Computer Network Engineering AAS DEGREE

Program Overview
Networking Specialists can work in a wide variety of jobs. The work could include purchasing, installing, configuring, administrating and/or supporting. Some jobs in networking could include computer network support, user training, installing and maintaining local and/or wide area networks.

The student should have excellent communication and math skills. For the certificate programs, the student is expected to have prior microcomputer and/or networking experience. He/she should exhibit qualities of patience, perseverance and preciseness and be a logical thinker. The student should enjoy working in a team environment and be able to work independently.

Career Opportunities
With almost every size company connected to some type of network, the jobs in networking have become the fastest growing jobs in the computer field. With companies networking to share resources and reduce expenses the networking specialist is an invaluable part of the new company structure. There is a wide variety of jobs in networking including installation, maintenance, training, managing and user support.

Graduates find excellent opportunities as Network Administrators, Network Support, and Certified Network Engineers in business, manufacturing, government and education. Jobs for Networking Specialists for all types of installations are found throughout the country with opportunities for excellent earnings and rapid advancement. Jobs include the following:

- Networking Engineer
- Network Help Desk Support
- Data Communications Specialist
- PC Network Administrator
- Information Specialist
- WAN Manager Network Administrator
- LAN Specialist
- Telecommunications Specialist
- Certified Network Engineer
- LAN Manager

Program Outcomes
2. Install, configure and maintain workstation and server based operating systems.
3. Explain the OSI model.
4. Develop programs and scripts needed to support network administration.
5. Troubleshoot hardware and software problems in a network environment.

Program Faculty
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Part-Time/Full-Time Options
Some day and evening class availability. Students may attend full time or part time.

Program Requirements
☐ Check off when completed

Course Cr
☐ CSCI 1410 Computer Science & Information Systems .............................................. 4
☐ CSCI 1423 Computer Networking 1 – Client ................................................. 4
☐ CSCI 1440 Networking Fundamentals .......................................................... 4
☐ CSCI 1523 Intro to Computing and Programming Concepts .......................... 4
☐ CSCI 2420 Computer Security ................................................................. 4
☐ CSCI 2451 Computer Networking 2 – Server ............................................. 4
☐ CSCI 2453 Computer Virtualization ........................................................... 4
☐ CSCI 2461 Computer Networking 3 – Linux .............................................. 4
☐ CSCI 2465 Computer Networking 4 – Infrastructure ........................................ 4
☐ CSCI 2475 A+ Hardware/Operating System Prep ...................................... 4
☐ CSCI 2570 Machine Architecture and Organization .................................. 4

Subtotal .......................................... 44

Goal 1: Humanities and Fine Arts
Goal 2: Natural Sciences OR Mathematical/Logical Reasoning
Goal 3: Natural Sciences OR Natural Sciences 
Goal 4: Mathematical/Logical Reasoning
Goal 5: History, Social and Behavioral Sciences
Goal 6: Humanities and Fine Arts

General Education Requirements .......................................................... 44

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ Goal 1: Communication ......................................................... 7
ENGL 1711 Composition 1 – 4 cr
COMM 17XX – 3 cr
☐ Goal 2 or Goal 3 ................................................................. 3
Goal 3: Natural Sciences OR Goal 4: Mathematical/Logical Reasoning
Goal 5: History, Social Science and Behavioral Sciences
Goal 6: Humanities and Fine Arts

Total Program Credits .................................................. 60

Program Start Dates
Fall, Spring, Summer

Course Sequence
The following sequence is recommended for a full-time student. Not all courses are offered each semester.

First Semester
CSCI 1410 Computer Science & Information Systems .................................. 4
CSCI 1423 Computer Networking 1 – Client ................................................. 4
CSCI 1440 Networking Fundamentals .......................................................... 4
Goal 1: ENGL 1711 Composition 1 .......................................................... 4
Total Semester Credits .................................................. 16

Second Semester
CSCI 1523 Intro to Computing and Programming Concepts .......................... 4
CSCI 2451 Computer Networking 2 – Server ............................................. 4
CSCI 2475 A+ Hardware/Operating System Prep ...................................... 4
Goal 1: COMM 17XX ................................................................. 3
Total Semester Credits .................................................. 15

Third Semester
CSCI 2461 Computer Networking 3 – Linux .............................................. 4
Goal 3: Natural Science
OR Goal 4: Mathematical/Logical Reasoning .................................. 3
(MATH 1730 or proficiency required)
Goal 5: History, Social and Behavioral Sciences .................................. 3
Goal 6: Humanities and Fine Arts .......................................................... 3
Total Semester Credits .................................................. 13

Fourth Semester
CSCI 2420 Computer Security ................................................................. 4
CSCI 2453 Computer Virtualization ........................................................... 4
CSCI 2465 Computer Networking 4 – Infrastructure ........................................ 4
CSCI 2570 Machine Architecture and Organization .................................. 4
Total Semester Credits .................................................. 16

Total Program Credits .................................................. 60

See back of this guide for Transfer Opportunities

Information is subject to change.
This Program Requirements Guide is not a contract.
Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

The below chart illustrates the courses required for completion of this degree.