Atlantic Technical College
Network Support Services
Traditional/Blended Distance
Program Syllabus
2021-2022

Instructor(s): Anthony Rao
Department: Business and Information Technology
Office/Classroom Location: Building 7, Room 177
Phone Number: 754-321-5100
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Instructor Office Hours:
M-F: 7:00 am – 3:00 pm (by appointment)

Instructor responses to student requests will be provided within 24 hours of regular school operating hours: Monday – Friday 7:00 am – 3:00 pm.

Student Hours:
Traditional: Monday – Friday
High School AM: 7:05 am – 10:10 am
High School PM: 10:50 am – 1:50 pm
Postsecondary Part-Time: 7:05 am – 10:05 am
Postsecondary Full-Time: 7:05 am – 1:50 pm
Break: 10:10 am – 10:20 am
Lunch: 10:20 am – 10:50 am

Blended Distance:
Distance – Monday, Tuesday, Wednesday, Friday
On-campus Lab – Thursday   5:30 pm – 8:30 pm

Program Name: Network Support Services

OCPs	Course Names	Hours
A	OTA0040 Information Technology Asst.	150
B	EEV0504 Computer Support Assistant	150
C	CTS0022 Network Support Help Desk Asst.	150
D	CTS0023 Network Support Administrator	150
E	CTS0024 Senior Network Administrator	150
F	CTS0029 Wireless Network Administrator	150
G	EEV0317 Data Communications Analyst	150

Course Description:

The Network Support Services program prepares students for employment in network administration as network support specialists or provides supplemental training for those previously or currently employed in information technology and network support occupations.

The program prepares students to create, monitor, and maintain computer networks and operate computers and peripheral equipment. Laboratory activities are an integral part of this program. Activities include building and maintaining computers, installing operating systems, configuring routers and switches, and demonstrating mastery through culminating case studies.

Technical College Policy/Adult Student Attendance:
- A student must be withdrawn after being absent for six (6) consecutive days.
- Two (2) additional absences may be allowed under certain circumstance with appropriate documentation.
- Please refer to the Student Handbook for postsecondary students.
  http://www.atlantictechnicalcollege.edu/atc-student-handbook/

Magnet High School/Attendance Policy:
A student who has had at least five unexcused absences, or absences for which the reasons are unknown, within a calendar month, or 10 unexcused absences, or absences for which the reasons are unknown, within a 90-calendarday period, may be exhibiting a pattern of non-attendance (F.S.1003.26 (1) (b)) and the School Board of Broward County, Policy 5.5.

Required Book(s) and/or Online Access:

TestOut Online Curriculum Access Code:
- IT Fundamentals Pro
- PC Pro
- Network Pro

Additional online materials, workbooks and/or written activities will be provided by the instructor.

Required Materials/Supplies:
- USB storage device
- Headphones
- Paper, pencils and pens
- ***Most importantly, a positive attitude geared toward success!***

All required books and most materials/supplies can be purchased from the ATC bookstore.
Stop by during operational hours for pricing and purchasing information or visit:
https://www.atlantictechnicalcollege.edu/bookstore-price-list/.

Grading System:

A	90 - 100%	
B	80 - 89%	
C	70 - 79%	
D	60 - 69%	
F	0 - 59%	
I	Incomplete	

Online Specific Grading Policy:

Online students' grades and attendance are based on:
- Scheduled assignments *(late submission of work will not be accepted)*
- Weekly lab attendance
- Exams (may include oral and/or hands-on skills component)

Final exams will be in-person during a lab session

Program Grading Policy:
- Students assume full responsibility to submit assignments on or before they are due. Late submissions will negatively affect grades and/or not be accepted. *(see pacing chart and/or assignment matrix on your instructor's website)*
- Students assume full responsibility for the content and integrity of submitted work. As the guiding principle of academic integrity, a student's submitted work, examinations, reports, projects, etc. must be his/her own.
- Unless otherwise stated by the instructor, physical or digital references including books, charts, graphs, diagrams, photos, notes or calculators may not be utilized during assessments or exams. Blank scratch paper will be permitted during certain assessments.

