School of Continuing Studies

Tyler Junior College
1530 SSW LOOP 323, Tyler, Texas 75701
www.tjc.edu/continuingstudies/mycaa
Contact: Judie Bower| (800) 298-5226 | jbow@tjc.edu

Education & Training Plan
Computer Support Specialist (CompTIA A+ and Network+) Certification Program with Externship

Student Full Name: _____

Start Date: _____ End Date: _____

Program includes National Certification & an Externship Opportunity
Mentor Supported

Tyler Junior College Program with Externship

Course Code:	TJC-IT-CSSAN
Program Duration:	6 Months
Course Contact Hours:	375
Student Tuition:	$3,999

Computer Support Specialist (CompTIA A+ and Network+)

The Computer Support Specialist program is designed to prepare students to function as computer professionals in multiple technical, business, and healthcare settings. Computer technicians serve many technical support and IT operation roles with job titles such as Support Specialist, Field Service Technician, Desktop Support Analysist, and Help Desk Tier 2 Support. Net+ technicians serve many technical support and IT operation roles with job titles such as Network Administrator, Network Field Technician, System Engineer, IS Consultant, Help Desk Technician, Network Support Specialist, and Network Analyst.

Computer Support Specialist (CompTIA A+ and Network+) Program

The Computer Support Specialist program is designed to prepare students to support computer users by configuring, troubleshooting, managing wired and wireless networks, and problem-solve computer issues, and connect users to the data they need to do their jobs regardless of the devices being used. This program will also prepare students to support the IT infrastructure through installing and configuring systems to secure applications, networks, and devices as well as perform threat analysis and respond with appropriate mitigation techniques.

Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- Students who complete this program can sit for the following exams:
  - **CompTIA A+ Core 1 Certification (Exam 220-1001)**
  - **CompTIA A+ Core 2 Certification (Exam 220-1002)**
  - **CompTIA Network+ Certification (Exam N10-007)**

Program Objectives

- Installing and configuring hardware and components
- Installing, configuring, and maintaining devices, PCs, and software for end users
- Installing, configuring, maintaining, and synchronizing mobile devices
- Understanding and applying the basics of network security/forensics
- Properly and safely diagnosing, resolving, and documenting common hardware and software issues
- Applying and documenting effective troubleshooting thought processes and skills
- Providing appropriate and excellent customer support and service
- Understanding the basics of virtualization, desktop imaging, and deployment
- Communicating effectively and professionally with clients, colleagues, subordinates, and supervisors to achieve the organization's goals involving computer support and IT operations

National Certification

Students who complete the Tyler Junior College Computer Support Specialist (CompTIA A+ and Network+) program will be prepared to sit for the CompTIA A+ Core 1 (Exam 220-1001), Core 2 (Exam 220-1002) Certification and CompTIA Network+ (Exam N10-007) Certification national certification exam(s). In order to work as a Computer Support Specialist (CompTIA A+ and Network+), many states nationwide are requiring that learners achieve national certification prior to working in that state. Students who complete this program are encouraged to complete the practical/clinical externship option with their program. This comprehensive program is designed to prepare students to sit for CompTIA A+ Core 1 (Exam 220-1001), Core 2 (Exam 220-1002) Certification and CompTIA Network+ (Exam N10-007) Certification exam(s). Students who complete this program can and do sit for the CompTIA A+ Core 1 (Exam 220-1001), Core 2 (Exam 220-1002) Certification and CompTIA Network+ (Exam N10-007) Certification national certification exam(s) and are qualified, eligible and prepared to do so.

Externship / Hands on Training / Practicum

Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location. The institution works with national organizations and has the ability to place students in externship opportunities nationwide.

Tyler Junior College contact: If students have any questions regarding this program including national certification and externships **, they should call Judie Bower of Tyler Junior College at | (800) 298-5226 or via email at jbow@tjc.edu**

Note : No refunds can be issued after the start date published in your Financial Award document.

About Tyler Junior College!

Welcome to Tyler Junior College! One of the oldest junior colleges in Texas, the College was established in 1926 with a mission of providing the finest academic education for freshmen and sophomore students. Tyler Junior College remains committed to that goal while also recognizing the changing role of community colleges and the need to provide quality training for technical fields. There are several unique aspects of the healthcare career programs available to students through the School of Continuing Studies at Tyler Junior College (TJC). In addition to enrollment of over 32,000 students annually, Tyler Junior College (TJC) has been the Texas leader in healthcare technician training and education programs for over 12 years. Over the last 12 years, approximately 13,000 students have successfully completed TJC's Pharmacy Technician, Dental Assisting, Medical Billing & Coding, Clinical Medical Assistant and other healthcare programs.

www.tjc.edu/continuingstudies/mycaa

Tyler Junior College and Pearson Education

Tyler Junior College's eLearning programs were developed in partnership with Pearson Education to produce the highest quality, best-in-class content and delivery necessary to enhance the overall student learning experience, boost understanding and ensure retention. Pearson Education is the premier content and learning company in North America offering solutions to the higher education and career training divisions of colleges and universities across the country aimed at driving quality education programs to ensure student success. Please visit us at **www.pearson.com** .

