



**MONTANA**  
UNIVERSITY SYSTEM

**Transfer Pathway**

## Discipline: Computer Science

This Montana transfer pathway outlines the knowledge and skills that are essential for students to complete during their first two years of study for a major in Computer Science. The coursework described below will meet degree requirements at all Montana University System campuses offering majors in Computer Science. If you complete this coursework successfully, you will be well-positioned to finish your degree with an additional two years of full-time study at your transfer college.

### Lower-Division Major Requirements

For students without prior programming experience, it is recommended you start with one of the following courses (CS 0):

- CSCI 100 “Introduction to Programming”
- CSCI 101 “Computational Thinking”
- CSCI 102 “Computational Thinking with Lab”
- CSCI 105 “Computer Fluency”
- CSCI 107 “The Joy and Beauty of Computing”

Take one of the following introductory computer science courses (CS 1):

- CSCI 111 “Programming with Java I”
- CSCI 127 “The Joy and Beauty of Data”
- CSCI 135 “Fundamentals of Computer Science I”

Take one of the following intermediate computer science courses (CS 2):

- CSCI 121 “Programming with Java II”
- CSCI 132 “Basic Data Structures and Algorithms”
- CSCI 136 “Fundamentals of Computer Science II”

Take one C or C++ based programming course:

- CSCI 112 “Programming with C I”
- CSCI 113 “Programming with C++ I”
- CSCI 205 “Programming Languages with C/C++”

## Lower-Division Major Requirements (cont.)

Take all the following courses:

- CSCI 232 “Data Structures and Algorithms” (CS 3)
- CSCI 215 “Social and Ethical Issues in CS”
- CSCI 246 “Discrete Structures” OR M 225 “Discrete Math”
- M 171 “Calculus I”
- M 172 “Calculus II”

## Campus Specific Requirements

Students intending to pursue Montana State University’s Bachelor of Arts in Computer Science should make the following substitutions:

- May take either M 165 "Calculus for Technology" or M 171
- Take STAT 216 "Introduction to Statistics" and STAT 217 "Intermediate Statistical Concepts" in place of M 172
- A C based programming language course (i.e. CSCI 112, CSCI 113, CSCI 205) is recommended but not required
- CSCI 215 can be used to fulfill degree requirements but is not required

For students intending to transfer to Montana Tech:

- Take CSCI 240 “Databases and SQL” if possible
- A C or C++ course is recommended and will satisfy a free elective (C++ is used in CSCI 232/332)
- CSCI 215 is not required, but will satisfy a free elective if taken
- Take a science sequence in one focus area (preferably Biology, College Chemistry (CHMY 141/143) or Physics I and II w/ Calculus)

## General Education Requirements

To be well positioned to graduate on time after transfer, it is vital you finish your general education core before you transfer.

Students attending Montana University System campuses have three options for transferring general education core requirements: (1) complete all lower-division general education requirements for one specific campus, (2) complete the Montana University System Core transferrable general education curriculum, or (3) obtain an A.A. or A.S. transferrable degree.

### **OPTION 1: Complete a specific campus’s lower-division general education requirements**

Students complete all lower-division coursework (100- or 200-level courses) in a campus-specific general education program; when transferring, this block of courses substitutes for comparable general education program requirements at any other MUS campus. The student may still be required to take additional general education coursework at the upper-division level at the new campus, but not at the lower-division level. Each MUS campus has designated specific requirements for its [general education program](#).

## General Education Requirements (cont.)

### **OPTION 2: Complete the MUS Core general education curriculum**

Students can complete a set of courses known as the [MUS Core transferrable gen ed curriculum](#) (MUS Core), consisting of 30 lower-division credits distributed across six categories. Each campus in the MUS has identified a set of classes that will satisfy the MUS Core requirements. As with Option 1, students may still be required to take additional general education coursework at the upper-division level.

#### ***This option comes with an important bonus.***

*Students who have not completed the entire 30-credit MUS Core general education curriculum may still use it to transfer if they have completed at least 20 of the required credits. If the student has earned at least 20 MUS Core credits, they can work with their advisor to determine whether they will complete the remaining MUS Core requirements at the new campus or if they will roll their 20 MUS Core credits into the new campus' general education program. If the student has earned less than 20 MUS Core credits, they must complete the new campus' general education program, but the MUS Core courses will be reviewed for possible transfer credit towards the new campus' general education program.*

### **OPTION 3: Obtain an AA or AS degree**

An Associate of Arts (A.A.) or an Associate of Science (A.S.) degree indicates that students have completed the general education program of their specific two-year campus—thus satisfying Option 1. These credentials are often referred to as “[transfer degrees](#)” for this reason. Some specialized associate's degrees, such as the Associate of Science in Nursing, may not include the necessary number of general education credits to meet the expectations stated in Option 3.