CIT, NETWORK ADMINISTRATION CISCO SPECIALTY, CERTIFICATE OF TECHNOLOGY

Program Information

Are you interested in the way things work? Have you always wanted to build your own computer? If so, San Jacinto College's Network Administration program can provide you with the skills to become a desktop and laptop computer hardware and software support expert. Our program teaches students to install, maintain, repair, replace, and upgrade computers to set them on course for a fulfilling career in the always-booming tech industry.

The San Jacinto College's Network Administration program:

- Provides students with the skills necessary to work as Computer Network Service Technicians, with an emphasis placed on installing and maintaining networks;
- Is designed to provide students with skills in desktop computer hardware and software support;
- Teaches students to install, maintain, repair, replace, and upgrade desktop computers; and
- Prepares students for industry certifications such as A+, Network+, Security+ and Microsoft Office Specialist (MOS), Microsoft Certified Professional (MCP), and Certified Cisco Network Associate (CCNA).

Career Opportunities

The Associate of Applied Science (AAS) in Network Administration Cisco Specialty is an excellent entry point into future studies leading to careers that include:

- Desktop Support Specialists,
- Helpdesk Supports,
- PC Technicians,
- MS Network Administrators,
- Network Technicians,
- Network Administrators,
- Server Administrators, and
- Network Operations Specialists.

Earning Potential

Network and Computer Systems Administrators: $101,598 per year

Computer Network Support Specialist: $67,029 per year[1]

[1] Source: texaswages.com (https://www.texaswages.com), median salary Gulf Coast region, 2023

For more information, students may contact Kay Richardson, Department Chair 281-991-2608.

Campus

Central Campus

Information

The Computer Information Technology (CIT) program is designed primarily for students seeking an Occupational Certificate, Certificate of Technology, or Associate of Applied Science (AAS) degree. Students can expect to complete most CIT certificates in three semesters and the AAS degrees in as few as four semesters. For those students who have already fulfilled general education requirements, it may be possible to finish degree course work even sooner. It is generally recommended that students complete the Computer Information Technology (CIT) Foundations Occupational Certificate before continuing into a Certificate of Technology or AAS degree. Most courses in this Occupational Certificate will apply toward the other CIT certificates and AAS degrees.

The CIT curriculum provides the graduate with the knowledge and in-demand applied technical skills needed to enter computer-related occupations in the business/industry job market. Certificates and AAS degrees are available in the following areas: Applications Programming, Desktop Support and Network Administration, Information Technology Cybersecurity, Simulation and Game Design, Network Administration Cisco, Cloud Computing, and Web Applications Development.

- The Applications Programming Specialty is for students interested in developing computer programs (designing, coding, testing, and debugging), both stand-alone and web-based, in languages such as C++ and Java as well as gaining skills in the use of Python and SQL. Electives may include courses in C#, Game Design, JavaScript, and mobile app programming. Emphasis is placed on applying the techniques and procedures learned in providing software solutions for both business-related and practical computer problems that are robust, error-free, and easy to use.
- In Desktop Support and Microsoft Network Administration, a student can choose between a track with emphasis on computer hardware (installing, maintaining, repairing, and upgrading) and software support (installing and configuring) or one with focus on installing, configuring, and maintaining computer networks. This program of study prepares students for CompTIA's A+ and Network+ exams as well as other widely recognized industry certifications. Support and network graduates are invaluable in keeping businesses running smoothly.
- The Cloud Computing program provides individuals education, training, the knowledge, skills, and concepts necessary to serve as a cloud support technician. Upon completion of the program, students will develop the fundamental skills necessary to support and manage infrastructure and workloads on cloud platforms such as Amazon Web Services (AWS) and Microsoft Azure.
- The Cybersecurity (AAS) program provides students with comprehensive foundational knowledge essential for pursuing entry-level security certifications like Security+. This program not only prepares students for immediate certification but also lays a

robust groundwork for advanced certifications and further academic pursuits, such as transitioning into a Cybersecurity Bachelor's program. Graduates will be equipped with the skills necessary to effectively safeguard computers and networks against a wide range of threats, including hackers, viruses, and cyberattacks. As a Cybersecurity professional, you will play a critical role in maintaining the integrity and security of digital infrastructures.