About Pearson Education

Welcome to Pearson. We have a simple mission: to help people make more of their lives through learning. We are the world's leading learning company, with 40,000 employees in more than 80 countries helping people of all ages to make measurable progress in their lives. We provide a range of education products and services to institutions, governments and direct to individual learners, that help people everywhere aim higher and fulfil their true potential. Our commitment to them requires a holistic approach to education. It begins by using research to understand what sort of learning works best, it continues by bringing together people and organizations to develop ideas, and it comes back round by measuring the outcomes of our products.

Computer Technician (CompTIA A+) Module Detailed Student Objectives:

HARDWARE: PART 1

- Explain how to access, configure, and apply BIOS settings
- Explain motherboard components, their purposes, and properties
- Describe various CPU types and features
- Describe appropriate cooling methods
- Compare RAM types and features
- Describe the function of RAM
- Explain how to install and configure expansion cards
- Explain how to install and configure storage devices and use appropriate media

HARDWARE PART 2

- Describe various connection interfaces and their purposes
- Identify connector types and associated cables
- Describe various power supply types
- Describe the components needed for a custom configuration to meet customer specifications or needs
- Describe various display devices and their features
- Describe how to install and configure various peripheral devices

NETWORKING

- Identify types of network cables and connectors
- Categorize characteristics of connectors and cabling
- Explain properties and characteristics of TCP/IP
- Explain common TCP and UDP ports, protocols, and their purpose
- Compare wireless networking standards and encryption types
- Explain how to install, configure, and deploy a SOHO wireless/wired router using appropriate settings
- Compare Internet connection types and features
- Identify various types of networks
- Compare network devices, their functions, and features
- Describe various networking tools

LAPTOPS

- Describe laptop expansion options
- Explain how to remove and replace laptop hardware and components
- Describe components within the display of a laptop
- Explain features specific to laptops

PRINTERS AND OPERATIONAL PROCEDURES

- Explain the differences between the various printer types
- Summarize the imaging process for printers
- Explain how to install and configure printers
- Explain how to perform printer maintenance
- Identify appropriate safety procedures when repairing a system
- Explain environmental impacts and the purpose of environmental controls
- Describe proper communication and professionalism given a scenario
- Explain the fundamentals of dealing with prohibited content/activity

OPERATING SYSTEMS

- Compare the features and requirements of various Microsoft Operating Systems
- Explain how to install and configure the operating system using the most appropriate method given a scenario
- Use appropriate command-line tools given a scenario
- Use appropriate operating system features and tools given a scenario
- Identify Control Panel utilities to use given a scenario
- Explain how to setup and configure Windows networking on a client/desktop
- Describe how to perform preventive maintenance procedures using appropriate tools
- Explain the differences among basic OS security settings
- Explain the basics of client-side virtualization

SECURITY

- Describe how to apply and use common prevention methods
- Describe common security threats
- Explain how to implement security best practices to secure a workstation
- Explain how to use the appropriate data destruction/disposal method given a scenario
- Explain how to secure a SOHO wireless network given a scenario
- Explain how to secure a SOHO wired network given a scenario

MOBILE APPLICATIONS

- Explain the basic features of mobile operating systems
- Describe how to establish basic network connectivity and configure email
- Compare and contrast methods for securing mobile devices
- Compare and contrast hardware differences in regards to tablets and laptops
- Explain how to execute and configure mobile device synchronization

TROUBLESHOOTING – PART 1

- Explain the troubleshooting theory given a scenario
- Explain how to troubleshoot common problems related to motherboards, RAM, CPU, and power with appropriate tools given a scenario
- Explain how to troubleshoot hard drives and RAID arrays with appropriate tools given a scenario
- Describe how to troubleshoot common video and display issues given a scenario
- Explain how to troubleshoot wired and wireless networks with appropriate tools given a scenario

TROUBLESHOOTING - PART 2

- Explain how to troubleshoot operating system problems with appropriate tools
- Explain how to troubleshoot common security issues with appropriate tools and best practices given a scenario
- Explain how to troubleshoot and repair common laptop issues while adhering to the appropriate procedures
- Explain how to troubleshoot printers with appropriate tools given a scenario

Network Technician (CompTIA Network+) Module Detailed Student Objectives:

TOPOLOGIES, THE OSI MODEL, AND ETHERNET

- Explain devices, applications, protocols, and services at their appropriate OSI layers
- Explain the concepts and characteristics of routing and switching
- Compare and contrast the characteristics of network topologies, types, and technologies
- Deploy the appropriate cabling solution

HUBS, BRIDGES, AND SWITCHES

- Explain the concepts and characteristics of routing and switching
- Given a scenario, determine the appropriate placement of networking devices on a network and install/configure them
- Explain common mitigation techniques and their purposes

