

Computer Programming AAS DEGREE

Program Overview

The job of the applications programmer is to (1) review job specifications provided by the system analyst and end user and (2) plan, code, test, and document a programming solution which takes the available data input and produces the desired output in the form of a printed report or a screen display. The programming language(s) used depends on the nature of the problem and the languages available during installation.

Above average communications and math skills are required. Students should exhibit qualities of patience, perseverance and preciseness and should enjoy working in a team environment and also be able to work independently.

Career Opportunities

Graduates find excellent opportunities as computer programmers in business, manufacturing, government and education. Jobs for computer programmers for all types of computer systems are found throughout the country with opportunities for good earning and rapid advancement. Jobs include: Programmer, Database Project Specialist, Applications Programmer, Technical Programmer, Systems Analyst, MIS Coordinator, Software Developer, Junior Programmer-Analyst, and Senior Programmer-Analyst.

Program Outcomes

Graduates will be able to

1. Graduates design and code computer programs in a variety of computer-programming languages.
2. Graduates professionally structure and document source codes.
3. Graduates utilize sound program testing procedures to insure the accuracy of the programs they develop.
4. Graduates use current program coding conventions to develop well documented code.
5. Graduates apply effective technical communication skills.
6. Graduates develop database applications using an industry standard database management system.
7. Graduates develop a computer program to create, modify and manipulate a relational database.
8. Graduates identify the similarities and differences between the Linux and Windows operating systems.

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

Program Faculty

- Mary Anderson
mary.anderson@saintpaul.edu
- Warren Sheaffer
warren.sheaffer@saintpaul.edu
- Cheng Thao
cheng.thao@saintpaul.edu

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 – Client	4
<input type="checkbox"/> CSCI 1450 Web Fundamentals/HTML	4
<input type="checkbox"/> CSCI 1523 Intro to Computing and Programming Concepts	4
<input type="checkbox"/> CSCI 1524 Intro to Algorithms and Data Structures	4
<input type="checkbox"/> CSCI 1541 Java Programming 1	4
<input type="checkbox"/> CSCI 2570 Machine Architecture and Organization	4
Subtotal	28

Complete one of the Emphases listed below 16

Java Program Emphasis	Cr
<input type="checkbox"/> CSCI 1542 Java Programming 2	4
<input type="checkbox"/> CSCI 1550 Database Management Fundamentals	4
<input type="checkbox"/> CSCI 2440 Client Side Programming I	4
<input type="checkbox"/> CSCI 2466 J2EE-JSP and Servlets	4
Total Emphasis Credits	16

Web Development Emphasis Cr

<input type="checkbox"/> CSCI 2440 Client Side Programming 1	4
<input type="checkbox"/> CSCI 2442 Server Side Programming	4
<input type="checkbox"/> CSCI 2466 J2EE-JSP and Servlets	4
<input type="checkbox"/> CSCI 2622 Client Side Programming 2	4
Total Emphasis Credits	16

Web Based 2D Game Development Emphasis Cr

<input type="checkbox"/> DGIM 2521 2D Web Animation	2
<input type="checkbox"/> DGIM 2530 Web Based Game Design 1	4
<input type="checkbox"/> DGIM 2531 Web Based Game Design 2	4
<input type="checkbox"/> DGIM 2586 Digital Sound	2
<input type="checkbox"/> DGIM Technical Electives	4
<input type="checkbox"/> DGIM 1490 3D Animation Fundamentals	4
<input type="checkbox"/> DGIM 2560 Illustrator	4
<input type="checkbox"/> DGIM 1483 Photoshop 1	2
<input type="checkbox"/> DGIM 1484 Photoshop 2	2
Total Emphasis Credits	16

General Education Requirements Cr

- 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 3 or Goal 4 3
Goal 3: Natural Sciences
OR Goal 4: Mathematical/Logical Reasoning (MATH 1730 or proficiency required)
- Goal 5: History, Social Science and Behavioral Sciences 3
- Goal 6: Humanities and Fine Arts. 3
- General Education Requirements 16**

Total Program Credits 60

The following courses are not offered every semester.

