COMPUTER SCIENCE, ASSOCIATE OF SCIENCE TRANSFER

Are you fascinated by the thought of fortifying cybersecurity defenses, developing the next viral video game, or leveraging technology to solve real-world problems? If so, you're in the right place! Our Associate of Science Transfer in Computer Science (AST-CS) program is your stepping stone to these exciting career paths and more. Developed within the Oregon Major Transfer Map (MTM) framework, this program ensures you can transfer seamlessly to one of Oregon's public universities to complete a Bachelor of Science in Computer Science. Kick-starting your computer science journey with us allows you to save substantially on tuition costs, enabling you to transfer to your desired university as a junior with just a two-year path to completing your bachelor's degree.

We offer two specialized tracks tailored to your transfer university choices: one for students leaning towards Oregon State University, Portland State University, or the University of Oregon, and another for those eyeing Eastern Oregon University, Southern Oregon University, or Western Oregon University. The best part? You don't have to make this decision until your second year, giving you ample time to explore your interests and consult with advisors. So, why wait? Unlock a world of possibilities in computer science and set the stage for an impactful and fulfilling career.

GRADUATION REQUIREMENTS

Complete a minimum of 90 credit hours with a cumulative Grade Point Average (GPA) of 2.0 or better. All courses must be completed with a grade of 'C' or better. Twenty-four (24) credits must be completed at Southwestern before the degree is awarded. Students must have earned a cumulative grade point average of 2.0 and meet the residency requirements at the college.

Students must complete the graduation application process one term prior to the term of completion (e.g., spring term graduates must apply during winter term).

CORE TRANSFER MAP (CTM) REQUIREMENTS

All courses must be completed with a grade of 'C' or better.

WRITING

Code	Title	Credits
WR121Z	Composition I	4

Note: Information Literacy is included through embedding the appropriate content and analytical activity in courses that count toward the writing Foundational Requirement.

MATHEMATICS

Select **two** of the following courses:

Code	Title	Credits
MTH111Z	Precalculus I: Functions	4
MTH112Z	Precalculus II: Trigonometry	4
MTH251	Calculus I Differential Calculus	4
MTH252	Calculus II Integral Calculus	4

NATURAL SCIENCES

Select the first **TWO** courses from **ONE** of the following sequences:

OSU/PSU/UO Track:

Choose a course sequence in Physics, Chemistry, or Biology.

Code	Title	Credits
PH201	General Physics I: Mechanics	5
PH202	General Physics II: Heat, Waves, Relativity	5
PH203	Gen Physics III: Elect & Magnetism	5
OR		
PH211	General Physics with Calculus I	5
PH212	General Physics with Calculus II	5
PH213	General Physics with Calculus III	5
OR		
CHEM221	General Chemistry I	5
CHEM222	General Chemistry II	5
CHEM223	General Chemistry III	5
OR		
CHEM221	General Chemistry I	5
BI201	Introductory Biology	4
BI202	Introductory Biology	4
OR		
BI201	Introductory Biology	4
BI202	Introductory Biology	4
BI203	Introductory Biology	4
OR		
G201	Physical Geology I	4
G202	Physical Geology II	4
G203	Historical Geology	4

EOU/SOU/WOU Track:

Code	Title	Credits
Any Two Lab Science Courses		8-10

ARTS AND LETTERS

Choose any two (2) courses:

Only second year foreign language courses fulfill the Arts and Letters category.

Code	Title	Credits
ART115	Basic Design I Intro to Elements of Art and Principles of Design	4
ART116	Basic Design II, Color Theory	4
ART117	Basic Design III, Intro to 3D Desgn	4
ART131	Introduction to Drawing I	3

