CIT, INFORMATION TECHNOLOGY CYBER SECURITY SPECIALTY, ASSOCIATE OF APPLIED SCIENCE

Program Information

Are you passionate about the Internet? Are you fascinated by Web and Network security? If so, San Jacinto College's Computer Information Technology (CIT) Cyber Security training can help you kick start a career in the network security field. This degree prepares students for entry-level security certifications such as Security+. It lays the ground work for higher level certifications. As an Information Technologist, you can help keep hackers, viruses, and terrorists from intruding and damaging computers and networks.

The San Jacinto College CIT curriculum:

- Is designed to provide students with an understanding of the principles and techniques of information technology;
- Prepares students to work in the network security field to help keep hackers, viruses, and terrorists from intruding and damaging computers; and
- Teaches students how to safeguard computer operating systems by teaching server support skills and designing and implementing security systems.

Additional Information

Due to variations in requirements at four-year colleges and universities, students desiring to pursue a bachelor's degree in computer science is strongly advised to consult the CIT Department Chair at San Jacinto College and at the institution to which they wish to transfer to review the appropriate transfer degree plans to the designated university.

The CIT program is designed primarily for students seeking an Occupational Certificate, Certificate of Technology, or Associate of Applied Science (AAS) degree. The College recommends completion of the 21-semester credit hour CIT foundations Occupational Certificate before continuing into a Certificate of Technology or AAS degree. The classes in the core CIT Occupational Certificate will apply toward most of the other CIT Certificates of Technology and AAS degrees.

Career Opportunities

Graduates who earn an AAS degree or Certificate of Technology in CIT Cyber Security typically pursue careers as:

- Information Technology security officers,
- Network Operations Specialists,
- VPN Engineers, and
- Chief Security Officers.

For more information, students may contact South campus, 281-929-4603 or North campus, 281-998-6350, x7242.

Campuses

North Campus
South Campus

San Jac Online

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 21 semester credit hour 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 Cyber Security, 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 Cyber Security program prepares students for entry level security certifications such as Security+. It lays the ground work for higher level certifications. As an Information Technologist, you can help keep hackers, viruses, and terrorists from intruding and damaging computers and networks.
- 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 CIT Industry Certification program is intended for students with industry experience in one or more of the following areas of study: beginning network administration, Cisco, and advanced information technology security. These certificates enable students to supplement their current job skills and obtain industry certifications, if desired. Each industry certificate consists of only the courses required to obtain a specific certification.

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.

Information Technology Cyber Security

With the Information Technology Cyber Security certificate or Associate of Applied Science (AAS) degree, graduates can work in the network cyber security field to help keep hackers, viruses, and terrorists from intruding and damaging computers. Common job titles include: Information Technology Security Officer, Network Operations Specialist, VPN Engineer, Cybercrime analyst, Incident & intrusion analyst , IT auditor. Information security analyst, Penetration tester, and Data Recovery Professional.

Plan of Study

3IT-ITS

First Term		Credits
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
ITSY 1342	Information Technology Security	3
ENGL 1301	Composition I	3
	Credits	**15**
Second Term		
ITSC 1316 or ITSC 1307	Linux Installation and Configuration or UNIX Operating System I	3
ITSE 1329	Programming Logic and Design	3
ITSW 1307	Introduction to Database	3
ITSY 2300	Operating System Security	3
Select one of the following:		3
MATH 1332	Contemporary Mathematics (Quantitative Reasoning)	
MATH 1314	College Algebra	
Life and Physical Sciences (Natural Science)		
	Credits	**15**
Third Term		
ITNW 1354 or ITNW 1309	Implementing and Supporting Servers or Fundamentals of Cloud Computing	3
ITSY 2301	Firewalls and Network Security	3
ITSY 2341	Security Management Practices	3
Language, Philosophy and Culture (Humanities) or Creative Arts (Fine Arts)		3
Select one of the following:		3
SPCH 1311	Introduction to Speech Communication	
SPCH 1315	Public Speaking	
SPCH 1318	Interpersonal Communication	
SPCH 1321	Business and Professional Speech	
	Credits	**15**
Fourth Term		
ITSY 2342	Incident Response and Handling	3
ITSY 2343	Computer System Forensics	3
ITSY 2345	Network Defense and Countermeasures	3
ENGL 2311 or ENGL 1302	Technical and Business Writing or Composition II	3
Social and Behavioral Sciences or Government/Political Science or American History		3
	Credits	**15**
	Total Credits	**60**

Capstone Experience: ITSY 2345 Network Defense and Countermeasures

**Students must be Texas Success Initiative (TSI) complete in order to graduate: Math level 8.