Fall Semester Only

- CSCI 1542 Java Programming 2
CSCI 2442 Server Side Programming
CSCI 2622 Client Side Programming 2
DGIM 1490 3D Animation Fundamentals
DGIM 2530 Web Based Game Design 1
DGIM 2560 Illustrator
DGIM 2586 Digital Sound

Spring Semester Only

- CSCI 2440 Client Side Programming 1
CSCI 2466 J2EE-JSP and Servlets
DGIM 2521 2D Web Animation
DGIM 2531 Web Based Game Design 2

All other courses are offered both fall and spring semester pending course enrollment.

CSCI 1410, CSCI 1550, and General Education requirements are offered in the fall, spring, and summer.

See back of this guide for Course Sequence, Transfer Opportunities & Course Chart

Minimum Program Entry Requirements

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

Reading: Score of 250+ or grade of "C" or better in READ 0722 or READ 0724 or EAPP 0900

Writing: Score of 250+ on Reading Comprehension or grade of "C" or better in ENGL 0922 or EAPP 0900

Adv. Algebra & Functions: Score of 250+ 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.

009A

Computer Programming AAS DEGREE *(continued)*

(44 credits + 16 GenEd credits)

Program Start Dates

Fall, Spring, Summer

Course Sequence

The following sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester.

First Semester

- CSCI 1410 Computer Science & Information Systems 4
- CSCI 1423 Computer Networking – Client 4
- CSCI 1450 Web Fundamentals/HTML 4
- Goal 3: Natural Sciences OR
- Goal 4: Mathematical/Logical Reasoning 3
(MATH 1730 or proficiency required)
- Total Semester Credits 15**

Second Semester

- CSCI 1523 Intro to Computing and Programming Concepts 4
- Goal 1: ENGL 1711 Composition 1 4
- Emphasis Course 4
- CSCI 1541 Java Programming I 4
- Total Semester Credits 16**

Third Semester

- CSCI 1524 Intro to Algorithms and Data Structures . . . 4
- Goal 1: COMM 17XX 3
- Emphasis Course(s) 8
- Total Semester Credits 15**

Fourth Semester

- CSCI 2570 Machine Architecture and Organization . . . 4
- Goal 5: History, Social and Behavioral Sciences 3
- Goal 6: Humanities and Fine Arts 3
- Emphasis Course(s) 4
- Total Semester Credits 14**
- Total Program Credits 60**

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.

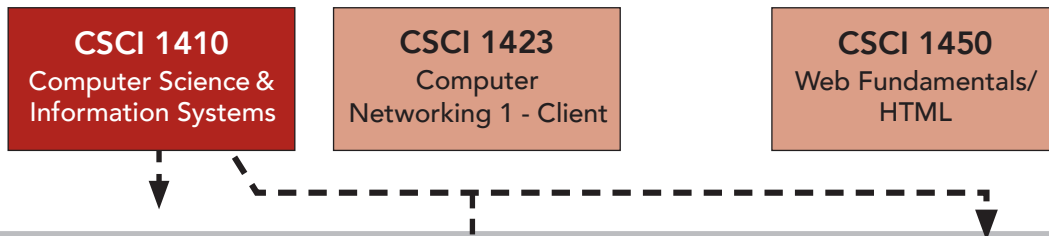
For more information please go to saintpaul.edu/Transfer.

Computer Programming AAS

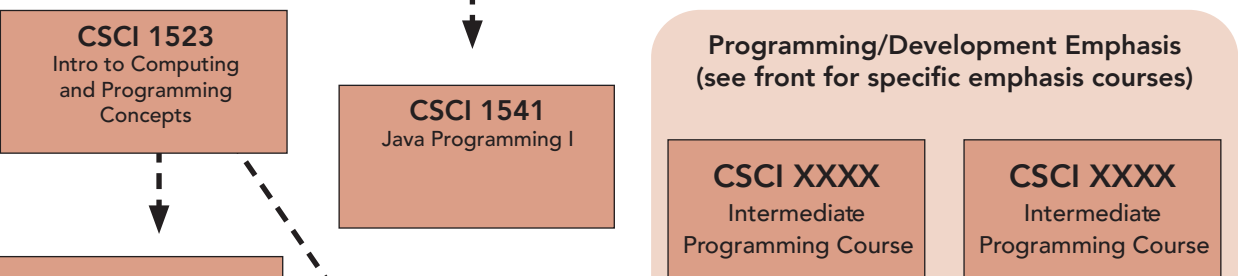
- BA Individualized Studies
Metropolitan State University
- BS Information Technology
Saint Mary's University,
Twin Cities Campus

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

Introductory



Intermediate



Advanced

