

# NETWORK ENGINEERING

## ASSOCIATE OF APPLIED SCIENCE

Quarter Credit Hours Required = 96

Virginia College's Associate of Applied Science degree in Network Engineering prepares students for a technical career in the computer network engineering field. The program is designed to provide learning experiences that prepare graduates with a solid background of practical, hands-on training directly related to the computer service, network administration, and network engineering job markets. The program provides an advanced understanding of client/server computer concepts, with emphasis on the engineering practices used on modern networks. Students will learn to operate, install, configure, troubleshoot, upgrade, and maintain PCs and complex networks. Students will obtain the skills necessary to provide high-end, solution-based technical support for a variety of inter- and intra-network situations.

Upon successful completion of this program, students should be able to

- prepare for a selection of fourteen professional networking and computer certifications: A+, Network+, Security+, CNA, CNE, Linux+, MCP, MCSA, MCSA+S, MCSE, MCSE+S, SCSA, SCNA, and CCNA;
- connect local networks to the Internet using Novell, Microsoft, Linux, Unix, and/or Cisco solutions;
- provide basic and advanced network administration and engineering services;
- fine tune network servers for optimal performance and develop migration plans for upgrades of software;
- analyze security requirements for the LAN and WAN network users and systems;
- understand alternate operating systems and network management software; and
- coordinate a successful job search.

| <b>FOUNDATION:</b>                                     |                                  | <b>Quarter Credit Hours</b> |
|--|----------------------------------|-----------------------------|
| EDU 1010   | Learning Framework.....          | 4                           |
| EDU 1020   | Career Exploration/Planning..... | 4                           |
| <b>Total Minimum Required Foundation Credits .....</b> |                                  | <b>8</b>                    |

| <b>AREA OF CONCENTRATION:</b>                                    |  |           |
|--|--|-----------|
| NET 1010   | Operating Systems, Security, and Network Essentials..... | 4         |
| NET 1020   | PC Components and Professionalism .....                  | 4         |
| NET 1030   | I.T. Technician.....                                     | 4         |
| NET 1040   | I.T. Administrator .....                                 | 4         |
| NET 1100   | Networking Foundations.....                              | 4         |
| NET 1130   | Network Technician .....                                 | 8         |
| <b>Total Minimum Required Area of Concentration Credits.....</b> |  | <b>28</b> |

### **AREA OF CONCENTRATION ELECTIVES:**

A minimum of 44 credit hours are to be selected in consultation with the Program Director from approved network engineering courses completed at Virginia College or transferred from another accredited institution.

**Total Minimum Area of Concentration Elective Credits..... 44**

### **GENERAL EDUCATION:**

These courses are to be selected in consultation with the Program Director so as to effectuate a balanced educational program. Select a total (minimum) of 16 credit hours as indicated below:

|   |           |
|---|-----------|
| Communications .....  | 8         |
| Mathematics.....  | 4         |
| Social and Behavioral Sciences .....                          | 4         |
| <b>Total Minimum Required General Education Credits .....</b> | <b>16</b> |

**TOTAL MINIMUM QUARTER CREDIT HOURS REQUIRED ..... 96**