

**Florida Department of Education
CURRICULUM FRAMEWORK**

Program Title: Networking Services Technology
Occupational Area: Business
Program Classification: PSV
Program Type: AS* or AAS**
CIP Number: 1507.030401 (AS) / 0507.030401 (AAS)
Length: 63 College Credits
SOC Code: 15-1071

- I. MAJOR CONCEPTS/CONTENT: The purpose of this program is to prepare students for employment as cabling specialists, PC support technician, network control operators, data communications analysts, help desk specialists, network technicians, computer security specialists, network specialists, network managers, network systems analysts, network systems technicians, network troubleshooters, WAN/LAN managers, or systems administrators or to provide supplemental training for persons previously or currently employed in these occupations.

The content prepares individuals to plan, install, configure, monitor, troubleshoot and manage computer networks in a LAN/WAN environment. Students will be prepared to apply conceptual and theoretical knowledge to the workplace utilizing technical skills learned during the program.

- II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this program and include the use of keyboarding and data entry systems; hardware and software tools to manage computers, file servers, network transmission media, network cards, and other peripheral devices.
- III. COMPLEMENTARY SOFTWARE AND EQUIPMENT: The following tools and equipment are required for this program: PCs, peripheral devices, cabling hand tools, basic test equipment, LAN diagnostic equipment, Sniffer, equipment-specific tool sets, management software, monitoring tools.

IV. INSTRUCTOR QUALIFICATIONS:

Preferred:

Masters Degree in Field or Masters degree and 18 hours in Information Science, Information Studies, Management Information Systems or Computer Programming. Experience working in the field or computing networking or related area. Industry Certification in appropriate area.

Minimum:

Associate Degree in Field. Two or more years of related work experience. Industry Certification in appropriate area.

- V. WORK/LEARN CYCLES: The cooperative method of instruction including internship and apprenticeship experiences is appropriate for this program. Whenever the cooperative method is offered, the following is required for each student: a training plan (signed by the student, teacher and employer) which includes instructional objectives and a list of on-the-job and in-school learning experiences; a work station which reflects equipment, skills and tasks which are relevant to the occupation which the student has chosen as a career goal. It is recommended that the student receive monetary compensation, as well as credit, for work performed.
- VI. ARTICULATION: As with many other PSV programs, there are several issues that need to be addressed with regard to articulation. These issues are related to articulation from the secondary levels and articulation to the 4-year Universities.

Currently, most community colleges have some combination of dual-enrollment opportunities, tech prep programs, and credit-by-exam procedures to provide articulation for individual courses from the secondary level.

Articulation to the 4-year universities is not nearly as well-defined. Individual courses may be articulated to the university but there is no standard agreement for the courses. There is only one official statewide articulation agreement for the Network Services Technology A.S. degree. This is part of St. Petersburg College's AS to BS articulation. Through this agreement an AS in any technology field (Network Services Technology included) will articulate to the BS in Technology Management program. Several other "unofficial" programs have been mentioned, but no other official programs seem to exist for the Network Services Technology program. A major issue when considering articulation with more 4-year programs is the mathematics requirements.

- VII. DISTANCE LEARNING PRODUCTS: Effective distance learning in technical degree programs is difficult to accomplish due to the need for student participation in skills activities as part of the curriculum. Complete programs can be offered successfully for those students in which time, not geographical distance is the restricting factor. This is accomplished through the use of distance learning materials for concept/theory mastery and skills labs that allow the student to complete the skills objectives of the curriculum across a variety of schedules.

Several products exist for the conceptual and theoretical portions of most courses. Each offers a variety of courses that utilize both synchronous and asynchronous tools to allow interaction with instructors, fellow students and practicing professional. Other features include:

- Industry Standard curriculum that can lead to certification.
- Pre-assessment components.
- Assessment tools.
- Multimedia environments.

See Appendix "A" for a sample list of specific course products and mapping to curriculum objectives.

- VIII. SPECIAL NOTE:** Industry certifications have become an important measure of success in the information technology fields. Whenever possible, current industry certifications should be addressed within the program.

The traits and attitudes necessary for success within this program include: analytical ability, problem solving ability, customer orientation, desire to succeed, logical reasoning ability, detail-orientation, "outside-the-box" thinking ability, self-motivation, self-direction.

The typical length of this program for the average achieving student is an associate degree.

