

# COMPUTER SCIENCE - PSU / OSU / UO - TRANSFER - DEGREE

Associate of Science Transfer (AST) in Computer Science

## Faculty Adviser

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Computer science is the study of computers, hardware, software design, and the way humans work with technology. Students will study programming in a variety of languages for different purposes. MHCC's program prepares students to transfer to a four-year degree at PSU, OSU, or UO.

Students who complete this program will also complete the Oregon Computer Science Major Transfer Map (MTM) (<https://www.oregon.gov/highered/about/transfer/pages/transfer-maps.aspx>) and Core Transfer Map (CTM).

## Curricular Outcomes

At the completion of this curriculum, students should be able to:

- Develop software using both structured and object-oriented paradigms that meets the requirements of a written specification.
- Explain the software development lifecycle and the specific tools and processes used to create software.
- Design, analyze, and implement algorithms to solve computational problems using various data structures as problem-solving tools. These data structures must include arrays, stacks, queues, linked lists, trees, and hash tables.
- Communicate effectively in a variety of professional contexts.
- Function effectively as a members or leader of a team engaged in activities appropriate to the programs' discipline.

**General education courses (such as math, writing, health, etc.) can be taken during any term, or before starting the program.**

### Please note:

- Students majoring in Computer Science will need to know their transfer plans early on in order to complete the correct courses.
- This degree aligns with Oregon's Computer Science Major Transfer Map (<https://www.oregon.gov/highered/about/transfer/pages/transfer-maps.aspx>) (MTM) for students planning to transfer to PSU, OSU, or UO after completion.
- Students who do not place directly into MTH251Z Differential Calculus or higher will need to complete MTH111Z Precalculus I: Functions ★ and/or MTH112Z Precalculus II: Trigonometry before enrolling in computer science courses.
- Please contact the faculty adviser as soon as possible for assistance with course planning.

### First Quarter

Fall		Credits
CS160	Computer Science Orientation ★	4
MTH251Z	Differential Calculus	4

WR121Z	Composition I ★	4
COMM111Z	Public Speaking ★	4
<b>Credits</b>		<b>16</b>

### Second Quarter

Winter		
CS161	Computer Science I	4
MTH252Z	Integral Calculus	4
WR227Z	Technical Writing ★	4
Social Science requirement ( <a href="https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#ss">https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#ss</a> )		3-4
<b>Credits</b>		<b>15</b>

### Third Quarter

Spring		
CS162	Computer Science II	4
Arts and Letters requirement ( <a href="https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#al">https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#al</a> )		3-4
Social Science requirement ( <a href="https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#ss">https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#ss</a> )		3-4
<b>Credits</b>		<b>12</b>

### Fourth Quarter

Fall		
CS250	Discrete Structures I	4
CS260	Data Structures	4
Arts and Letters requirement ( <a href="https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#al">https://catalog.mhcc.edu/degree-certificate-requirements/ast-cs-psu-osu-uo/#al</a> )		3-4
Choose one of the following lab science courses:		5
BI211Z		
CH221Z General Chemistry I & CH227Z and General Chemistry I Laboratory		
G201 Principles of Physical Geology 1		
PH201 General Physics I		
PH211 General Physics with Calculus I		
<b>Credits</b>		<b>17</b>

### Fifth Quarter

Winter		
CS251	Discrete Structures II	4
Choose one of the following lab science courses:		5
BI212Z		
CH222Z General Chemistry II & CH228Z and General Chemistry II Laboratory		
G202 Principles of Physical Geology 2		
PH202 General Physics II		
PH212 General Physics with Calculus II		
Students who complete CH221Z/CH227Z may choose CH222Z/CH228Z or BI211Z for their second lab science.		
Elective, if needed to reach 90 credits		6
<b>Credits</b>		<b>15</b>

### Sixth Quarter

Spring		
CS205	Systems Programming and Architecture	4
Choose one of the following lab science courses:		5
BI213Z		

CH223Z & CH229Z	General Chemistry III and General Chemistry III Laboratory	
G203	Principles of Historical Geology	
PH203	General Physics III	
PH213	General Physics with Calculus III	
BI212	Principles of Biology II	
Students who complete CH221Z/CH227Z and BI211Z should take BI212Z for their third lab science.		
Electives, if needed to reach 90 credits (MTH253Z or MTH261 recommended if transferring to PSU)		6
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>90</b>

## Transfer Schools

- Portland State University (<https://www.pdx.edu/computer-science/>)
- Oregon State University (<http://eecs.oregonstate.edu/academics/undergraduates/computer-science/>)
- University of Oregon (<https://cs.uoregon.edu/>)