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ART132	Introduction to Drawing II	3
ART133	Introduction to Drawing III	3
ART191	Beginning Sculpture	3
ART192	Beginning Sculpture	3
ART204	History of Western Art: Introduction to Art History	3
ART205	History of Western Art: Introduction to Art History	3
ART206	History of Western Art: Introduction to Art History	3
ART244	Bronze Casting	3
ART253	Ceramics I	3
ART256	Ceramics II	3
ART281	Painting I Beginning	3
ART282	Painting II Beginning	3
ART283	Painting III Beginning	3
ART284	Painting I Intermediate	3
ART285	Painting II Intermediate	3
ART286	Painting III Intermediate	3
ASL201	2nd Yr American Sign Language I	4
ASL202	2nd Yr American Sign Language II	4
ASL203	2nd Yr American Sign Language III	4
COMM100Z	Introduction to Communication	4
COMM111Z	Public Speaking	4
COMM218Z	Interpersonal Communication	4
COMM219	Small Group Discussion	4
COMM220	Gender And Communication	4
ENG104Z	Introduction To Literature: Fiction	4
ENG105Z	Introduction To Literature: Drama	4
ENG106Z	Introduction To Literature: Poetry	4
ENG107	World Literature	3
ENG108	World Literature	3
ENG109	World Literature	3
ENG201	Shakespeare	3
ENG204	Survey of English Literature	3
ENG205	Survey of English Literature	3
ENG206	Survey of English Literature	3
ENG253	Survey of American Literature	3
ENG254	Survey of American Literature	3
ENG255	Survey of American Literature	3
HUM204	World Mythology & Religion	3
HUM205	World Mythology & Religion	3
HUM206	World Mythology & Religion	3
MUS101	Music Fundamentals	3
MUS111	Music Theory I	3
MUS112	Music Theory II	3
MUS113	Music Theory III	3
MUS201	Intro to Music and its Literature	3
MUS202	Intro to Music and its Literature	3
MUS203	Intro to Music and its Literature	3
MUS205	Intro to Jazz History	3
MUS206	Intro to History of Rock and Roll	3
MUS211	Advanced Music Theory I	3
MUS212	Advanced Music Theory II	3
MUS213	Advanced Music Theory III	3
PHL101	Introduction to Philosophy: Philosophical Problems	3
PHL102	Ethics	3
PHL103	Intro to Logic and Critical Thnkg	3
PHL211	Existentialism	3
SPAN201	Second Year Spanish	4
SPAN202	Second Year Spanish	4
SPAN203	Second Year Spanish	4
WR241	Imaginative Creative Writing Fiction	3
WR242	Imaginative Writing Poetry	3
WR243	Imaginative Writing Explorations	3

SOCIAL SCIENCES

Choose any two (2) courses:

Code	Title	Credits
ANTH201	Physical Anthropology and Evolution	3
ANTH202	Introduction to Archaeology	3
ANTH203	Language and Culture	3
ANTH221	Intro to Cultural Anthropology	3
ANTH222	Cultural Anthropology II	3
ANTH223	Cultural Anthropology III	3
ANTH224	Intro to Medical Anthropology	3
ANTH230	Native North Americans: Oregon	3
ANTH231	Native North Americans: PNW	3
ANTH232	Native North Americans	3
CJ101	Intro to Criminology	4
ED169	Overview of Student Special Needs	3
ED258	Multicultural Education	3
GEOG105	Cultural Geography	3
HDFS140	Contemporary American Families	3
HDFS222	Understanding Families: Supporting Diversity Disability and Risk	3
HDFS229	Child Development PreK - Adolescent	3
HDFS247	Child Development 0-8	3
HST101	History of Western Civilization	3
HST102	History of Western Civilization	3
HST103	History of Western Civilization	3
HST104	History of the Middle East	3
HST195	History of the Vietnam War	3
HST201	History of the United States	3
HST202	History of the United States	3
HST203	History of the United States	3
HST240	Hist of Oregon and the South Coast	3
PS201	American Government: Political Institutions	3
PS202	American Government: Policy Issues	3
PS203	Local Politics and Government	3
PS205	International Relations: US Foreign Policy in the 20th Century	3
PSY100	Introduction to Psychology	4
PSY201Z	General Psychology	4

PSY202Z	General Psychology	4
PSY203	General Psychology	3
PSY216	Social Psychology	3
PSY228	Introduction to Social Science Research	3
PSY231	Human Sexuality	3
PSY237	Life Span Development	3
PSY239	Introduction to Abnormal Psychology	3
PSY243	Drugs and Behavior	3
SOC204	Introduction to Sociology	3
SOC205	Social Institutions and Change	3
SOC206	Social Problems and Issues	3
SOC208	Sociology of Sport	3
SOC210	Marriage and Family	3
SOC213	Racial and Ethnic Relations	3
SOC218	Sociology of Gender	3

CULTURAL LITERACY

Students are required to complete at least one (1) course from any of the above discipline studies that meets the statewide criteria for cultural literacy. SWOCC offers these courses that satisfy the Cultural Literacy requirement.