- The Simulation and Game Design program is designed for students who are interested in advanced programming areas, as in simulations, game programming, program testing, or multimedia programming.
- In the Network Administration Cisco Specialty, emphasis is on the design, implementation, and administration of local and wide-area router networks.
- The Web Applications Development program prepares students for entry-level positions in website design, web-based applications development, and website administration.
- The IT Specialist program equips individuals for a dynamic career in a rapidly growing field. As technology becomes integral to nearly every industry, the demand for skilled IT support specialists is on the rise. Employment in this sector is projected to grow by 6% from 2022 to 2032, fueled by advancements in cloud computing, cybersecurity, and the ongoing need for technology upgrades. The program offers opportunities to specialize in Cloud Computing, Systems Administration, or CISCO Networking, providing a well-rounded pathway to a rewarding IT support career. Through technical training and essential skill development, graduates are prepared to meet the evolving needs of modern organizations.

Note for transfer students: Due to variations in requirements at four-year colleges and universities, students desiring a bachelor's degree in Computer Science are strongly advised to consult a CIT Department Chair at San Jacinto College and at the institution to which they wish to transfer. This communication regarding transfer degree plans with both computer department heads will help to ensure the transition process is as smooth as possible.

Students enrolling into San Jacinto College programs with external learning experiences (i.e., clinical, practicum, externship, cooperative, etc.) will be required to comply with the immunization requirements and policies of the clinical/external learning sites to engage in all clinical/external learning experiences. Vaccination requirements at clinical/external learning sites are implemented pursuant to the independent authority of such facilities and are not mandated by San Jacinto College. Failure to meet the immunization requirements mandated by clinical/external learning sites may limit a student's ability to complete the program and/or may delay the student's graduation date. San Jacinto College does not process exemptions, and students should address potential vaccination exemptions directly with the clinical/external learning site.

Network Administration Cisco

The College designed the Network Administration Cisco curriculum to provide the student with the skills needed to work as a Cisco Network Technician. Emphasis is placed upon the installation and maintenance of networks in business and industry. The graduate will be able to administer and troubleshoot Cisco networking equipment and networking infrastructure. The Cisco courses can lead to the certifications of Certified Cisco Network Associate (CCNA), Certified Cisco Network Professional (CCNP), and Comptia Net+. Common job titles for graduates of the certificate and/or degree include Network Technician, Cisco Service Representative, Technical Support Specialist, and Network System Administration.

Plan of Study

4IT-NW-C

First Year

First Term		Credits
ITSC 1325	Personal Computer Hardware	3
ITSC 1305	Introduction to PC Operating Systems	3
ITSC 1309	Integrated Software Applications I	3
ITNW 1325 or ITCC 1314	Fundamentals of Networking Technologies or CCNA 1: Introduction to Networks	3
ITSE 1329	Programming Logic and Design	3
	Credits	**15**

Second Term

ITSY 1342	Information Technology Security	3
ITNW 1309	Fundamentals of Cloud Computing	3
ITNW 1313	Computer Virtualization	3
ITSE 1359	Introduction to Scripting Languages	3
	Credits	**12**

Second Year

First Term

ITCC 1444	CCNA 2: Switching, Routing and Wireless Essentials	4
Select one of the following		3
ITNW 2364	Practicum (or Field Experience) - Computer Systems Networking and Telecommunications	
ITSY 2345	Network Defense and Countermeasures	
ITSY 2301	Firewalls and Network Security	
ITSC 1315	IT Project Management	
	Credits	**7**

Second Term

ITCC 2420	CCNA 3: Enterprise Networking, Security, and Automation	4
ITCC 2441	CCNA Security	4
	Credits	**8**
	Total Credits	**42**

Capstone Experience: ITCC 2441 CCNA Security