Future Business Leaders of America (Secondary), Phi Beta Lambda (Postsecondary), and Business Professionals of America (BPA) are the appropriate Career Student Organizations (CSO) for providing leadership training and for reinforcing specific career and technical skills. Career Student Organizations, when provided, shall be an integral part of the career and technical instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065, FAC.

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Adult students with disabilities must self-identify and request such services. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

- IX. INTENDED OUTCOMES:** After successfully completing this program, the student will be able to:

- 01.0 Demonstrate understanding of networked environments.
- 02.0 Demonstrate understanding of data communications.
- 03.0 Understand, install and configure computer hardware.
- 04.0 Understand, install and configure computer software.
- 05.0 Understand, install and configure network hardware.
- 06.0 Understand, install and configure network software.
- 07.0 Perform internetworking activities.
- 08.0 Perform network administration and management activities.
- 09.0 Perform troubleshooting and maintenance activities.
- 10.0 Perform documentation and technical reference activities.
- 11.0 Perform user-training activities.
- 12.0 Demonstrate professional development skills.
- 13.0 Demonstrate employability skills.
- 14.0 Perform general organizational computing workplace competencies.

* AS Degree: This degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to 6A-14.030 (2), FAC.

**AAS Degree: This degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and its general education requirements for this program should include Technical Writing.

**Florida Department of Education
Student Performance Standards**

Program Title: Networking Services Technology

01.0 Demonstrate understanding of networked environments - The student will be able to:

- 01.01 Explain the use of binary numbers to represent instructions and data.
- 01.02 Describe the hardware implications of the use of binary representation of instructions and data.
- 01.03 Convert numbers among decimal, binary, and hexadecimal representation.
- 01.04 Perform binary arithmetic.
- 01.05 Identify various coding schemes (ASCII, etc.).
- 01.06 Discuss various data types (signed and unsigned integers, floating point, etc.).
- 01.07 Identify several advantages and disadvantages of networked and non-networked environments.
- 01.08 Describe current network environments, such as peer-to-peer and client/server.
- 01.09 Identify and discuss issues (such as security, privacy, redundancy, etc.) related to networked environments.
- 01.10 Identify and discuss issues related to naming conventions for user ids, email, passwords, and network devices.
- 01.11 List and define layers in the OSI and TCP/IP network protocol models.
- 01.12 Identify and describe current relevant IEEE network standards.
- 01.13 Illustrate typical network topologies.
- 01.14 Identify advantages and disadvantages of each topology.
- 01.15 Describe the major functions of LAN hardware protocols such as Ethernet, token ring, FDDI, and arcnet.
- 01.16 Describe LAN software protocols such as IPX/SPX, TCP/IP, and NetBEUI.
- 01.17 Discuss the nature of IP addresses and MAC addresses, and mapping between protocol addressing schemes.
- 01.18 Identify major emerging technologies (such as ATM, VPN, and voice over IP).
- 01.19 Identify and discuss technical issues related to emerging technologies (such as security, bandwidth capability, and gigabit transmission rates).
- 01.20 Discuss the design and function of a storage-area network (SAN).
- 01.21 Design a LAN, including the specification of architecture, hardware, software, etc.
- 01.22 Identify the advantages of VLANs.
- 01.23 Characterize a VLAN implementation.
- 01.24 Describe the function of a spanning tree algorithm.
- 01.25 Identify a proper network design with a spanning tree component.
- 01.26 Use Effectively two different and current network modeling tools.

