

Computer Science Big Data Concentration, B.S.



University of Wyoming

Freshman Fall Semester			Hrs	Min Grade	Notes
COSC	1010	Introduction to Computer Science	4	C	
MATH	2200	Calculus I	4	C	
		Science Series I	4		Note 1
	1101	First Year Seminar	3		USP FYS requirement course, and department
Credit hours subtotal:			15		

Freshman Spring Semester			Hrs	Min Grade	Notes
COSC	1030	Computer Programming I	4	C	
MATH	2205	Calculus II	4	C	
		Science Series II	4		Note 1
		Communications Course I	3	C	USP COM1 requirement course
Credit hours subtotal:			15		

Sophomore Fall Semester			Hrs	Min Grade	Notes
COSC	2030	Computer Programming II	4	C	
COSC	2150	Computer Organization	3	C	
COSC	2300	Discrete Structures	3	C	Cross listed with MATH 2300
MATH	2250	Linear Algebra	3	C	
		Communications Course II	3		USP COM2 requirement course
Credit hours subtotal:			16		

Sophomore Spring Semester			Hrs	Min Grade	Notes
COSC	3011	Software Design	3	C	
COSC	3020	Algorithms and Data Structures	4	C	
STAT		Statistics Course	3	C	Note 2
		Humanities Course I	3		USP H requirement course
		Science Elective I	4		Note 3
Credit hours subtotal:			17		

Notes:

1. Must complete two course from a tightly-coupled series. Either CHEM 1020 & 1030 or CHEM 1050 & 1060 or PHYS 1110 & 1120 or PHYS 1210 & 1220 or PHYS 1310 & 1320 or LIFE 1010 & (2022 Or 2023). The CHEM, PHYS, and LIFE 1010 courses all meet the USP PN requirement. As this concentration requires an Application Course (see Note 7), the choice of the series courses can affect the Application Course prerequisites needed.
2. May take one of STAT 2010/2050/2070/4220.
3. See Department web pages for a current list of approved courses. If the USP PN requirement has not already been met, choose courses which are also approved for the USP PN.

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Junior Fall Semester			Hrs	Min Grade	Notes
COSC	4550	Intro to Artificial Intelligence	3	C	
COSC		Operating Systems Course	3	C	Note 4
STAT	3050	Statistical Methods	3	C	
		Science Elective II	4		Note 3
		US & Wyoming Constitution	3		USP V requirement course
Credit hours subtotal:			16		

Junior Spring Semester			Hrs	Min Grade	Notes
COSC	3050	Ethics for the Computer Professional	1	C	
COSC	4570	Data Mining	3	C	
COSC	4820	Databases	3	C	
STAT	4015	Regression Analysis	3	C	
		Humanities Course II	3		USP H requirement course
Credit hours subtotal:			13		

Senior Fall Semester			Hrs	Min Grade	Notes
COSC	4450	Graphics	3	C	
COSC	4555	Machine Learning	3	C	
COSC	4950	Senior Design I	1	C	
COSC		COSC Elective I	3	C	Note 5
STAT	4045	Categorical Data Analysis	3	C	
		Application Area Prerequisite			Note 6
Credit hours subtotal:			13		

Senior Spring Semester			Hrs	Min Grade	Notes
COSC	4955	Senior Design II	2	C	
COSC		COSC Elective II	3	C	Note 5
STAT	4115	Time Series Analysis & Forecasting	3	C	
		Communications Course III	3		USP COM3 requirement course
		Application Area Course	3		Note 7
Credit hours subtotal:			14		

TOTAL CREDIT HOURS: 119

Notes:

- Choose one of COSC 3750: Linux Programming or COSC 4740: Operating Systems or COSC 4750: Systems Programming.
- Total of 6 hours of Upper Division COSC electives. At most 3 hours of COSC 3970 (Internship) can be counted toward this requirement.
- May be needed depending on the Application Area course.
- Application Area Course is one of: MOLB 4495, BOT 4550, CHEM 4560, GEOG 4220, or PHYS 4830.