INFRASTRUCTURE AND DESIGN, POLICIES AND BEST PRACTICES

- Explain the concepts and characteristics of routing and switching
- Compare and contrast the characteristics of network topologies, types, and technologies
- Identify policies and best practices

INTERNET PROTOCOL AND IP ADDRESSING

- Explain the purposes and uses of ports and protocols
- Configure the appropriate IP addressing components
- Explain the concepts and characteristics of routing and switching

DHCP AND APIPA

- Explain the purposes and uses of ports and protocols
- Given a scenario, configure the appropriate IP addressing components
- Explain the functions of network services

ROUTING

- Explain the concepts and characteristics of routing and switching
- Configure the appropriate IP addressing components
- Determine the appropriate placement of networking devices on a network and install/configure them

TCP AND UDP

- Explain the purposes and uses of ports and protocols
- Explain common scanning, monitoring, and patching processes and summarize their expected outputs

NAME RESOLUTION

- Explain the purposes and uses of ports and protocols
- Explain the functions of network services

MONITORING, SCANNING, AND NETWORK TROUBLESHOOTING

- Explain the purposes and uses of ports and protocols
- Explain common scanning, monitoring, and patching processes and summarize their expected outputs
- Implement network device hardening
- Explain the network troubleshooting methodology
- Troubleshoot common wired connectivity and performance issues
- Troubleshoot common network service issues

APPLICATIONS AND SERVICES, VIRTUALIZATION, SAN, AND CLOUD SERVICES

- Explain the purposes and uses of ports and protocols
- Explain the concepts and characteristics of routing and switching
- Explain the functions of network services
- Determine the appropriate placement of networking devices on a network and install/configure them
- Explain the purposes and use cases for advanced networking devices
- Troubleshoot common wired connectivity and performance issues
- Troubleshoot common network service issues
- Summarize cloud concepts and their purposes
- Explain the purposes of virtualization and network storage technologies

NETWORK SECURITY DESIGN AND APPLIANCES

- Implement network device hardening
- Explain common mitigation techniques and their purposes
- Troubleshoot common wired connectivity and performance Issues
- Explain the purposes and use cases for advanced networking devices
- Summarize common network attacks
- Troubleshoot common network service issues

AUTHENTICATION, ENDPOINT SECURITY, AND NETWORK SITE MANAGEMENT

- Explain the purposes and uses of ports and protocols
- Explain the purposes and use cases for advanced networking devices
- Explain authentication and access controls
- Summarize common networking attacks
- Explain common mitigation techniques and their purposes
- Deploy the appropriate cabling solution
- Use appropriate documentation and diagrams to manage the network
- Compare and contrast business continuity and disaster recovery concepts
- Summarize the purposes of physical security devices

INSTALLING CABLED NETWORKS

- Given a scenario, deploy the appropriate cabling solution
- Given a scenario, determine the appropriate placement of networking devices on a network and install/configure them
- Troubleshoot common wired connectivity and performance issues

INSTALLING WIRELESS NETWORKS

- Compare and contrast the characteristics of network topologies, types, and technologies

- Given a scenario, implement the appropriate wireless technologies and configurations
- Given a scenario, determine the appropriate placement of networking devices on a network and install/configure them
- Explain the purposes and use cases for advanced networking devices
- Given a scenario, secure a basic wireless network
- Summarize common networking attacks
- Troubleshoot common wireless connectivity and performance issues

INSTALLING WAN LINKS

- Explain the concepts and characteristics of routing and switching
- Compare and contrast the characteristics of network topologies, types, and technologies
- Implement the appropriate wireless technologies and configurations
- Determine the appropriate placement of networking devices on a network and install/configure them
- Compare and contrast WAN technologies

CONFIGURING REMOTE ACCESS

- Explain the purposes and uses of ports and protocols
- Explain the purposes and use cases for advanced networking devices
- Compare and contrast WAN technologies

Note: This program can be completed in 6 months. However, students will have online access to this program for a 24-month period.

MICROSOFT OFFICE

- Module Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.

System Requirements:

Windows Users:

- Windows 8, 7, XP or Vista
- 56K modem or higher
- Soundcard & Speakers
- Firefox, Chrome or Microsoft Internet Explorer

Mac OS User:

- Mac OS X or higher (in classic mode)
- 56K modem or higher
- Soundcard & Speakers
- Apple Safari

iPad Users:

- Due to Flash limitations, eLearning programs are NOT compatible with iPads

Screen Resolution:

- We recommend setting your screen resolution to 1024 x 768 pixels.

Browser Requirements:

- System will support the two latest releases of each browser. When using older versions of a browser, users risk running into problems with the course software.
- Windows Users: Mozilla Firefox, Google Chrome, Microsoft Internet Explorer
- Mac OS Users: Safari, Google Chrome, Mozilla Firefox

Suggested Plug-ins:

- Flash Player
- Real Player
- Adobe Reader
- Java