01.27 Produce effective documentation.

02.0 Demonstrate understanding of data communications - The student will be able to:

02.01 Differentiate between telecommunications and data communications.

02.02 Describe the main functions of each relevant current standard setting organization (IEEE, TIA, etc.).

02.03 Compare and contrast digital communications lines and cable characteristics (e.g. ISDN, DSL, T-1 and T-3).

02.04 Describe ATM technology; discuss the functions and applications of this technology.

02.05 Describe the functioning of modems, their features and operating characteristics.

02.06 Define the features of an ASCII terminal.

02.07 Describe the function of a UART.

02.08 Discuss signal representation and modulation.

02.09 Describe current data code systems used in data communication.

02.10 Compare and contrast synchronous and asynchronous serial transmission.

02.11 Compare and contrast major data communications media in terms of data flow, data codes, and transmission codes.

02.12 Define common error detection and correction mechanisms.

02.13 Identify LAN access control methods (CSMA/CD, token passing, etc.).

02.14 Compare and contrast the major features of the LAN access methods.

02.15 Describe asynchronous protocols.

02.16 Describe synchronous serial link protocols.

02.17 Identify and describe file transfer protocols and methodologies.

02.18 Describe data compression methodologies used for file transfer.

02.19 Identify evolving issues, such as gigabit transmission requirements, voice over IP, and wireless technologies.

03.0 Understand, install and configure computer hardware - The student will be able to:

03.01 Identify and describe distinguishing features of the major hardware platforms.

03.02 Describe the functions of major hardware components of a computer system.

03.03 Recognize and correctly identify computing hardware components.

03.04 Describe emerging hardware technologies and discuss their potential impact.

03.05 Implement proper procedures for handling and safeguarding equipment.

03.06 Describe procedures for proper disposal of computer components.

03.07 Analyze the user's needs

03.08 Set up and configure systems and peripherals following institutional protocol.

- 03.09 Set up BIOS.
- 03.10 Install and configure storage and I/O device interfaces.
- 03.11 Install and configure multimedia devices and interfaces.
- 03.12 Install and configure network hardware components.
- 03.13 Design and implement test procedure.
- 03.14 Document systems.
- 03.15 Configure systems and establish baseline.
- 03.16 Design and implement work order procedures.
- 03.17 Design and implement systems backups.

04.0 Understand, install and configure computer software - The student will be able to:

- 04.01 Describe the functions and major components (BIOS, task management, etc.) of a computer operating system.
- 04.02 Identify current operating systems and describe their important features.
- 04.03 Use an operating system for activities such as data and file management.
- 04.04 Identify current systems utilities and describe their functions.
- 04.05 Use system software to perform routine maintenance tasks such as backup, hard drive defragmentation, etc.
- 04.06 Use operating systems of different brands and platforms.
- 04.07 Use both stand-alone operating systems and network operating systems.
- 04.08 Create, use, and maintain system configuration files.
- 04.09 Describe the primary features and functions of the major categories of applications software (word processing, database, spreadsheet, presentation, email, browsers, etc.).
- 04.10 Use basic features of office productivity software.
- 04.11 Independently learn to perform (previously untaught) tasks using office productivity software.
- 04.12 Use software produced by multiple vendors.
- 04.13 Transmit and exchange data in a multiple vendor software environment.
- 04.14 Install and configure a microcomputer operating system, system, and application software.
- 04.15 Describe procedures for uninstalling operating system software.
- 04.16 Configure software for accessibility by disabled individuals.
- 04.17 Install and configure applications software upgrades.
- 04.18 Describe modifications necessary to an operating system (such as modifying parameters, how to handle conflicting interrupts, etc.) when installing, configuring and upgrading typical applications software.
- 04.19 Install and configure client software for connecting to LANs, WANs, and the Internet (network client, WWW browser, terminal emulation, file transfer, etc.).
- 04.20 Install and configure client software for client/server and network-based applications (e-mail, videoconferencing, database, etc.).
- 04.21 Install applications on a server and configure clients for network access.

0.50 Understand, install and configure network hardware - The student will be able to:

- 05.01 Describe the major functions of network server hardware components.
- 05.02 Describe the server hardware requirements.
- 05.03 Describe the hardware needed for hosting a Web site.
- 05.04 Identify a variety of specialized servers (e.g. proxy, e-mail, DHCP, Web, etc.) and describe the hardware requirements.
- 05.05 Describe the major functions of network client hardware components.
- 05.06 Describe client hardware requirements.
- 05.07 Differentiate between hardware used to implement different topologies such as token ring and Ethernet.
- 05.08 Recognize and describe current cable technologies such as twisted-pair, coaxial, and fiber optic, and identifying issues associated with plenum versus non-plenum cable plants.
- 05.09 Describe current wireless technologies such as satellite, microwave, spread spectrum RF, and infrared.
- 05.10 Identify advantages and disadvantages of wireless and cable technologies.
- 05.11 Cite appropriate uses of wireless and cable technologies.
- 05.12 Describe the major functions of network connectivity hardware, such as hubs, repeaters, bridges, routers, switches, and gateways.
- 05.13 Describe the hardware needed to connect a LAN to the Internet.
- 05.14 Describe the function of network storage devices and other peripherals (RAID, CD towers, printers, fax machines, scanners, printer/fax/copiers, imaging devices, and document center equipment, etc.).
- 05.15 Describe the requirements for connecting peripherals directly to a network.
- 05.16 Set up and configure a server (including installation of NICs and NIC drivers).
- 05.17 Set up and configure client hardware (including installation of NICs and NIC drivers).
- 05.18 Set up network storage devices and other peripherals and connect to the network.
- 05.19 Fabricate patch, crossover and console cables.
- 05.20 Terminate cable using connectors and punch down panels.
- 05.21 Pull cable according to cabling plan.
- 05.22 Test the cable using industry standard measurements.
- 05.23 Label and document the wiring system.
- 05.24 Set up a network using cable technology.
- 05.25 Set up a network using wireless technology.
- 05.26 Use current connectivity devices such as hubs, repeaters, bridges, routers, switches, and gateways.

