

# 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

1. Graduates will have knowledge and skills in computer network engineering.
2. Graduates will have knowledge and experience in system design, analysis and maintenance.
3. Graduates of the Computer Network programs will be prepared for employment as computer network engineers.
4. Graduates will be prepared to take industry certification exams.

## 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
<input type="checkbox"/> CSCI 1410 Computer Science & Information Systems . . . . .	4
<input type="checkbox"/> CSCI 1423 Computer Networking 1 – Client . . . . .	4
<input type="checkbox"/> CSCI 1440 Networking Fundamentals . . . . .	4
<input type="checkbox"/> CSCI 1523 Intro to Computing and Programming Concepts . . . . .	4
<input type="checkbox"/> CSCI 2420 Computer Security . . . . .	4
<input type="checkbox"/> CSCI 2451 Computer Networking 2 – Server . . . . .	4
<input type="checkbox"/> CSCI 2453 Computer Virtualization . . . . .	4
<input type="checkbox"/> CSCI 2461 Computer Networking 3 – Linux . . . . .	4
<input type="checkbox"/> CSCI 2465 Computer Networking 4 – Infrastructure . . . . .	4
<input type="checkbox"/> CSCI 2475 A+ Hardware/Operating System Prep . . . . .	4
<input type="checkbox"/> CSCI 2570 Machine Architecture and Organization . . . . .	4
<b>Subtotal . . . . .</b>	<b>44</b>

## General Education Requirements Cr

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

<input type="checkbox"/> Goal 1: Communication . . . . .	7
ENGL 1711 Composition 1 – 4 cr	
COMM 17XX – 3 cr	
<input type="checkbox"/> Goal 3 or Goal 4 . . . . .	3
Goal 3: Natural Sciences OR	
Goal 4: Mathematical/Logical Reasoning	
<input type="checkbox"/> Goal 5: History, Social Science and Behavioral Sciences . . . . .	3
<input type="checkbox"/> Goal 6: Humanities and Fine Arts . . . . .	3
<b>General Education Requirements . . . . .</b>	<b>16</b>

**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
<b>Total Semester Credits . . . . .</b>	<b>16</b>

### Second Semester

CSCI 1523 Intro to Computing and Programming Concepts . . . . .	4
CSCI 2451 Computer Networking 2 – Server . . . . .	4
CSCI 2461 Computer Networking 3 – Linux . . . . .	4
CSCI 2475 A+ Hardware/Operating System Prep . . . . .	4
<b>Total Semester Credits . . . . .</b>	<b>16</b>

### Third Semester

CSCI 2453 Computer Virtualization . . . . .	4
Goal 1: COMM 17XX . . . . .	3
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
<b>Total Semester Credits . . . . .</b>	<b>16</b>

### Fourth Semester

CSCI 2420 Computer Security . . . . .	4
CSCI 2465 Computer Networking 4 – Infrastructure . . . . .	4
CSCI 2570 Machine Architecture and Organization . . . . .	4
<b>Total Semester Credits . . . . .</b>	<b>12</b>

**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.*

# Computer Network Engineering AAS DEGREE *(continued)*

(44 credits + 16 GenEd credits)

## 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](http://saintpaul.edu/Transfer).

### Computer Network Engineering AAS

BA	Individualized Studies Metropolitan State University	BS	Information Technology Saint Mary's University, Twin Cities Campus
BS	Computer Information Systems College of St. Scholastica	BS	Operations Management Minnesota State University, Moorhead

### Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ or grade of "C" or better in READ 0722

**Writing:** Score of 78+ or grade of "C" or better in ENGL 0922

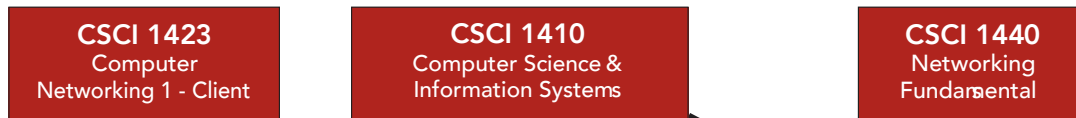
**College Level Mathematics:** Score of 50+ or grade of "C" or better in MATH 0920

**Assessment Results and Prerequisites:** Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

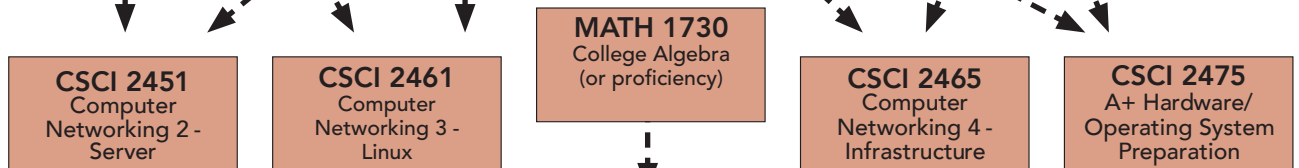
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The below chart illustrates the courses required for completion of this degree.

## Introductory



## Intermediate



## Advanced

(offered once per year)

