

# Network Systems Security (CCNA & MCSA)

## Associate in Applied Science in Information Technology

### Program Description:

The Associate in Applied Science Degree Program in Network Systems Security offers comprehensive network training from Mountwest Community and Technical College's Microsoft Information Technology Academy and Cisco Networking Academy. Within the two-year Associate Degree program, students take courses developed by Microsoft and Cisco, providing specialized skills in network administration, design, and security. Students will take courses preparing them for the following certifications:

CompTIA's A+ Hardware and Operating Systems  
CompTIA's Linux+  
CompTIA's Security+  
CompTIA's Server+

Microsoft's MCSA (Microsoft Certified System Administrator)  
CCNA (Cisco Certified Network Associate)  
CISCO Firewall Specialist  
PIX Firewall Advanced exams Cisco's Wireless LAN Support Specialist

### Career Outlook:

Released on February 14, 2003, the National Strategy to Secure Cyberspace identifies a need for training programs in cyber security to produce a workforce capable of securing our nation's information technology infrastructure ([http://csrc.nist.gov/policies/cyberspace\\_strategy.pdf](http://csrc.nist.gov/policies/cyberspace_strategy.pdf)). A recent IDC survey shows the total information technology security market revenues, including software, hardware, and services, is expected to increase from \$17 billion in 2001 to \$45 billion by 2006, thus fueling a 24% rise in spending for network security services. For more information visit (<http://www.idc.com>), then search for February 4, 2003 Press Release entitled "Total IT Security Market."

### Salary Forecast:

Salary ranges depend upon geographic location of the job. The U.S. Department of Labor listed the Huntington, WV - Ashland, KY Metropolitan Area average annual wage for Network Systems and Data Communications Analysts at \$43,410 ([http://stats.bls.gov/oes/current/oes\\_26580.htm#b15-0000](http://stats.bls.gov/oes/current/oes_26580.htm#b15-0000)).

In a 2006-2007 Salary Survey conducted by (<http://tcpmag.com/salarysurveys/>), CCNA's reported average annual salaries of \$47,070 for individuals with at least three years of experience and Cisco Firewall Specialists reported an average salary of \$86,520 for individuals with 5 to 10 years of experience.

### Career Description:

A well-rounded network professional is capable of performing network administration, design, maintenance, and security on a variety of network operating systems and devices. Microsoft Certified Systems Administrators manage and troubleshoot system environments running the Windows 2003 operating system. Cisco Certified Network Associates design, build, and maintain computer networks using a variety of network devices. CompTIA Security+ and Cisco Network Security Specialists design and implement security solutions that reduce network vulnerability. Cisco Wireless LAN Support Specialists implement and troubleshoot Wireless LANs. MCTC's Network Systems Security option provides fundamental networking knowledge and skills with specific network security training crucial for entry into information security positions in public corporations and government entities.

**Major Code – CI20 • Concentration Code – CI26**

<b>FIRST YEAR</b>	
<p><b>Fall Semester<sup>1</sup></b></p> <p>ENL 111 Written Communication .....3</p> <p>IT 120 Operating Systems I .....4</p> <p>IT 131 Introduction to Networking(EDGE).....4</p> <p>IT 270 Computer Repair<sup>1</sup> (EDGE).....3</p> <p>MAT 145 Applications in Algebra .....3</p> <p><b>TOTAL CREDITS</b>.....17</p>	<p><b>Spring Semester</b></p> <p>COM 112 Oral Communication .....3</p> <p>IT 224 Networking Security Fundamentals<sup>9</sup>.....3</p> <p>IT 141 Networking Systems II<sup>2</sup> (EDGE) .....4</p> <p>IT 276 Computer Maintenance<sup>6</sup> (EDGE) .....3</p> <p>IT 230 Network Communications.....3</p> <p>SS 201 Human Relations .....3</p> <p><b>TOTAL CREDITS</b>.....19</p>
<b>SECOND YEAR</b>	
<p><b>Fall Semester</b></p> <p>IT 210 Networking Administration I<sup>5,7</sup> .....3</p> <p>IT 211 Networking Administration II<sup>5</sup> .....3</p> <p>IT 216 Networking Administration III<sup>5</sup> .....3</p> <p>IT 217 Networking Administration IV<sup>5</sup> .....3</p> <p>IT 231 Networking Systems III<sup>3</sup> (EDGE) .....4</p> <p><b>TOTAL CREDITS</b>.....16</p>	<p><b>Spring Semester</b></p> <p>IT 225 Fundamentals of Wireless LANs<sup>9</sup> .....4</p> <p>IT 226 Networking Security Routers<sup>10</sup> .....3</p> <p>IT 227 Networking Security Firewalls<sup>11</sup>.....3</p> <p>IT 299 Information Technology Internship<sup>12</sup> .....3</p> <p>IT 241 Networking Systems IV<sup>4</sup> (EDGE).....4</p> <p><b>TOTAL CREDITS</b>.....17</p>
<b>HOURS REQUIRED FOR GRADUATION: 69</b>	

**Employment Opportunities:**

- Network administrator
- Web designer
- Systems support technician
- Network designer
- security solutions designer
- help desk technician
- hardware technician
- software applications

**Earn A Degree Graduate Early (EDGE):**

This program provides students the opportunity to receive credit for their high school EDGE courses.

**Contact Information:**

Dr. Randall Jones • Corbly Hall, Room 314  
 Phone: 304-696-3059 or 1-866-N-ROLLED (1-866-676-5533)  
 E-mail: jonesr@mctc.edu

Patrick Smith • Corbly Hall, Room 309  
 Phone: 304-696-4633  
 E-mail: smith288@mctc.edu

1. Students are expected to have basic knowledge of computers including operating systems such as Windows XP or 2003 and Microsoft Office XP or 2003 before entering this program. The student must register for IT 101 during his or her first semester or successfully pass a challenge exam for IT 101.

2. IT 141 has a prerequisite or co-requisite of IT 131

3. IT 231 has a prerequisite of IT 141, Networking Systems II, or Cisco Semester 2, and a co-requisite of IT 241.

4. IT 241 has a prerequisite or co-requisite of IT 231.

5. Networking Administration classes IT 210, IT 211, IT 216 and IT 217 must be taken concurrently. These classes cannot be taken individually.

6. IT 276 has a prerequisite of IT 270.

7. IT 210 has a prerequisite of IT 270 or permission.

8. IT 224 has a prerequisite of IT 217 or MCSA certification.

9. IT 225 has a prerequisite of IT 141 or CCNA certification or Cisco Semester 2.

10. IT 226 has a prerequisite of IT 241 or Networking Systems IV or CCNA or Cisco Semester 4.

11. IT 227 has a prerequisite of IT 241 or Networking Systems IV or CCNA or Cisco Semester 4.

12. Permission of Program Coordinator is required in order to enroll in IT 299.