings

852 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	0.32%
A certificate	32.33%
Some college	1.92%
An Associate degree	13.74%
A Bachelor's degree	47.32%
A Master's or Professional degree	4.37%
A Doctoral degree or more	0.00%

51.69% continue their education beyond an associate degree

Computer Network Support Specialists Job Description

Analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), cloud networks, servers, and other data communications networks. Perform network maintenance to ensure networks operate correctly with minimal interruption.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-

duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

Annual Wages

Entry-Level 10 th Percentile	\$42,894
Median 50 th Percentile	\$71,434
Senior-Level 90 th Percentile	\$128,275

Hourly Wages

Entry-Level 10 th Percentile	\$21
Median 50 th Percentile	\$34
Senior-Level 90 th Percentile	\$62

Annual Job Openings

300 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	4.23%
A certificate	10.16%
Some college	13.63%
An Associate degree	21.68%
A Bachelor's degree	48.77%
A Master's or Professional degree	1.53%
A Doctoral degree or more	0.00%

50.30% continue their education beyond an associate degree

Network and Computer Systems Administrators

Job Description

Install, configure, and maintain an organization's local area network (LAN), wide area network (WAN), data communications network, operating systems, and physical and virtual servers. Perform system monitoring and verify the integrity and availability of hardware, network, and server resources and systems. Review system and application logs and verify completion of scheduled jobs, including system backups. Analyze network and server resource consumption and control user access. Install and upgrade software and maintain software licenses. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

Annual Wages

Entry-Level 10 th Percentile	\$57,780
Median 50 th Percentile	\$90,616
Senior-Level 90 th Percentile	\$140,049

Hourly Wages

Entry-Level 10 th Percentile	\$28
Median 50 th Percentile	\$44
Senior-Level 90 th Percentile	\$67

Annual Job Openings

288 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	0.00%
A certificate	7.49%
Some college	9.72%
An Associate degree	20.30%
A Bachelor's degree	52.37%
A Master's or Professional degree	10.13%
A Doctoral degree or more	0.00%

62.50% continue their education beyond an associate degree

Information Security Analysts

Job Description

Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. Assess system vulnerabilities for security risks and propose and implement risk mitigation strategies. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

Annual Wages

Entry-Level 10 th Percentile	\$67,312
Median 50 th Percentile	\$113,413
Senior-Level 90 th Percentile	\$178,147

Hourly Wages

Entry-Level 10 th Percentile	\$32
Median 50 th Percentile	\$55
Senior-Level 90 th Percentile	\$86

Annual Job Openings

192 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	0.00%
A certificate	7.16%
Some college	2.01%
An Associate degree	12.87%
A Bachelor's degree	75.16%
A Master's or Professional degree	2.80%
A Doctoral degree or more	0.00%

77.96% continue their education beyond an associate degree