

## Data Science, B.S.

2023-24 Catalog

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The example four-year plan is designed to provide a blueprint for students to complete their degrees within four years. These plans include recommended sequences of courses. Individual plans will vary based on previously earned credit, such as Dual Enrollment and AP credit, as well as the student's academic goals. Students will work with an academic advisor to develop a more individualized plan to complete their degree.

This example four-year plan is applicable to students admitted during the 2023–24 academic year.

Total Credits Required: 120 credits

Notes:

Required GPA for Graduation: 2.0 (institutional)

Courses requiring a C or better are denoted with an asterisk (\*). Courses only offered in the fall semester are denoted with a plus sign (+). Courses only offered in the spring semester are denoted with a double-plus sign (++).

Legend is available on the last page of this document.

Year 1							
	Fall	Spring					
Course	Title	Hours	Area	Course	Title	Hours	Area
BIDS 1705	First-Year Academic Seminar	1		ENGL 1102	English Composition II	3	Α
ENGL 1101*	English Composition I (pre-req to ENGL 1102)	3	Α	CSCI 1302*	Computer Science II (pre-req to CSCI 3410 and 3680)	3	F
GC1Y 1000	Critical Thinking (pre-req to GC2Y 2000)	3	В	Core Area C	Fine Arts (student's choice)	3	С
CSCI 1301*	Computer Science I (pre-req to CSCI 1302 and 2351)	3	F	MATH 1261*	Calculus I (pre-req to MATH 1262 and 2150)	4	Cognate
MATH 1113*	Pre-Calculus (pre-req to MATH 1261, MATH 1401, and CSCI 3680)	4	А	MATH 1401*	Elementary Statistics (pre-req to CSCI 3710)	3	F
Semester Hours		14			Semester Hours	16	
	Area A and GC1Y 1000 must be co	mpleted b	v 30 ea	rned hours.		•	

First-Year Academic Seminar is a graduation requirement and impacts a student's GPA; however, it does not count toward

the minimum of 120 semester hours required for a degree.

Qualified students may start with MATH 1261: Calculus I in Area A. In that case, MATH 1261 will count as a pre-requisite to MATH 1401.

Year 2								
	Fall	Spring						
Course	Title	Hours	Area	Course	Title	Hours	Area	
CSCI 2351*+	Python Programming (pre-req to CSCI 3710)	3	F	CSCI 3410*	Intro to Data Structures (pre-req to CSCI 3710, 3711, 4520, and 4710)	3	CS	
MATH 1262*	Calculus II (pre-req to MATH 4600)	4	Cognate	CSCI 3680*	Discrete Structures (pre-req to CSCI 4520)	4	CS	
Core Area D	Science with Lab (student's choice)	4	D	CSCI 2810*++	IS/CS Professional Development	1	Cognate	
Core Area E	Social Science (student's choice)	3	Е	MATH 2150	Linear Algebra	3	Cognate	
				GC2Y 2000	Global Perspectives	4	В	
Semester Hours 14		14			Semester Hours	15		
Summer An additional professional internship is strongly encouraged.								
Notes:	Complete a concentration or a minor/major in any area (except computer science, math, or management information systems) <b>or</b> complete 3 courses with the same prefix from Emphasis Area electives (see catalog for options).  GC2Y 2000 must be taken between 30–59 earned hours.							

Year 3							
Fall				Spring			
Course	Title	Hours	Area	Course	Title	Hours	Area
CSCI 3710*+	Data Mining (pre-req to CSCI 4711)	3	CS	CSCI 3711*++	Data Analysis (pre-req to CSCI 4711)	3	CS
CSCI 4710*+	Databases	3	CS	CSCI 4711*++	Machine Learning (pre-req to CSCI 4712)	3	CS
CSCI 2811*+	IS/CS Career Preparation	1	Cognate	CSCI 2800*++	Social & Professional Issues	3	F
MATH 4100*+	Linear Regression (pre-req to CSCI 4712 and MATH 4700)	3	M&S	MATH 4600*++	Probability (pre-req to MATH 4700)	3	M&S
Core Area C	Humanities and Ethics (student's choice)	3	С	Emphasis* or Major Elective*	Emphasis area elective or major elective	3	Emphasis
Core Area E	Social Science (student's choice)	3	Е				
Semester Hours		16		Semester Hours		15	
Summer CSCI 4960: Internship (3 credit hours)							
Notes:	MATH 4100 and MATH 4600 are offered in even-numbered years only. Adjust schedule if Year 3 is odd-numbered. Either CSCI 3710 or CSCI 3711, with a grade of C or better, may be used as a pre-requisite to CSCI 4711. Some emphasis electives may be satisfed by Area D. In this case, students may take a major elective instead.						

Year 4							
Fall				Spring			
Course	Title	Hours	Area	Course	Title	Hours	Area
CSCI 4520*+	Analysis of Algorithms	3	CS	MATH 4700*++	Statistical Computing	3	M&S
CSCI 4712*+	Big Data Analysis	3	CS	Core Area E	Social Science (student's choice)	3	E
Core Area D	Science with Lab (student's choice)	4	D	Major Elective*	Major elective	3	Major
Emphasis*	Emphasis area elective	3	Emphasis	Emphasis*	Emphasis area elective	3	Emphasis
Gen Elective	Any general elective course	3	Elective	CSCI 4999* or MATH 4999*	Undergraduate Research	3	Capstone
	Semester Hours 16				Semester Hours	15	
MATH 4700 is offered in odd-numbered years only. Schedule will need to be adjusted if Year 4 is even-numbered. Either MATH 4100 or MATH 4600, with a grade of C or better, may be used as a pre-req to MATH 4700. Either MATH 4100 or MATH 4700, with a grade of C or better, may be used as a pre-req to CSCI 4712. General electives can be in any discipline and any level (1000–4999).							

	Legend				
Area	This section of the plan references the area of the curriculum the course fulfills.				
Α	Core Area A: Essential Skills				
В	Core Area B: Institutional Options				
С	Core Area C: Humanities, Ethics, and Fine Arts				
D	Core Area D: Science, Technology, and Math				
E	Core Area E: Social Sciences				
F	Core Area F: Major Directed Core Requirements				
CS	Computer Science Required Courses				
M&S	Mathematics and Statistics Required Courses				
Major	Data Science Major Electives. These are courses chosen as part of the major requirements.				
Emphasis	Emphasis Area Electives are courses required to complete a concentration or a minor/major in any area (except computer science, math, or management information systems) OR 3 courses chosen from the same prefix (as listed in the 2023–24 catalog). Some emphasis electives may be satisfied by the courses in Area D. In this case, students may take major electives instead.				
Elective	Course(s) a student selects. Hours are needed to meet overall graduation hours. Number of electives varies per major. Electives can be used towards GC Journeys, minors, concentrations, certificates, or professional/graduate school prerequisites, or to take courses of interest.				
Cognate	Cognate courses are required courses within a student's curriculum. These courses are connected to the major but may be from other academic disciplines.				