06.0 Understand, install and configure network software - The student will be able to:

- 06.01 Describe the major functions of network server software components.

- 06.02 Compare and contrast major functions and features of current network operating systems (including directory services).
 - 06.03 Design a directory and security structure.
 - 06.04 Install and configure a LAN server.
 - 06.05 Configure protocol stacks.
 - 06.06 Configure a server for multiple network protocols and frame types.
 - 06.07 Configure a server to handle multiple languages for international applications.
 - 06.08 Set up and configure network routing, using appropriate documentation.
 - 06.09 Describe management issues and procedures for handling multiple servers on a network.
 - 06.10 Install and connect multiple servers (including different platforms).
 - 06.11 Install and configure client-auditing software.
 - 06.12 Install and configure software to build client-side images.
 - 06.13 Describe the major functions of network client software components.
 - 06.14 Install and configure client software on multiple hardware platforms.
 - 06.15 Test and document client software installation.
 - 06.16 Install and configure drivers for NICs and network peripherals (including printers).
 - 06.17 Install and configure client/server applications (such as e-mail, scheduling, etc) on a server.
 - 06.18 Install and configure network-based services such as videoconferencing, integrated voicemail/email/fax, large document storage and retrieval, etc.
 - 06.19 Set up a proxy server and a gateway.
 - 06.20 Set up a server for remote access.
 - 06.21 Document client server application installation and establish baselines.
 - 06.22 Monitor client server application and database.
 - 06.23 Document and enforce software licensing.
- 07.0 Perform internetworking activities - The student will be able to:
- 07.01 Describe WAN topologies and MAN topologies.
 - 07.02 Differentiate between WAN topologies and LAN topologies.
 - 07.03 Compare and contrast routing protocols (e.g., RIP, OSPF).
 - 07.04 Describe the general routing problem and common solutions (including routing verses bridging).
 - 07.05 Identify and describe WAN protocols.
 - 07.06 Explain how the first three layers of the OSI model relate to routing and switching.
 - 07.07 Describe various routing protocols such as RIP, OSPF.
 - 07.08 Differentiate among routing, switching and bridging.
 - 07.09 Install routers to simulate a WAN/LAN network.
 - 07.10 Explain each step necessary for connecting a network to the Internet.
 - 07.11 Explain the differences between connecting to the Internet via a dial-up connection vs. a dedicated connection.
 - 07.12 Identify two major network issues associated with each of Internet, intranet, and extranet.