Code	Title	Credits
ANTH201	Physical Anthropology and Evolution	3
ANTH202	Introduction to Archaeology	3
ANTH203	Language and Culture	3
ANTH221	Intro to Cultural Anthropology	3
ANTH222	Cultural Anthropology II	3
ANTH223	Cultural Anthropology III	3
ANTH224	Intro to Medical Anthropology	3
ANTH230	Native North Americans: Oregon	3
ANTH231	Native North Americans: PNW	3
ANTH232	Native North Americans	3
ED258	Multicultural Education	3
ENG107	World Literature	3
ENG108	World Literature	3
ENG109	World Literature	3
GEOG105	Cultural Geography	3
HDFS140	Contemporary American Families	3
HUM204	World Mythology & Religion	3
HUM205	World Mythology & Religion	3
HUM206	World Mythology & Religion	3
HST104	History of the Middle East	3
MUS205	Intro to Jazz History	3
MUS206	Intro to History of Rock and Roll	3
PSY216	Social Psychology	3
PSY231	Human Sexuality	3
SOC208	Sociology of Sport	3
SOC210	Marriage and Family	3
SOC213	Racial and Ethnic Relations	3

SOC218	Sociology of Gender	3
COMM220	Gender And Communication	4

COMPUTER SCIENCE MAJOR TRANSFER MAP (MTM) REQUIREMENTS - EOU/SOU/WOU

All courses must be completed with a grade of 'C' or better.

COMPUTER SCIENCE SPECIFIC COURSES (TOTAL OF 16 CREDITS):

Code	Title	Credits
CS160	Introduction To Computer Science	4
CS161	Computer Science I	4
CS162	Computer Science II	4
CS260	Data Structures	4

WRITING SPECIFIC COURSES:

Code	Title	Credits
WR122Z	Composition II	4

COMMUNICATION SPECIFIC COURSES:

Code	Title	Credits
COMM111Z	Public Speaking	4

MATHEMATICS SPECIFIC COURSES:

Complete the following courses (if not completed as part of the CTM):

Code	Title	Credits
MTH251	Calculus I Differential Calculus	4
MTH252	Calculus II Integral Calculus	4

ELECTIVES

Should Bring total credits to 90.

COMPUTER SCIENCE MAJOR TRANSFER MAP (MTM) REQUIREMENTS - OSU/PSU/UO

All courses must be completed with a grade of 'C' or better.

COMPUTER SCIENCE SPECIFIC COURSES (TOTAL OF 20 CREDITS):

Code	Title	Credits
CS160	Introduction To Computer Science	4
CS161	Computer Science I	4
CS162	Computer Science II	4
CS260	Data Structures	4
CS205	System Programming & Architecture	4

NATURAL SCIENCES

Complete sequence started under the Core Transfer Map (the third class listed for each sequence).

WRITING SPECIFIC COURSES:

Code	Title	Credits
WR227Z	Technical Writing	4

COMMUNICATION SPECIFIC COURSES:

Code	Title	Credits
COMM111Z	Public Speaking	4

MATHEMATICS SPECIFIC COURSES:

Complete the following courses (if not completed as part of the CTM):

Code	Title	Credits
MTH251	Calculus I Differential Calculus	4
MTH252	Calculus II Integral Calculus	4

ELECTIVES

Should Bring total credits to 90.

ELECTIVES

- Students must take college-level Lower Division science courses above 100-Level that would bring total credits to 90.

- All courses must be completed with a grade of 'C' or better.

- A maximum of nine (9) credits of PE185 sport/activity courses may be applied to the AST-CS degree.

- Three (3) credit hours of PE185 sport/activity courses may be granted toward the AST-CS for completion of military basic training. A copy of the military transcript or DD-214 is required.

- Courses numbered 199/299 will qualify as elective credit only.

- A maximum of 45 credits is allowed for basic, developmental, or supportive courses under federal financial aid guidelines.

STUDENT PROGRAM LEARNING OUTCOMES

COMPUTER SCIENCE MAJOR OUTCOMES

- Develop software using both structured and object-oriented paradigms that meets the requirements of a written specification;
- Explain the software development life cycle and the specific tools and processes used to create software; **and**
- 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.

ARTS & LETTERS

- Interpret and engage in the Arts & Letters, making use of the creative process to enrich the quality of life; **and**
- Critically analyze values and ethics within a range of human experience and expression to engage more fully in local and global issues.

CULTURAL LITERACY

- Identify and analyze complex practices, values, and beliefs and the culturally and historically defined meanings of difference.

MATHEMATICS

- Use appropriate mathematics to solve problems; **and**
- Recognize which mathematical concepts are applicable to a scenario, apply appropriate mathematics and technology in its analysis, and then accurately interpret, validate, and communicate the results.

