

Computer Science, BS



University of Wyoming, 2017-18

Freshman Fall Semester				Hrs	Min	Grade	Notes
USP First-Year Seminar				3			FY
COSC	1010	Introduction to Computer Science ^ *		4		C	
MATH	2200	Calculus I ^ **		4		C	Q
Science Series I ^ ***				4			PN
Credit hours subtotal:				15			

Freshman Spring Semester				Hrs	Min	Grade	Notes
USP Communication I				3		C	C1
COSC	1030	Computer Science I ^		4		C	
MATH	2205	Calculus II ^		4		C	
Science Series II ^ ***				4			PN
Credit hours subtotal:				15			

Sophomore Fall Semester				Hrs	Min	Grade	Notes
USP Communication 2				3		C	C2
USP Human Culture				3			H
COSC	2030	Computer Science II ^		4		C	
COSC	2150	Computer Organization ^		3		C	
COSC	2300	Discrete Structures ^		3		C	Cross listed with MATH 2300.
Credit hours subtotal:				16			

Sophomore Spring Semester				Hrs	Min	Grade	Notes
USP Human Culture				3			H
COSC	3011	Introduction to Software Design ^		3		C	
COSC	3020	Algorithms and Data Structures ^		4		C	
Math Elective I ****				3		C	
Elective				3			
Credit hours subtotal:				16			

This is a guide for course work in the major; actual course sequence may vary by student. Please refer to the online student degree evaluation, and consult with an academic advisor. • Not all courses are offered every semester and some electives may have prerequisites. Students should review the course descriptions in the *University Catalog* and consult with their academic advisor to plan accordingly.

University of Wyoming requirements:

Students must have a minimum cumulative GPA of 2.0 to graduate. • Students must complete 42 hours of upper division (3000-level or above) coursework, 30 of which must be from the University of Wyoming. • Courses must be taken for a letter grade unless offered only for S/U. • University Studies Program (USP) Human Culture (H) and Physical & Natural World (PN) courses must be taken outside of the major subject, but can be cross-listed with the major.

College of Engineering and Applied Science requirements:

Students must have a minimum cumulative GPA of 2.0 in all Engineering courses for graduation. • A grade of C or higher is required for all prerequisite courses. Students must also achieve a grade of C or better in all required mathematics courses.

Computer Science Program Notes:

All computer science, math, and statistics courses must be completed with a grade of C or better. A grade of C- is not acceptable.

^ Computer Science core courses.

* Requires MATH ACT ≥ 25 , MATH SAT ≥ 600 , Math Placement Exam ≥ 4 , or $\geq C$ in MATH 1400 within one year prior to the start of the course. (University standard)

** Requires MATH ACT ≥ 27 , MATH SAT ≥ 600 , Math Placement Exam ≥ 5 , or $\geq C$ in MATH 1405 or 1450. (University standard)

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Junior Fall Semester				Hrs	Min Grade	Notes
USP US & Wyoming Constitutions				3		V
COSC	3015	Functional Programming	3	C		
COSC	4740	Operating Systems Design	4	C		
Computer Science Elective I *****				3	C	
Science Elective I ^ *****				4		
Credit hours subtotal:				17		

Junior Spring Semester				Hrs	Min Grade	Notes
COSC	3050	Ethics for the Computer Professional ^	1	C		
Computer Science Elective II *****				3	C	
Math Elective II *****				3	C	
Science Elective II ^ *****				4	C	
Upper Division Elective				3		
Credit hours subtotal:				14		

Senior Fall Semester				Hrs	Min Grade	Notes
USP Communication III				3	C	C3
COSC	4950	Senior Design I ^	1	C		
STAT	4220	Basic Engineering Statistics	3	C		Can substitute STAT 2010 (Statistical Concepts), STAT 2050 (Fund of Statistics), or STAT 2070 (Intro Stats for the Social Sciences).
Computer Science Systems Course				3	C	Choose from COSC 4760 (Computer Networks) or COSC 4820 (Database Systems).
Computer Science Theory Course				3	C	Choose from COSC 4100 (Foundations of Computing) or COSC 4200 (Computability & Complexity).
Credit hours subtotal:				13		

Senior Spring Semester				Hrs	Min Grade	Notes
COSC	4955	Senior Design II ^	2	C		
Computer Science Programming Language				3	C	Choose from COSC 4780 (Prin of Programming Language) or COSC 4785 (Compiler Construction).
Computer Science Elective III *****				3	C	
Computer Science Elective IV *****				3	C	
Upper Division Elective				3		
Credit hours subtotal:				14		

TOTAL CREDIT HOURS: 120

Computer Science Program Notes con't:

*** **Science Series I & II.** Students must complete two courses from a tightly-coupled series, each of which has a lab component and recommended for science or engineering majors. Be aware that the first course in each series has a Math Placement Exam or course prerequisite requirement; please consult the course descriptions in the *University Catalog* for specific information. Courses can be selected from:

- CHEM 1020 (General Chemistry I) & CHEM 1030 (General Chemistry II)
- CHEM 1050 (Advanced General Chemistry I) & CHEM 1060 (Advanced General Chemistry II)
- LIFE 1010 (General Biology I) & LIFE 2022 (Animal Biology) *or* LIFE 2023 (Biology of Plants & Fungi)
- PHYS 1110 (General Physics I) & PHYSY 1120 (General Physics II)
- PHYS 1210 (Engineering Physics I) & PHYS 1220 (Engineering Physics II)
- PHYS 1310 (College Physics I -) & PHYS 1320 (College Physics II)

**** **Math Elective I & II.** A total of six (6) additional hours of math course work is required. Students must choose math courses above Calculus II or statistics courses 3000-level or above. **Exceptions:** MATH 2350 (Business Calculus), MATH 2355 (Mathematical Applications for Business), MATH 4000 (History of Mathematics), or any variable length credit courses cannot be counted toward this requirement

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***** **Computer Science Electives.** A total of 12 hours of upper division (3000-level or above) computer science electives are required. A maximum of three (3) hours of COSC 3970 (Internship) can be included in this requirement.

***** **Science Electives.** Please see the Computer Science Department web page www.uwyo.edu/cosc/undergraduate_students/cosc_degree/ for a current list of approved courses. These course selections must have a lab component and be recommended for science or engineering majors.