- 07.13 Implement LAN/WAN connections, including virtual private networks (VPN), permanent virtual circuits (PVC), frame relay, tunneling, remote and mobile user access, etc.
 - 07.14 Define the basic software components of a WAN.
 - 07.15 Configure routers to simulate a WAN/LAN network.
 - 07.16 Explain the function and purpose of firewalls and firebreaks and their purpose.
 - 07.17 Configure access lists to limit traffic and enhance security.
 - 07.18 Explain three major security concerns relating to data communications.
- 08.0 Perform Network administration and management activities - The student will be able to:
- 08.01 Create and manage user accounts based on standard criteria including department, application needs, and permissions.
 - 08.02 Establish, document and disseminate user security guidelines.
 - 08.03 Create and test account templates and policies.
 - 08.04 Document account setup
 - 08.05 Grant/deny access to peripherals.
 - 08.06 Grant/deny access to logins.
 - 08.07 Grant/deny access to file systems.
 - 08.08 Perform network monitoring activities to ensure account integrity.
 - 08.09 Establish procedures for termination of user accounts.
 - 08.10 Manage software licensing based on user requirements.
 - 08.11 Document security policies and violations.
 - 08.12 Install and update anti-virus software.
 - 08.13 Describe current encryption standards - public vs. private key, NSA DES, PGP.
 - 08.14 Describe the functions and characteristics of firewalls.
 - 08.15 Address security issues raised by the ability to access server remotely.
 - 08.16 Discuss the functions of authentication servers, RADIUS, and VPN.
 - 08.17 Establish files backup procedures.
 - 08.18 Develop and publish backup schedule.
 - 08.19 Implement back up procedures.
 - 08.20 Design test procedures.
 - 08.21 Test backup by performing restore of sample data.
 - 08.22 Document backup.
 - 08.23 Monitor backup.
 - 08.24 Coordinate off-site storage of backup files.
 - 08.25 Establish a baseline for optimal network performance.
 - 08.26 Capture sample data and compare to baseline.
 - 08.27 Recommend changes to enhance network performance.
 - 08.28 Configure time synchronization and troubleshoot inconsistencies.\
 - 08.29 Use network management tools effectively to integrate and manage network resources.
 - 08.30 Explain RMON and SNMP and their use in monitoring a network.
 - 08.31 Demonstrate the use of a network management package.
 - 08.32 Configure network devices to send SNMP traps or alerts to network management systems.

- 08.33 Discuss quality-of-service considerations and switching prioritization.
 - 08.34 Describe routing metrics such as hop counts, cost, etc.
 - 08.35 Describe typical WAN links and discuss bandwidth considerations.
 - 08.36 Provide examples of WAN backup techniques such as dial-backup that illustrate when they are appropriate.
- 09.0 Perform troubleshooting and maintenance activities - The student will be able to:
- 09.01 Describe the use and features of diagnostic test equipment.*
 - 09.02 Describe effective troubleshooting strategies and techniques to resolve basic hardware, software, and network problems.*
 - 09.03 Recognize and resolve basic hardware and software configuration problems.
 - 09.04 Eliminate the obvious using techniques such as substitution.
 - 09.05 Trace for connectivity issues through each system component.
 - 09.06 Identify resources for troubleshooting including online documentation.
 - 09.07 Follow standard operating procedures for troubleshooting hardware and software.
 - 09.08 Implement restoration of critical resources.
 - 09.09 Determine when to escalate issues based on predefined guidelines.
 - 09.10 Document problems and solutions for future reference.
 - 09.11 Assemble reference manual including frequently asked questions.
 - 09.12 Define windows of opportunity for maintenance tasks.
 - 09.13 Determine type of maintenance programs needed to ensure maximum system performance.
 - 09.14 Determine service intervals and publish maintenance schedule.
 - 09.15 Document maintenance performed.
 - 09.16 Establish a plan of obsolescence.
- 10.0 Perform documentation and technical reference activities - The student will be able to:
- 10.01 Describe appropriate documentation procedures and practices.
 - 10.02 Effectively use locally maintained systems, software, and network documentation.
 - 10.03 Produce and maintain system documentation, such as inventory, costs, installed software, and procedures.
 - 10.04 Maintain network documentation, including server and workstation hardware and software specifications.
 - 10.05 Document the router configuration.
 - 10.06 Effectively use several standard visual modeling tools.
 - 10.07 Maintain visual network documentation, such as cabling diagrams.
 - 10.08 Describe effective strategies for online research.
 - 10.09 Locate technical information online.
 - 10.10 Evaluate information located through online research.
 - 10.11 Correctly cite Internet-based resources.
- 11.0 Perform user-training activities - The student will be able to:

