Catalog: 2026-2027 University of Wyoming Catalog
Program: Computer Science, B. S.

Express Transfer Agreement (ETA) with
Central Wyoming College

Computer Science, B. S.

A state-of-the-art curriculum that provides a solid foundation in programming, algorithm design and analysis, cybersecurity, databases, and computer systems. Elective topics include: AI, ML, AR/VR, and Mobile apps.

Accreditation

This B.S. program is accredited by the CAC Accreditation Commission of ABET, under the commission's General Criteria and Program Criteria for Computing Programs.

Degree Requirements

The degree requires 120 credits, 42 of which must be upper-division.

University Studies Program

This degree requires that The University Studies Program 2015 requirements are met before graduation. Some of the courses required for this major fulfill USP requirements, but not all. Students should check their degree evaluations and consult with their assigned academic advisor to discuss their specific course plan.

Course Name	Credits	UW Course in Major	AA/AS/AB/ADN satisfies this USP
C 1-Communication 1 (COM1)	3		X
C 2-Communication 2 (COM2)	3		X
C 3-Communication 3 (COM3)	3	(Must be completed at UW)	
Q-Quantitative Reasoning (Q)	3		X
PN-Physical and Natural World (1) (PN)	3		X
PN-Physical and Natural World (2) (PN)	3		X
H-Human Culture (1) (H)	3		X
H-Human Culture (2) (H)	3		X
V-US & WY Constitution (V)	3		X
FYS or USP Elective-Any 3-credit hour of FYS or 3-credit hours of USP electives	3		X

Note: FYS courses have been paused. 3 hours from any additional USP designated courses is still required.

Computer Science General Information

Computer Science majors must satisfactorily meet the requirements of the University Studies Program (USP), and they must complete a minimum of 120 credit hours, at least 42 of which must be upper division hours.

Note that some of the courses required for the Computer Science core or the concentrations will meet some of the USP requirements. Students do not have to take additional courses to meet those requirements.

All courses in Computer Science, Mathematics, and Statistics must be completed with a grade of C or better.

Math and Science Courses

Course Name	Credits	Central Wyoming College	Sequencing at CWC
MATH 2200 - Calculus I Q	4	MATH 2200 Calculus I	Spring 1st Year
MATH 2205 - Calculus II Q	4	MATH 2205 Calculus II	Fall 2nd Year
MATH 2250 - Elementary Linear Algebra	3	MATH 2250 Elementary Linear Algebra	Fall 2nd Year
STAT 2050 - Fundamentals of Statistics Q	4	STAT 2050 Fundamentals of Statistics	Spring 2nd Year
COSC/MATH 2300 - Discrete Structures	3	COSC/MATH 2300 Discrete Structures	Spring 2nd Year

Approved Science course - 4 credits
Approved Science course - 4 credits
Approved Math/Science Elective - 4 credits

Course Name	Credits	Central Wyoming College	Sequencing at CWC
Approved Science Course	4	See table below	
Approved Math/Science Course	4	See table below	MATH 2210 Spring 2nd Year

ABET requires a minimum of 30 Math/Science credit hours.
Math elective means any MATH course above Calculus II or STAT courses 3000 and up.
Exceptions: cannot count MATH 2350, MATH 2355, MATH 4000, STAT 4220 [Inactive] or any variable credit courses toward this requirement.
Courses meeting the Science requirement must have a lab component and be for science or engineering majors. See Department web pages for a current list of approved courses.

Computer Science Courses

Course Name	Credits	Central Wyoming College	Sequencing at CWC
COSC 1010 - Computational Thinking and Programming	3	COSC 1010 Intro to Computer Science I	Spring 1st Year
COSC 1030 - Computer Programming	4	COSC 1030 Computer Science I:	Fall 2nd Year
COSC 2030 - Data Structures	4	COSC 2030 Computer Science II	Spring 2nd Year
COSC/EE 2150 - Computer Organization	3		

Course Name	Credits	
COSC 3011 - Introduction to Software Design	3	UW Course
COSC 3015 - Functional Programming	3	UW Course
COSC 3020 - Algorithm Design and Analysis	4	UW Course
COSC 3050 - Ethics for the Computer Professional	1	UW Course
COSC 3765 - Computer Security	3	UW Course

Theory Course - Choose one of:

Course Name	Credits	
COSC 4100 - Foundations of Computing	3	UW Course
COSC 4200 - Computability and Complexity	3	UW Course

Operating Systems Course - Choose one of:

Course Name	Credits	
COSC 4740 - Operating Systems Design	4	UW Course
COSC 3750 - Linux Programming for System Applications	3	UW Course

Programming Language Course - Choose one of:

Course Name	Credits	
COSC 4780 - Principles of Programming Languages	3	UW Course
COSC 4785 - Compiler Construction	3	UW Course

Systems Course - Choose one of:

Course Name	Credits	
COSC 4760 - Computer Networks	3	UW Course
COSC 4820 - Database Systems	3	UW Course

Additional Courses –

Course Name	Credits	
COSC 4950 - Senior Design I	1	UW Course
OSC 4955 - Senior Design II	2	UW Course

Electives

9 credits of COSC Electives (3000-level or above, not used to complete any other requirement)
General Electives to reach 120 credits.
Only 3 credit hours of COSC 3970 (or COMP 4950 or COMP 4975) can be used for the computer science degree.

