

# CIT, ADVANCED INFORMATION TECHNOLOGY CYBER SECURITY SPECIALTY, OCCUPATIONAL CERTIFICATE



## Information

The Computer Information Technology 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 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, 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 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.

## Computer Information Technology Industry Certification Program

The CIT Industry Certification program is intended for students with industry experience in one or more of the following areas of study:

1. Beginning Network Administration Cisco and/or
2. 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.

## Occupational Certificate

The following certificate is for students that have experience in the computer information technology field. With this certificate or an associate of applied science degree, graduates can work in the network security field to help keep black hat hackers, computer viruses and cyber terrorists from stealing data and damaging computers. Common job titles include:

- IT Security Technician
- Computer Security Analyst I and II
- IT Security Engineer
- Network Security Analyst
- IT Governance and Security Analyst
- Senior IT Security Analyst
- Information System Security Officer
- Penetration Tester
- Security Architect
- Security Systems Administrator
- IT Security Consultant
- Cryptographer
- Cryptanalyst