COMPUTER SCIENCE, BSCS
Big Data Concentration

FALL / SPRING

FRESHMAN YEAR

Course number	Course Title	UAP	CR	Min Grade	Grade	Course Number	Course Title	USP	CR	Min Grade	Grade
COSC 1010	Intro to Comp Science		3	C		COSC 1030	Computer Science I		4	C	
						Prerequisite:	C in COSC 1010				
MATH 2200	Calculus I	Q	4	C		MATH 2205	Calculus II	Q	4	C	
Prerequisite:	C in Math 1405 or 1450, MPE 5, Math ACT 27, Math SAT 640					Prerequisite:	C in Math 2200				
	Science Elective- see list	PN	4	D			Science Elective- see list	PN	4	D	
	USP: First Year Seminar	FYS	3	C			USP: Communications I	C1	3	C	
	Total		**14**				**Total**		**15**		

SOPHOMORE YEAR

Course number	Course Title	UAP	CR	Min Grade	Grade	Course Number	Course Title	USP	CR	Min Grade	Grade
COSC 2150	Computer Organization		3	C		COSC 3011	Intro to Software Design		3	C	
Prerequisite:	C in COSC 1030					Prerequisite:	C in COSC 2030				
COSC 2030	Computer Science II		4	C		COSC 3020	Alg & Data Structures		4	C	
Prerequisite:	C in COSC 1030					Prerequisite:	C in COSC 2030 and COSC 2300				
COSC 2300	Discrete Structures		3	C		MATH 2250	Elementary Linear		3	C	
Prerequisite:	C in COSC 1030 and MATH 2200					Prerequisite:	C in Math 2200 or Math 2350				
	USP: Human Culture	H	3	D			USP: Human Culture	H	3	D	
One of:	STAT 2050 or STAT 2070		4	C			USP: Communications II	C2	3	C	
Prerequisite:	C in MATH 1400					Prerequisite:	C in C1				
	Total		**17**				**Total**		**16**		

JUNIOR YEAR

Course number	Course Title	UAP	CR	Min Grade	Grade	Course Number	Course Title	USP	CR	Min Grade	Grade
COSC 3015	Functional Programming		3	C		COSC 3050	Ethics for Computer Prof		1	C	
Prerequisite:	C in COSC 2030 and COSC 2300					Prerequisite:	Junior Standing, COSC Major				
COSC 4550	Intro to Artificial Intelligence		3	C		COSC 4570	Data Mining		3	C	
Prerequisite:	C in COSC 3020					Prerequisite:	C in COSC 4550				
COSC 3765	Computer Security		3	C		COSC	Theory Course (4100 or 4200)		3	C	
	C in COSC 2030					Prerequisite:	C in COSC 3020				
COSC	O/S Course (3750 or 4740)		3	C		COSC	Systems Course (4760 or 4820)		3	C	
Prerequisite:	Varies					Prerequisite:					
	STAT Minor Course(M/S Elec I)		3	C			STAT Minor Course(M/S Elec II)		3	C	
							General Elective		3	C	
	Total		**15**				**Total**		**16**		

SENIOR YEAR

Course number	Course Title	UAP	CR	Min Grade	Grade	Course Number	Course Title	USP	CR	Min Grade	Grade
COSC 4950	Senior Design I		1	C		COSC 4955	Senior Design II		2	C	
Prerequisite:	C in COSC 3011 and COSC 3020					Prerequisite:	C in COSC 4950				
COSC	Prog. Lang Course (4785 or 4780)		3	D		COSC 4555	Machine Learning		3	C	
Prerequisite:	Varies					Prerequisite:	C in COSC 3020				
COSC 4450	Computer Graphics		3	C			STAT Minor Course		3	C	
Prerequisite:	C in COSC 3020 and MATH 2250										
	USP: Communications III	C3	3	C			STAT Minor Course		3	C	
Prerequisite:	C in C2										
	USP: US & Wyo Const.	V	3	D			General Elective		3	C	
	Total		**13**				**Total**		**14**		

Fall only or spring only course

Total Program Credits: **120**

- A minimum of 120 hours is required. A minimum of 42 hours must be upper division. A minimum of 30 hours must be math/science.
- All COSC, MATH and STAT courses require a minimum grade of C.
- Students must simultaneously complete a Minor in Statistics
- General Electives cannot meet any other requirement for the major, and should be select to satisfy the 42-credit upper division requirement.
- Math/Science Electives must be selected with advisor's approval from Department list. Science courses must have a lab. Math courses must be at or above MATH 2205 or STAT 3000. Cannot count MATH 2350, MATH 2355, MTH 4000, STAT 4220 or any variable credit course. Four hours of Math/Science Electives are required. Two 3-credit STAT courses can also be used.
- Courses for requirements with options (Programming Language, Theory, O/S) are offered in alternating semesters. See your advisor for clarification.
- Degree candidates must meet the academic requirements of the university.
- Students may not take a course for S/U credit to satisfy any requirement for a degree from the College of Engineering and Applied Science, unless the course is offered for S/U credit only.

2022-2023 Catalog Year