SOCIAL SCIENCE

- Apply analytical skills to social phenomena in order to understand human behavior; **and**
- Apply knowledge and experience to foster personal growth and better appreciate the diverse social world in which we live.

SPEECH/ORAL COMMUNICATION

- Engage in ethical communication processes that accomplish goals;
- Respond to the needs of diverse audiences and contexts; **and**
- Build and manage relationships.

WRITING

- Read actively, think critically, and write purposefully and capably for academic and, in some cases, professional audiences;
- Locate, evaluate, and ethically utilize information to communicate effectively; **and**
- Demonstrate appropriate reasoning in response to complex issues.

INFORMATION LITERACY

- Formulate a problem statement;
- Determine the nature and extent of the information needed to address the problem;
- Access relevant information effectively and efficiently;
- Evaluate information and its source critically; **and**
- Understand many of the economic, legal, and social issues surrounding the use of information.

SCIENCE OR COMPUTER SCIENCE

- Gather, comprehend, and communicate scientific and technical information in order to explore ideas, models, and solutions and generate further questions;
- Apply scientific and technical modes of inquiry, individually, and collaboratively, to critically evaluate existing or alternative explanations, solve problems, and make evidence-based decisions in an ethical manner; **and**
- Assess the strengths and weaknesses of scientific studies and critically examine the influence of scientific and technical knowledge on human society and the environment.

RECOMMENDED PROGRAM SCHEDULE

The OSU/PSU/UO and EOU/SOU/WOU tracks both have the same schedule for the first year to allow students time to decide on their preferred transfer university before committing to a track. **Students who are undecided on a transfer university in the second year should complete the OSU/PSU/UO track. Please work with your advisor to determine courses.**

FIRST YEAR (OSU/PSU/UO AND EOU/SOU/WOU TRACKS)

Course	Title	Credits
First Year		
Fall		
CS160	Introduction To Computer Science	4
MTH111Z	Precalculus I: Functions	4
WR121Z	Composition I	4
Arts and Letters Course [1]		3-4
	Credits	**15-16**
Winter		
CS161	Computer Science I	4
MTH112Z	Precalculus II: Trigonometry	4
COMM111Z	Public Speaking	4
Social Science Course [1]		3-4
	Credits	**15-16**
Spring		
CS162	Computer Science II	4
MTH251	Calculus I Differential Calculus	4
Arts and Letters Course [1]		3-4
Social Science Course [1]		3-4
	Credits	**14-16**
	Total Credits	**44-48**

SECOND YEAR (OSU/PSU/UO TRACK)

Course	Title	Credits
Second Year		
Fall		
MTH231	Elements of Discrete Mathematics I	4
WR227Z	Technical Writing	4
Elective		3-4
PH211	General Physics with Calculus I (Science Course)	4-5
or CHEM221	or General Chemistry I	
or BI201	or Introductory Biology	
	Credits	**15-17**
Winter		
MTH232	Elements of Discrete Mathematics II	4
MTH252	Calculus II Integral Calculus	4
CS260	Data Structures	4
PH212	General Physics with Calculus II (Science Course)	4-5
or CHEM222	or General Chemistry II	
or BI202	or Introductory Biology	
	Credits	**16-17**
Spring		
CS205	System Programming & Architecture	4
Elective [1]		3-4
Elective [1]		3-4
PH213	General Physics with Calculus III (Science Course)	4-5
or CHEM223	or General Chemistry III	
or BI203	or Introductory Biology	
	Credits	**14-17**
	Total Credits	**45-51**

[1] Most universities have specific recommendations for elective courses that will streamline degree completion at their institutions. Consult with an advisor for guidance on selecting electives.

SECOND YEAR (EOU/SOU/WOU TRACK)

Course	Title	Credits
Second Year		
Fall		
WR122Z	Composition II	4
Elective [1]		3-4
Elective [1]		3-4
Science 1 (any lab science)		4-5
	Credits	**14-17**
Winter		
MTH252	Calculus II Integral Calculus	4
CS260	Data Structures	4
Elective [1]		3-4
Science 2 (any lab science)		4-5
	Credits	**15-17**
Spring		
Elective [1]		3-4
Elective [1]		3-4
Elective [1]		3-4
Elective [1]		3-4
	Credits	**12-16**
	Total Credits	**41-50**

[1] Most universities have specific recommendations for elective courses that will streamline degree completion at their institutions. Consult with an advisor for guidance on selecting electives.