Computer Requirements for Online Students:
- Internet bandwidth speed of at least 5 Mbs
- 128 GB hard drive or larger
- Full QWERTY Keyboard and mouse
- 4 GB RAM or higher
- 2 GHz Intel Processor or faster
- 14-inch sized screen or larger with 720 x 1280 resolution or greater, (two monitors are recommended but not required)
- Windows 10 or MAC OS X* – latest version
- Chrome or Firefox web browser – latest version
- Anti-virus program (updated regularly)
- Webcam & microphone is necessary

View Your Grades:

Grades can be viewed online by following the directions below:
1. Go to Clever SSO Website link: https://sso.browardschools.com and login:
   a. Username: 10-digit student ID number
   b. Password: PMM/DD/YYYY (or your personally created password after initial login)
2. Click on the FOCUS app on your Clever opening page.
   (You may need to scroll-down the page to see the FOCUS app.)
3. Enter your FOCUS username and password.
   NOTE: If the Focus App. is not visible after logging into Clever, please navigate to the Broward Focus website directly: https://broward.focusschoolsoftware.com/focus/.

Classroom/Lab Rules:
- Sign in and out DAILY.
- Read and follow DAILY AGENDA upon arrival.
- Follow all rules in the student and discipline code books.
- Cell phones silent or OFF and PUT AWAY.
- Contact instructor by 8:00 am on the same day when absent (email preferred).
- Come to class prepared to work and be respectful of ALL class members.
- ALL assignments submitted to instructor must reflect the student's own individual work.
- **NO FOOD OR BEVERAGES IN THE LAB.**

Industry Certification & State Credential Exam Cost:	Outstanding Student Recognition Information:
• Cisco Certified Network Associate (CCNA) - $300 • CompTIA Network+ - $338 • CompTIA A+ - $464 • CompTIA IT Fundamentals+ - $126 *You may qualify for certification reimbursement of your exam cost(s) upon passing. Credential fees are subject to change.*	A gold seal will be applied to a Program Completion Certificate or an Applied Technology Diploma if the student has earned a 3.5 GPA or higher in their Career and Technical Education (CTE) classes.

Program Name: Network Support Services

Course Number: OTA0040
Course Name: Information Technology Assistant (150 Hours)
Occupational Completion Point: A
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:

- Demonstrate knowledge, skill, and application of information systems to accomplish job objectives and enhance workplace performance.
- Develop an awareness of microprocessors and digital computers.
- Demonstrate an understanding of operating systems.
- Use technology to enhance the effectiveness of communication skills utilizing word processing applications.
- Use technology to enhance communication skills utilizing presentation applications.
- Use technology to enhance the effectiveness of communication utilizing spreadsheet and database applications.
- Use technology to enhance communication skills utilizing electronic mail.
- Investigate individual assessment and job/career exploration and individual career planning that reflect the transition from school to work, lifelong learning, and personal and professional goals.
- Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance.
- Demonstrate competence using computer networks, internet and online databases to facilitate collaborative or individual learning and communication.
- Demonstrate competence in page design applicable to the WWW.
- Develop an awareness of emerging technologies.
- Develop awareness of computer languages and software applications.
- Demonstrate comprehension and communication skills.

Course Number: EEV0504
Course Name Computer Support Assistant (150 Hours)
Occupational Completion Point: B
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:

- Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance.
- Identify, install, configure, and upgrade desktop and server computer modules and peripherals, following established basic procedures for system assembly and disassembly of field replaceable modules.
- Diagnose and troubleshoot common module problems and system malfunctions of computer software, hardware, peripherals, and other office equipment.
- Identify issues, procedures and devices for protection within the computing environment, including people, hardware and the surrounding workspace.
- Identify specific terminology, facts, ways and means of dealing with classifications, categories and principles of motherboards, processors and memory in desktop and server computer systems.

- Demonstrate knowledge of basic types of printers, basic concepts, printer components, how they work, how they print onto a page, paper path, care and service techniques, and common problems.
- Identify and describe basic network concepts and terminology, ability to determine whether a computer is networked, knowledge of procedures for swapping and configuring network interface cards, and knowledge of the ramifications of repairs when a computer is networked.
- Perform end user support and assistance by troubleshooting and diagnosing through telephone, e-mail, remote access, or direct contact.
- Demonstrate proficiency using graphical user interface (GUI) operating systems.

