# Network Information Technology A.A.S.

The network information technology program prepares students as LAN and WAN network administrators. Successful completion of the program provides students with the essential skills of networking (TCP/IP, Routing, Switching, Wireless, Security, and PC Repair and Maintenance). Students will design, install, configure, maintain, optimize, and troubleshoot networks using a variety of network operating systems (Windows, Linux, and Mac OS X), vendor tools (Microsoft©, Cisco©, Juniper Networks© and Foundry©) and hardware platforms and protocols. Upon completion of the program, students are prepared for numerous computer related certification exams.

**Graduates of this program will be able to:**

- Install, configure, and troubleshoot network operating systems
- Configure, maintain, troubleshoot, & secure routers, switches, and other networking hardware
- Evaluate current and emerging technologies and assess their applicability to address the users' needs
- Solve problems individually and in a team environment
- Communicate effectively with clients, users and peers both verbally and in writing
- Understand the impact of technology on individuals, organizations and society, including ethical, legal, security and global policy issues.

**Requirements**

**General Education – 20 Credits as described on page 51.**

**Career Studies – 41 credits as follows:**

| | | |
|---|---|---|
| NETW 106 | Introduction to Networking | 3 |
| NETW 107 | Introduction to Security | 3 |
| NETW 110 | Introduction to UNIX Network Administration | 3 |
| NETW 111 | UNIX Network Administration II | 4 |
| NETW 125 | Introduction to Wireless | 3 |
| NETW 151 | Router Internetworking/CCNA | 6 |
| NETW 152 | Virtual LANs and WANs/CCNA | 6 |
| NETW 190 | MCTS Guide to Windows Vista | 3 |
| NETW 191 | MCSE Managing and Maintaining a Microsoft Windows Server | 3 |
| NETW 253 | Juniper Network Routers | 3 |
| ELEC 243 | Mini/Microcomputer Interfacing | 4 |

## Suggested Sequence – Network Information Technology A.A.S.

The following sequence is an example of how this degree can be completed in two years. This sequence is based on satisfaction of all Basic Skills requirements and prerequisites and presumes a Fall Term start date. An individual's program may vary depending on transfer institution, career objectives, or individual needs. See your counselor for other options and to monitor your progress.

| Course Code | Credits | Course Code | Credits |
|---|---|---|---|
| **SEMESTER 1** | | **SEMESTER 2** | |
| NETW 106 | 3 | NETW 125 | 3 |
| NETW 107 | 3 | NETW 191 | 3 |
| NETW 190 | 3 | ELEC 243 | 4 |
| ENGL 121 | 3 | Communications | 3 |
| Mathematics or Science or Technological or Info Literacy | 3-4 | Social Sciences | 3 |
| | 15-16 | | 16 |
| **SEMESTER 3** | | **SEMESTER 4** | |
| NETW 110 | 3 | NETW 111 | 4 |
| NETW 151 | 6 | NETW 152 | 6 |
| Humanities | 3 | NETW 253 | 3 |
| General Education [1] | 3 | General Education | 3 |
| | 15 | | 16 |
| | | **Total Credits for Degree** | **62-63** |

NOTE: Students may find it advisable to take some of the General Education courses during the summer. After the Spring term of the first year, students may be ready to begin taking the Microsoft MCSE Certification Exams. After the Spring term of the second year, students may be ready to take the A+ and Network+ certification exams.

*[1] One course is recommended from the Cultural & Global Awareness knowledge area.*

## CCNA and MCSE Networking Administration Academic Credit Certificate

This certificate covers the principles of network design, installation, troubleshooting, and administration. It was designed to prepare the student to take the current CISCO CCNA and Microsoft MCSE Certification examinations. At the conclusion of this Certificate, students could sit for the following Certifications:

- Network+
- CCNA
- MCSE

**Requirements**

**General Education – 6 credits required.**

| Code | Course | Credits |
|---|---|---|
| **Required:** | | |
| ENGL 121 | English Composition: The Writing Process | 3 |
| | any General Education | 3 |

**Career Studies – 27 credits as follows:**

| | | |
|---|---|---|
| NETW 190 | MCSE Guide To Windows Vista | 3 |
| NETW 191 | MCSE Managing and Maintaining a Windows Server 2003 Environ | 3 |
| NETW 192 | MCSE Implementing, Managing and Maintain a Windows Server 2003 Network Infrastructure | 3 |
| NETW 193 | MCSE Planning and Maintaining Windows Server 2003 Network | 3 |
| NETW 194 | MCSE Planning, Implementing and Maintaining a Windows Server 2003 Active Directory | 3 |
| NETW 151 | Router Internetworking/CCNA | 6 |
| NETW 152 | Virtual LANs and WANs/CCNA | 6 |

**Total Credits** **33**

## Computer LAN/WAN Technician Academic Credit Certificate/CCNA

Combines A+ with Networking. At the conclusion, students could sit for the following certifications:

- A+
- Network+
- CCNA

**Graduates of this certificate program will be able to:**

- Demonstrate the fundamental concepts of computer networking and converged networks such as voice, wireless and videos as well as the function of network devices and the limitation of the network media and apply the principles to the design of basic networks
- Propose a network topology and an addressing scheme for a given network design scenario
- Demonstrate the ability to assemble and test network cables and use them appropriately to interconnect networking devices
- Perform router configurations, IOS management, distant vector and link state routing protocol configuration as well as ACL configuration and assignments
- Demonstrate knowledge of VLSM, Ethernet switch configurations, IOS management, VLAN, STP (Spanning Tree protocol) and RSTP (Rapid Spanning Tree protocol)
- Understand the protocols used to connect remote sites over a wide area network, as well as selecting the appropriate technologies for WAN interconnections based on available resources and information
- Propose private addressing implementations using Network Address Translation or equivalent solutions such as Port Address Translation

**Requirements**

**General Education – 6 credits required.**

| Code | Course | Credits |
|---|---|---|
| **Required:** | | |
| ENGL 121 | English Composition: The Writing Process | 3 |
| **Recommended:** | | |
| SPCH 115 | Public Speaking | 3 |

**Career Studies — 24 credits as follows:**

| | | |
|---|---|---|
| ELEC 103 | Electrical Skills and Techniques | 4 |
| NETW 151 | Router Internetworking/CCNA | 6 |
| NETW 152 | Virtual LANs and WANs/CCNA | 6 |
| ELEC 243 | Mini/Microcomputer Interfacing | 4 |
| ELEC 244 | Peripheral and Data Communications | 4 |

**Total Credits** **30**

## CISCO CCNA Certification

This option is designed for those who wish to learn how to design, install, and configure LANs, Virtual LANs, and WANs. After successful completion of this Certification Option, the student will have learned all the material, and configured Cisco routers and switches in preparation for taking the CCNA Certification exam. The student will also have learned most of the material necessary to take the Network+ exam.

- CCNA

**Requirements**

| | | |
|---|---|---|
| NETW 151 | Router Internetworking/CCNA | 6 |
| NETW 152 | Virtual LANs and WANs/CCNA | 6 |

**Total Credits** **12**