



A DUAL ENROLLMENT CAREER PATHWAY FOR

# COMPUTER AND INFORMATION TECHNOLOGY

[tctc.edu/careerpathways](http://tctc.edu/careerpathways)

## About the Program

- Students studying this major learn how to perform entry-level positions in the computer information technology field. Upon graduation, employment opportunities are available in a wide range of computing environments.
- As part of the Technical Career Pathway, students have the opportunity to earn 21 hours of college credit (7 courses), earn the TCTC Computer Technician Certificate, and earn two industry certificates: Industry Standard CompTIA A+ Certification and Microsoft Office Specialist (MOS) Certification.
- Students who complete the certificate and wish to continue in the Associate Degree program may do so without loss of credits earned.
- The US Bureau of Labor Statistics projects an employment growth of 8% from 2019 – 2029. In South Carolina, there are a projected 230 annual job openings

## About the Pathway

- Computer Information Technology is a Technical Career Pathway in which courses and textbooks are at **no cost** to students planning to enter the career field after high school.
- High school students take dual enrollment classes at the TCTC Pendleton Campus or online via ZOOM at specified times alongside other college students.
- After high school, students seamlessly transition into the Associate in Applied Science degree in one of three disciplines: **Cybersecurity/Forensics, Network Systems Management, and Software and Web Development.**

## Computer & Information Technology CAREER PATHWAY

### IN HIGH SCHOOL

11<sup>th</sup>\* or 12<sup>th</sup> Grade:

1<sup>st</sup> Semester

- CPT 167 • CPT 170

2<sup>nd</sup> Semester

- CPT 270 • IST 220

3<sup>rd</sup> Semester

- CPT 176 • CPT 285 • IST 222

(please see course descriptions on back)

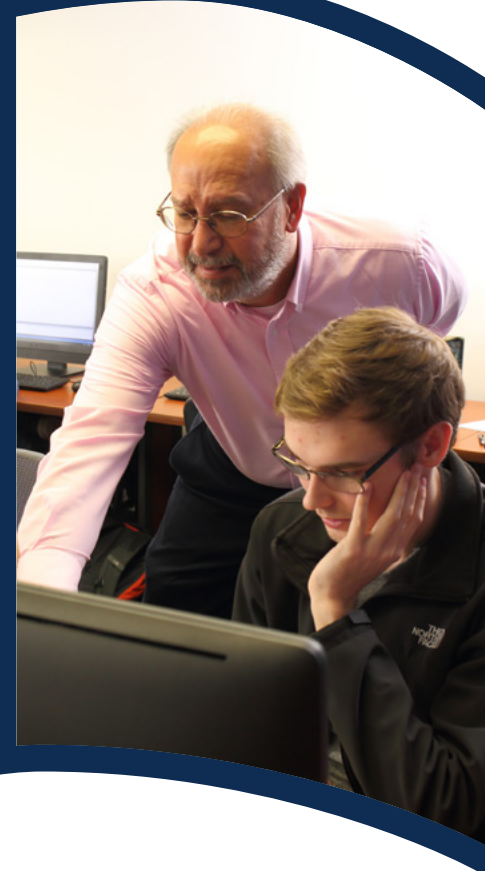
**HIGH SCHOOL GRADUATION +  
COMPUTER TECHNICIAN  
CERTIFICATE AND 21 HOURS OF  
COLLEGE CREDIT**

### AFTER HIGH SCHOOL COMPUTER AND INFORMATION TECHNOLOGY ASSOCIATE IN APPLIED SCIENCE DEGREE

Students may choose an emphasis in one of the following disciplines and complete within 4 semesters:

- **Cybersecurity and Forensics**
- **Network Systems Management**
- **Software and Web Development**

SC Mean Annual Wages  
**\$54,217-\$71,751**



CONNECT WITH US

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# COMPUTER & INFORMATION TECHNOLOGY COURSE DESCRIPTIONS

Widespread use in business, industry, education, and government has created a demand for trained computer professionals. Hands-on training is emphasized as students prepare for entry-level positions in the information technology field. Upon graduation, employment opportunities are available in a wide range of computer environments

