

# 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 . . . . . 22 cr

Liberal Arts Curriculum . . . . . 38 cr

## 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** **22 credits**

<input type="checkbox"/> ITC 2000 PC Hardware and Software (A+) .....	3
<input type="checkbox"/> CS 1110 Computer Science I with Java .....	3
<input type="checkbox"/> CS 1119 Computer Programming in C++ .....	4
<input type="checkbox"/> CS 2200 Computer Architecture .....	4
<input type="checkbox"/> CS 2300 Algorithms and Data Structures .....	4
<input type="checkbox"/> CS 2350 Discrete Structures .....	4

**Liberal Arts** **38 credits**

<input type="checkbox"/> ENG 1108 Writing and Research Skills .....	4
<input type="checkbox"/> ENG 1111 Research Writing <b>OR</b> ENG 1114 The Research Paper <b>OR</b> ENG 1130 Writing & Research for the Professions .....	2-3
<input type="checkbox"/> COMM 1100 Interpersonal Communication <b>OR</b> COMM 1110 Public Speaking <b>OR</b> COMM 2230 Small Group Communication .....	3
<input type="checkbox"/> MnTC Goal 3 elective (Recommend: PHYS 1081) .....	3-5
<input type="checkbox"/> MATH 1133 Calculus I .....	5
<input type="checkbox"/> MnTC Goal 5 elective .....	3
<input type="checkbox"/> MnTC Goal 6 elective .....	3
<input type="checkbox"/> MnTC Goal 7-10 any course .....	3
<input type="checkbox"/> Liberal Arts electives (MnTC courses only) .....	9-12

**Recommended Elective Courses**

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

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

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**TOTAL CREDITS 60**

**RECOMMENDED FULL-TIME 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](http://inverhills.edu/MnTC)

**Semester 1** **15 credits**

CS 1110 Computer Science I with Java .....	3
ITC 2000 PC Hardware and Software (A+) .....	3
ENG 1108 Writing & Research Skills (Goal 1, 2) .....	4
MATH 1133 Calculus I (Goal 4) .....	5

**Semester 2** **16 credits**

CS 1119 Computer Programming in C++ .....	4
COMM 1100 Interpersonal Communication (Goal 1, 7) .....	3
MnTC Goal 5 elective .....	3
MnTC Goal 6 elective .....	3
Liberal Arts elective (MnTC courses only) .....	3

**Semester 3** **15 credits**

CS 2200 Computer Architecture .....	4
MnTC Goal 3 elective .....	3-5
Liberal Arts elective (MnTC courses only) .....	3-5
MnTC Goal 7-10 elective .....	3

**Semester 4** **14 credits**

CS 2300 Algorithms and Data Structures .....	4
CS 2350 Discrete Structures .....	4
ENG 1111 Research Writing <b>OR</b> ENG 1114 The Research Paper <b>OR</b> ENG 1130 Writing & Research for the Professions .....	2-3
Liberal Arts elective (MnTC courses only) .....	3-4

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**TOTAL CREDITS 60**

# COMPUTER PROGRAMMER

A.A.S., 60 CREDITS

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Computer Programmer Core Curriculum . . . . .	27 cr
Program Electives . . . . .	13 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 27 credits

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- ITC 2000 PC Hardware & Software (A+) . . . . .3
- ITC 1480 Linux Essentials . . . . .3
- CS 1110 Computer Science I with Java . . . . .3
- CS 1119 Computer Programming with C++ . . . . .4
- CS 1127 Advanced Java Programming . . . . .3
- CS 2200 Computer Systems Architecture . . . . .4
- CS 2300 Algorithms and Data Structures . . . . .4
- ITC 2480 Administering Linux Servers . . . . .3

### Program Electives 13 credits

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- Any Computer Science course
- MATH 1120 or higher
- ITC 2000 or higher
- PHIL 1120 Symbolic Logic

### Liberal Arts Curriculum 20 credits

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

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**TOTAL CREDITS    60**



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