Approved EE courses may also be taken as COSC electives. See Department web pages for a current list of approved courses.

General electives include any course at or above the 1000 level, not used to complete any other requirement.

Electives should be selected to meet the 42 hour requirement for Upper Division credits.

Computer Science Program Educational Objectives

The following are the objectives that the Computer Science program is preparing its graduates to achieve:

- Success: Graduates will be employed in a computer science-related field or making progress toward an advanced graduate degree.
- Growing: Graduates show continued learning and leading in computing-related professions.
- Ethics: Graduates exhibit ethical and responsible behavior in all professional and community endeavors.

Computer Science - Student Learning Outcomes

The program of study in Computer Science enables students to achieve, by the time of graduation:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

Notes

COURSE SUBSTITUTIONS: WyoTAGs reflect published equivalencies. UW academic departments occasionally arrange for course substitutions when indirect equivalencies exist. Please contact your UW Academic Advisor for details.

EFFECTIVE DATE: This document is in effect as of the 2026-2027 catalog year; it reflects the published UW curriculum as of that date. Any changes to the UW curriculum or the WYCC course equivalents will require this document to be updated. To request an updated document, faculty should contact transfer@uwyo.edu via email.

Approved Science Elective list for Computer Science:

Course Name	Credits	Central Wyoming College
ANTH 1100 Intro Biological Anthropology	4	ANTH 1100 Introduction Biological Anthropology
ASTR 1050 Survey of Astronomy	4	ASTR 1050 Survey of Astronomy
ASTR 2310 General Astronomy I	4	
ASTR 2320 General Astronomy II	4	
ATSC 2000 Intro to Meteorology	4	ATSC 2000 Introduction to Meteorology
CHEM 1020 Gen Chemistry I	4	CHEM 1020 General Chemistry I
CHEM 1030 Gen Chemistry II	4	CHEM 1030 General Chemistry II
ESS/GEOL 2000 Geochemical Cycles & Earth Sys	4	
GEOL 1100 Physical Geology	4	GEOL 1100 Physical Geology
LIFE 1010 General Biology	4	BIOL 1010 General Biology I
LIFE 2022 Animal Biology	4	BIOL 2022 Animal Biology
LIFE 2023 Biology of Plants and Fungi	4	
PHYS 1110 Gen Physics I	4	PHYS 1110 General Physics I
PHYS 1120 Gen Physics II	4	PHYS 1120 General Physics II
PHYS 1210 Engr Physics I	4	
PHYS 1220 Engr Physics II	4	
PLNT 1000 Agroecology	4	AECL 1000 Agroecology
SOIL 2010 Intro To Soil Science	4	SOIL 2010 Intro to Soil Science

Approved Math/Science Elective for Computer Science
Must total a combined minimum of 30–32 credits for the entire degree. A math elective must be a MATH course above Calculus II (above MATH 2205) or a STAT course numbered 3000 or higher. Excluded courses that *do not* count include MATH 2350, MATH 2355, MATH 4000, or STAT 4220.

Course Name	Credits	Central Wyoming College
MATH 2210 - Calculus III	4	MATH 2210 Calculus III
MATH 2250 - Elementary Linear Algebra	4	MATH 2250 Elementary Linear Algebra
MATH 2300 - Discrete Structures	4	MATH 2300 Discrete Structures
MATH 2310 - Applied Differential Equations I	4	MATH 2310 Applied Differential Equations I
MATH 2350 - Business Calculus	4	MATH 2350 Business Calculus
MATH 2355 - Math Applications for Business	4	MATH 2355 Math Applications for Business

Central Wyoming College Computer Science, A.S. Requirements:

First Year at CWC: Fall Semester

Course Name	Credits
ENGL 1010 English Composition I	3
COMM 2010 Public Speaking	3
POLS 1000 American & Wyoming Government	3
UNST 1005: Student Success Course	1
GENED ARTS/HUM/SOC	3
Gen Ed LSCI	4

First Year at CWC: Spring Semester

Course Name	Credits
MATH 2200 Calculus I	5
COSC 1010 Computational Think and Prog	4
PHYS 1320 College Physics II	4
GENED WR2: WR2 General Education Req	3

Second Year at CWC: Fall Semester

Course Name	Credits
MATH 2205 Calculus II	5
MATH 2250 Elementary Linear Algebra	3
COSC 1030 Computer Science I	4
GENED ARTS/HUM/SOC	3

Second Year at CWC: Spring Semester

Course Name	Credits
COSC 2030 Computer Science II	4
STAT 2050 Fundamentals of Statistics	4
MATH 2210 Calculus III	5
HMDV 2411 Graduate Assessment Requirement	0
MATH/SOSC 2300 Discrete Structures	3