Course Number: CTS0022
Course Name: Network Support Help Desk Assistant (150 Hours)
Occupational Completion Point: C
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:
- Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance.
- Perform end user support and assistance by troubleshooting and diagnosing through telephone, e-mail, remote access, or direct contact.
- Understand, describe, and explain internet connections.
- Define networking terminology.
- Explain how to connect copper media, optical media, and wireless media.
- Perform tasks related to the network cable testing and cable making.
- Define network topologies, devices and connections.
- Define Ethernet fundamentals and operations.
- Define and explain the functions of bridges and switches.
- Explain the mathematical concepts and protocols behind the internet.
- Define and explain the difference between routed and routing protocols.
- Recognize, define, and explain functions of the transport layer.
- Explain, define, and identify the components of a WAN and router.
- Describe and identify an operating system for a router.
- Explain how to establish connections between neighboring routers.
- Identify and explain the router boot sequence and file system.
- Identify and explain static and dynamic routing protocols.
- Describe and configure distance vector protocols.
- Perform tasks related to protocol troubleshooting.
- Examine and test networks.
- Define, explain and describe access lists.
- Solve problems using critical thinking skills, creativity and innovation.
- Use information technology tools.
- Describe the roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.
- Describe the importance of professional ethics and legal responsibilities.

Course Number CTS0023
Course Name: Network Support Administrator (150 Hours)
Occupational Completion Point: D
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:
- Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance.
- Participate in simulated work-based learning experiences.

- Provide network support and assistance by troubleshooting and diagnosing through direct contact remote access.
- Perform logical and physical network design activities.
- Demonstrate proficiency in selecting appropriate various routing protocols and IP routing configuration for various network designs.
- Demonstrate proficiency in using network traffic filtering to improve network performance and provide basic levels of security.
- Perform network management activities related to documentation, security, performance, administration, troubleshooting and coping with environmental factors.
- Identify and describe various van functions, devices, and demonstrate understanding of the wan design process.
- Describe the operation and implementation of virtual private networks.
- Demonstrate the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
- Demonstrate leadership and teamwork skills needed to accomplish team goals and objectives.
- Explain the importance of employability skill and entrepreneurship skills.
- Demonstrate personal money-management concepts, procedures, and strategies.

Course Number CTS0024
Course Name: Network Support Administrator (150 Hours)
Occupational Completion Point: E
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:
- Participate in simulated work-based learning experiences.
- Compare and contrast hierarchical network design models and scalable internetworks.
- Discuss advanced IP addressing management.
- Demonstrate proficiency in basic router configuration.
- Demonstrate proficiency in the use of OSPF.
- Understand and discuss multi-area OSPF operation and configuration.
- Demonstrate the use of stub and totally stubby areas.
- Demonstrate proficiency in route optimization.
- Demonstrate proficiency in the use of BGP.
- Define and show proficiency in security.
- Use lab equipment, demonstrate the setup, configuration, connectivity of routers to create a small WAN.
- Configure and monitor DSL and DDR.
- Demonstrate the use of scaling IP addresses with NAT.
- Demonstrate proficiency using Authentication, Authorization & Accounting AAA to scale access control.
- Understand and describe key characteristics of various switching technologies, LAN switching and the hierarchical model of network design, and the 3-tier model.
- Understand and describe campus networks, design models, and switching technologies.
- Show proficiency configuring a switch.
- Demonstrate proficiency configuring VLANS.
- Understand and explain spanning tree protocol (STP) and redundant links.
- Demonstrate proficiency with multilayer switching.
- Demonstrate the use of hot standby routing protocol (HSRP).
- Understand and use IGMP and multicasting.
- Demonstrate proficiency restricting network access.
- Demonstrate proficiency using network troubleshooting tools and basic network management diagnostic tools.
- List and define the commonly used protocols, routing techniques, and switching processes.
- Demonstrate proficiency troubleshooting TCP/IP, LAN switch environment, VLANS, frame relay, and ISDN.

Course Number: CTS0029
Course Name: Wireless Network Administrator (150 Hours)
Occupational Completion Point: F
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:
- Participate in simulated work-based learning experiences.
- Demonstrate proficiency in applying radio frequency (RF) technologies.
- Develop an awareness of wireless LAN technologies.
- Perform implementation and management activities.
- Develop an awareness of wireless security systems.
- Demonstrate knowledge of wireless industry standards.

Course Number: EEV0317
Course Name: Data Communication Analyst (150 Hours)
Occupational Completion Point: G
Intended Outcomes: (From FL DOE Curriculum Framework)
Student will be able to:
- Participate in simulated work-based learning experiences.
- Demonstrate knowledge of general security concepts.
- Develop an awareness of communication security concepts.
- Develop an awareness of network infrastructure security.
- Develop an awareness of cryptography and its relation to security.
- Incorporate organizational and operational security in an appropriate and effective manner.