



ATLANTIC TECHNICAL COLLEGE

Network Support Services

Program Syllabus

2017-2018



Instructor Name: Ellen Williams/ Tony Rao

Department Name: Business and IT

Office/Classroom Location: Rm 177

Phone Number: 754-321-5100 ext. 493-3044 & 493-3045

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Instructor Office Hours:

M-F: 7:00am – 4:00pm by appointment

Monday – Friday

Student Hours: 7:30am – 2:00pm

Lunch: 11:00am – 11:30am

HS 11th: 7:00am – 10:00am

HS 12th: 10:15am – 1:45pm

Online: Lab Thursday 5:30 – 8:30 pm

Program Name: Network Support Services

OCP	Course #	Course Name	# Hours
A	OTA0040	Information Technology Assistant	150
B	EEV0504	Computer Support Assistant	150
C	CTS0022	Network Support Help Desk Assistant	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
Total Program Hours:			1,050

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- A student must be withdrawn after being absent for six (6) consecutive days.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 circumstances with appropriate documentation.
- Please refer to the Student Handbook for postsecondary students.

http://www.atlantictechnicalcollege.edu/wp-content/uploads/2016/08/BTC_Handbook_2016-17.pdf

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-calendar-day 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):

All materials for this program are online via a supported web browser and internet connection. Additional workbooks and/or written activities will be provided by the instructor.

Required Material(s)/Supplies:

- Three-ring binder with index Tabs
- USB storage device
- Paper, pencils and pens
- Headphones
- **And most importantly, a positive attitude geared for success!**

All required books and materials can be purchased from the school bookstore. Please stop by if we can help you with your educational needs.

Books are subject to change. Bookstore has current list.

Grading System: A 90 - 100% B 80 - 89% C 70 - 79% D 60 - 69% F 0 - 59% I Incomplete	Additional Program Specific Grading Information: Daily Assignments40% Average of Tests50% Work Habits10%
Course Grading Policy: - Scheduled assignments are due each Monday by 11:59 pm. Late submission of work will affect the assignment grade. - Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work. - Unless otherwise stated by the instructor, external references including books, calculators, notes and/or the Internet may not be utilized during assessments or exams. Blank scratch paper will be permitted during certain assessments. - Exams may include an oral or lab/skills component and final exams will be completed in-person during a lab session.	
View Your Grades: Grades can be viewed online by following the directions below: - Go to https://browardfocus.com (access FOCUS using Chrome, Firefox or Safari) - Student ID which is on your student schedule. - Passcode: Student's date of birth formatted as YYYYMMDD. <i>Four digits for the year, two digits for the month and two digits for the day.</i>	
Class Room/Lab Rules: ✓ <i>No food or beverages in the lab</i> ✓ <i>Cell phones on vibrate or turned off</i> ✓ <i>Sign in on the attendance sheet</i> ✓ <i>Follow all instructions given by ATC staff</i> ✓ <i>Come to class prepared to work</i> ✓ <i>Call or email instructor when absent</i>	
Industry Credential Opportunities: ✓ Cisco Certified Network Associate (CCNA) ✓ Cisco Certified Entry Networking Technician (CCENT) ✓ CompTIA Network+ ✓ CompTIA A+	Outstanding Student Recognition Information: 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

Occupational Completion Point: A

Intended Outcomes: (From FL DOE Curriculum Framework)

- 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

Occupational Completion Point: B

Intended Outcomes: (From FL DOE Curriculum Framework)

- 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.
- Demonstrate language arts knowledge and skills.
- Demonstrate mathematics knowledge and skills.

Course Number: CTS0022

Course Name: Network Support Help Desk Assistant

Occupational Completion Point: C

Intended Outcomes: (From FL DOE Curriculum Framework)

- 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.
- Use oral and written communication skills in creating, expressing and interpreting information and ideas.
- 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

Occupational Completion Point: D

Intended Outcomes: (From FL DOE Curriculum Framework)

- Incorporate appropriate leadership and supervision techniques, customer service strategies, and standards of personal ethics to accomplish job objectives and enhance workplace performance. Participate in work-based learning experiences.
- Participate in work-based learning experiences.
- Provide network support and assistance by troubleshooting and diagnosing through direct contact remote access.
- Develop electronic communications skills.

- 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 wan 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: Senior Network Administrator

Occupational Completion Point: E

Intended Outcomes: (From FL DOE Curriculum Framework)

- Participate in 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.
- Configure and define virtual links.
- Demonstrate proficiency in the use of EIGRP.
- 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.
- Show the process of using modems and asynchronous dialup connections.
- Configure and verify PPP configurations.
- Configure and monitor ISDN and DDR.
- Configure dialer profiles.
- Demonstrate proficiency in the understanding of X.25 protocols.
- Configure and troubleshoot frame relay.
- Demonstrate the use of WAN backup and dial backup.
- Demonstrate the use of queuing and compression techniques.
- Demonstrate the use of scaling IP addresses with NAT.
- Demonstrate proficiency using AAA to scale access control.
- Discuss and explain emerging remote-access technologies.
- Understand and describe key characteristics of various switching technologies, LAN switching and the hierarchical model of network design, and the building-block approach.
- Understand and describe campus networks, design models, and switching technologies.

- List and describe various types of LAN media.
- Show proficiency configuring a switch.
- Demonstrate proficiency configuring VLANs.
- Understand and explain spanning tree protocol (STP) AND redundant links.
- Demonstrate proficiency routing between VLANs.
- 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.
- Demonstrate proficiency troubleshooting EIGRP, OSPF, and BGP.

Course Number: CTS0029

Course Name: Wireless Network Administrator

Occupational Completion Point: F

Intended Outcomes: (From FL DOE Curriculum Framework)

- Participate in 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

Occupational Completion Point: G

Intended Outcomes: (From FL DOE Curriculum Framework)

- Participate in 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.
- Participate in work-based learning experiences.
- Demonstrate a 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.