## Cybersecurity and Forensics Emphasis, A.A.S.

Course Number	Course Title	Credit Hours
CPT 234	C Programming I	3
CPT 242	Database	3
CPT 264	Systems and Procedures	3
ENG 155	Communications I	3
ENG 156	Communications II	3
IST 150	Project Management Essentials for IT Professionals	3
IST 191	LINUX System Administration	3
IST 241	Network Architecture I	3
IST 257	LAN Network Server Technologies	3
IST 268	Computer Forensics	3
IST 269	Digital Forensics	3
IST 272	Relational Database	3
IST 290	Special Topics in Information Sciences	3
IST 291	Fundamentals of Network Security I	3
MAT 155	Contemporary Mathematics	3
	Humanities Requirement	3
	Social Science Requirement	3

## Network Systems Management Emphasis, A.A.S.

Course Number	Course Title	Credit Hours
CPT 234	C Programming I	3
CPT 242	Database	3
CPT 264	Systems and Procedures	3
ENG 155	Communications I	3
ENG 156	Communications II	3
IST 150	Project Management Essentials for IT Professionals	3
IST 191	LINUX System Administration	3
IST 201	Cisco Internetworking Concepts	3
IST 202	Cisco Router Configuration	3
IST 203	Advanced Cisco Router Configuration	3
IST 204	Cisco Troubleshooting	3
IST 241	Network Architecture I	3
IST 257	LAN Network Server Technologies	3
IST 291	Fundamentals of Network Security I	3
MAT 155	Contemporary Mathematics	3
	Humanities Requirement	3
	Social Science Requirement	3

## Software and Web Development Emphasis, A.A.S.

Course Number	Course Title	Credit Hours
CPT 208	Special Topics in Computer Technology	3
CPT 212	Visual Basic Programming	3
CPT 234	C Programming I	3
CPT 236	Introduction to Java Programming	3
CPT 242	Database	3
CPT 264	Systems and Procedures	3
CPT 283	PHP Programming I	3
ENG 155	Communications I	3
ENG 156	Communications II	3
IST 150	Project Management Essentials for IT Professionals	3
IST 191	LINUX System Administration	3
IST 237	Intermediate Website Design	3
IST 257	LAN Network Server Technologies	3
IST 272	Relational Database	3
MAT 155	Contemporary Mathematics	3
	Humanities Requirement	3
	Social Science Requirement	3

## COURSE DESCRIPTIONS FOR CERTIFICATE COURSES:

### CPT 167 - INTRODUCTION TO PROGRAMMING LOGIC

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course introduces foundation concepts in structured programming. Problem solving and algorithm development through pseudo code and flowcharting is emphasized. Solutions are developed using the basic control structures of sequential, decision, and iteration.

### CPT 170 - MICROCOMPUTER APPLICATIONS

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course introduces microcomputer applications software, including word processing, databases, spreadsheets, graphs, and their integration.

Note: Reading placement scores satisfactory for ENG 100 or ENG 155 is strongly recommended.

### CPT 176 - MICROCOMPUTER OPERATING SYSTEMS

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course covers operating systems concepts of microcomputers, including file maintenance, disk organization, batch files, and subdirectory concepts.

Prerequisites: CPT 167.

### CPT 270 - ADVANCED MICROCOMPUTER APPLICATIONS

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course emphasizes the integration of popular microcomputer software packages using advanced concepts in microcomputer applications software. Some of the advanced features of Microsoft Office software will be applied to solve typical business problems.

Prerequisites: CPT 170

### CPT 285 - PC HARDWARE CONCEPTS

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course focuses on installing and upgrading microcomputer hardware and identifying malfunctions.

Prerequisites: CPT 167.

### IST 220 - DATA COMMUNICATIONS

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course is a study of the fundamentals of data communications. Basic signaling, networking, and various transmission media are covered.

Prerequisites: CPT 167.

### IST 222 - INTRODUCTION TO WEBPAGE PRODUCTION

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course is designed to develop skills in using common office and web development software to produce webpage content.

All certificate courses apply to the Computer Technology Associate in Applied Science (A.A.S.) degree. Remaining courses in each Emphasis are listed above.



**TCTC**  
Tri-County Technical College