Computer Science

AWARDS

Computer Science Transfer Pathway A.S. Degree . . . . 60 cr

Computer Programmer A.A.S. Degree . . . . 60 cr

CAMPUS CONTACT FOR THIS PROGRAM

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COMPUTER SCIENCE TRANSFER PATHWAY
A.S., 60 CREDITS

Computer Science Curriculum . . . . 20 credits

Liberal Arts Curriculum. . . . . 30 credits

Electives . . . . .10 credits

PURPOSE

The Computer Science Transfer Pathway A.S. offers students a powerful option: the opportunity to complete an Associate of Science degree with course credits that directly transfer to designated Computer Science bachelor's degree programs at Minnesota State universities. The curriculum has been specifically designed so that students completing the pathway degree and transferring to one of the seven Minnesota State Universities* enter the university with junior-year status. All courses in the Transfer Pathway associate degree will directly transfer and apply to the designated bachelor's degree programs in a related field.

The Computer Science Pathway consists of the Required Pathway Curriculum and select Minnesota Transfer Curriculum (MnTC) requirements to bring your credit total to 60 credits.

Universities within the Minnesota State system include Bemidji State University; Metropolitan State University; Minnesota State University, Mankato; Minnesota State University, Moorhead; Southwest Minnesota State University; St. Cloud State University; and Winona State University.

TRANSFER PATHWAYS

With this transfer pathway, you will be able to transfer to the following majors: at

Bemidji State University
Computer Science – BS

Metropolitan State University
Computer Science - BS

Minnesota State University, Moorhead
Computer Science - BS

Southwest Minnesota State University
Computer Science - BS

St. Cloud State University
Computer Science – BS

Winona State University
Computer Science - BS (Bioinformatics Emphasis, Computer Information Systems Emphasis or Human Computer Interaction Emphasis)

Computer Science Pathway Curriculum   20 credits

- ☐ *CS 1110 Computer Programming with Java* 4
- ☐ *CS 1117 Computer Programming with Python) OR*
  CS 1119 Computer Programming with C++ 4
- ☐ *CS 2200 Computer Architecture* 4
- ☐ *CS 2300 Algorithms and Data Structures.* 4
- ☐ *CS 2350 Discrete Structures OR*
  MATH 2100 Discrete Math. 4

Liberal Arts   30 credits

- ☐ *ENG 1108 Writing and Research Skills.* 4
- ☐ *ENG 1111 Research Writing OR*
  ENG 1114 The Research Paper OR
  ENG 1130 Writing & Research for the Professions 2-3
- ☐ *COMM 1100 Interpersonal Communication OR*
  COMM 1110 Public Speaking OR
  COMM 2230 Small Group Communication. 3
- ☐ *MnTC Goal 3 course (Recommend: PHYS 1081)* 3-5
- ☐ *MATH 1133 Calculus I* 5
- ☐ *MnTC Goal 5 course.* 3
- ☐ *MnTC Goal 6 course.* 3
- ☐ *Liberal Arts electives (MnTC courses only)* 4-7

Electives   10 credits

- ☐ *ITC 2000 PC Hardware and Software (A+)* 3
- ☐ *CS 1101 Introduction to Computer Science and Problem Solving* . 3
- ☐ *Any additional Computer Science course(s).*
- ☐ *Additional Liberal Arts electives (MnTC courses only)*

Recommended Elective Courses

Depending on Transfer plans, students may wish to consider taking some/all of the following courses as part of the electives:

MATH 1134 Calculus II
PHYS 1081 Calculus-Based Physics I
PHYS 1082 Calculus-Based Physics II
PHIL 1120 Symbolic Logic

TOTAL CREDITS   60

FULL-TIME RECOMMENDED COURSE OF STUDY

Note: Not all courses will be available every semester. For a complete list of Minnesota Transfer Curriculum (MnTC) Goal Area course choices, please visit: inverhills.edu/MnTC

Semester 1   15 credits

ITC 2000 PC Hardware and Software (A+) OR
Elective (Computer Science or Liberal Arts). 3
CS 1110 Computer Programming with Java. 4
ENG 1108 Writing & Research Skills. 4
MATH 1133 Calculus I (Goal 4). 5

Semester 2   14 credits

CS 1117 Computer Programming with Python OR
CS 1119 Computer Programming with C++. 4
Elective (Computer Science or Liberal Arts) 4
COMM 1100 Interpersonal Communication OR
COMM 1110 Public Speaking OR
COMM 2230 Small Group Communication. 3
MnTC Goal 6 course. 3

Semester 3   13-15 credits

CS 2300 Algorithms and Data Structures. 4
Elective (Computer Science or Liberal Arts) 3
MnTC Goal 3 course 3-5
MnTC Goal 5 course 3

Semester 4   15-17 credits

CS 2200 Computer Architecture. 4
CS 2350 Discrete Structures OR
MATH 2100 Discrete Math 4
ENG 1111 Research Writing OR
ENG 1114 The Research Paper OR
ENG 1130 Writing & Research for the Professions 2-3
Liberal Arts elective (MnTC courses only). 4-7

TOTAL CREDITS   60

COMPUTER PROGRAMMER
A.A.S., 60 CREDITS

Computer Programmer Core Curriculum . . . . 29 cr
Program Electives. . . . . .11 cr
Liberal Arts Curriculum. . . . . 20 cr

PURPOSE
Graduates of this program are well-prepared in software programming and software engineering abilities to help execute a wide variety of information technology projects.

Required Computer Programmer Core   29 credits
☐ ITC 2000 PC Hardware & Software (A+) 3
☐ ITC 1480 Linux Essentials 3
☐ CS 1110 Computer Programming with Java 4
☐ CS 1117 Computer Programming with Python 4
☐ CS 1119 Computer Programming with C++ 4
☐ CS 2200 Computer Systems Architecture 4
☐ CS 2300 Algorithms and Data Structures. 4
☐ ITC 2480 Administering Linux Servers 3

Program Electives   11 credits
☐ Any Computer Science course(s)
☐ MATH 1119 or higher
☐ ITC 2000 or higher
☐ PHIL 1120 Symbolic Logic

Liberal Arts Curriculum   20 credits
☐ ENG 1108 Writing and Research Skills. 4
☐ COMM 1100 Interpersonal Communication 3
☐ MATH 1118 OR 1127. 4
☐ MnTC Goal 5 course. 3
☐ MnTC Goal 6 course. 3
☐ Liberal Arts elective (MnTC courses only). 3

TOTAL CREDITS   60

FULL-TIME RECOMMENDED COURSE OF STUDY
Note: not all courses will be available every semester. For a complete list of Minnesota Transfer Curriculum (MnTC) Goal Area course choices, please visit: inverhills.edu/MnTC

Semester 1   14 credits
ITC 2000 PC Hardware and Software (A+). 3
ITC 1480 Linux Essentials. 3
ENG 1108 Writing & Research Skills 4
MATH 1118 College Algebra I. 4

Semester 2   15 credits
CS 1110 Computer Programming with Java. 4
CS 1117 Computer Programming with Python 4
Program Elective 4
COMM 1100 Interpersonal Communication (Goal 1, 7) 3

Semester 3   17 credits
CS 1119 Computer Programming with C++. 4
CS 2300 Algorithms and Data Structures. 4
ITC 2480 Administering Linux Servers 3
MnTC Goal 5 course. 3
MnTC Goal 6 course. 3

Semester 4   14 credits
CS 2200 Computer Architecture. 4
Program Elective 7
Liberal Arts elective (MnTC courses only). 3

TOTAL CREDITS   60

InverHills
Community College