- 11.01 Instruct user in login procedure.
 - 11.02 Explain downloading procedure and policy.
 - 11.03 Orient user to company LAN and workstation policies.
 - 11.04 Orient user to applications.
 - 11.05 management and backup procedures.
 - 11.06 Develop an ongoing training program.
- 12.0 Demonstrate professional development skills - The student will be able to understand the importance of:
- 12.01 Attending classes, seminars, and workshops.
 - 12.02 Reviewing literature and reading current literature.
 - 12.03 Evaluating skills and taking necessary steps to upgrade.
- 13.0 Demonstrate Employability Skills - The student will be to:
- 13.01 Identify appropriate attire and grooming for a business office.
 - 13.02 Identify sources of employment opportunities.
 - 13.03 Discuss employer expectations regarding attendance, punctuality, initiative, teamwork, etc.
 - 13.04 Discuss employee rights regarding privacy, discrimination, due process, safety, etc.
 - 13.05 Explain the importance of having a written job description.
 - 13.06 List representative jobs and career paths for people trained in the computer networking support area.
 - 13.07 List several functions of each representative computer service oriented job and career path.
 - 13.08 Complete employment forms.
 - 13.09 Classify behaviors considered to be appropriate or inappropriate in a job interview situation.
 - 13.10 Compose and type a follow-up letter.
 - 13.11 Compose and type a letter of application and a resume.
 - 13.12 Compose and type a letter of resignation.
 - 13.13 Demonstrate job interview skills.
 - 13.14 Identify methods for securing an employment reference.
- 14.0 Perform general organizational computing workplace competencies - The student will be able to:
- 14.01 Follow oral and written instructions.
 - 14.02 Prepare, outline, and deliver a short oral presentation.
 - 14.03 Participate in group discussion as a member and as a leader.
 - 14.04 Obtain appropriate information from graphics, maps, or signs.
 - 14.05 Prepare visual material to support an oral presentation.
 - 14.06 Demonstrate self-motivation and responsibility to complete an assigned task.
 - 14.07 List the steps in problem solving.
 - 14.08 Choose appropriate action in situations requiring effective time management.
 - 14.09 Identify and discuss issues contained within professional codes of conduct.
 - 14.10 Identify and discuss software-licensing issues.
 - 14.11 Identify and discuss property rights and licensing issues.

- 14.12 Identify and discuss privacy issues.
- 14.13 Identify and discuss encryption issues.
- 14.14 Identify legal liability issues.
- 14.15 Describe appropriate measures for planning and managing a large project.
- 14.16 Define an implementation schedule for a large project.
- 14.17 Describe appropriate measures for planning and implementing corporate wide upgrade of hardware and software.
- 14.18 Identify potential sources of employee/employer or employee/employee conflict and discuss possible approaches to resolve such disagreements.
- 14.19 Use appropriate communication skills, courtesy, manners, and dress in the workplace.
- 14.20 Apply principles and techniques for being a productive, contributing member of a team.
- 14.21 Identify and use acceptable strategies for resolving conflict in the workplace
- 14.22 Apply principles and techniques for working productively with people of diverse cultures and backgrounds.
- 14.23 Identify techniques for stress management and prevention of job burn-out.
- 14.24 Use appropriate communication skills, telephone etiquette, courtesy, and manners when dealing with customers.
- 14.25 Communicate effectively with individuals lacking a technical background.
- 14.26 Give clear detailed technical oral instructions.

Appendix "A"

Networking Services Technology Program/OCP Mapping

The purpose of this appendix is to illustrate the relationship between the Florida Department of Education Occupational Completions Points, and the objectives contained in this framework.

OCP Title	Objectives
A: Cable Technician (6 credits)	01.01-27 02.01-19 05.08-05.11 05.19-05.25
A PC Support Technician (6 credits)	03.01-17 04.01-21
A: Network Control Operator (6 credits)	01.01-27 02.01-19 08.01-27
B Network Technician (18 credits)	01.01-27 02.01-19 05.01-05.11 05.19-05.25 06.01-23 07.01-18 08.01-36 09.01-16
B: Network Help Desk Technician (18 credits)	01.01-27 02.01-19 03.01-17 04.01-21 08.01-27 09.01-16 13.01-06
C: Network and Computer Analyst (33 credits)	01.01-27 02.01-19 03.01-17 04.01-21 05.01-05.07 05.08-05.11 05.19-05.25 06.01-23 07.01-18 08.01-27 08.28-08.36 09.01-16
C: Network Analyst	01.01-27

(33 credits)	02.01-19 05.01-05.07 05.08-05.11 05.19-05.25 06.01-23 07.01-18 08.01-27 08.28-08.36 09.01-16
D: Network Manager Network Analyst Network Administrator (63 Credits) A.S./A.A.S. Degree	01.01-14.26 General Education Objectives