

Northwest Missouri State University Department of Humanities and Social Sciences Data Science GIS Emphasis Comprehensive Major - No Minor Required Bachelor of Science

48 Credit Hours in NW Core & IR* 76 Credit Hours in Data Sciences (GIS) 8 Credit Hours in General Electives 120 Credit Hours to Graduation

This Four-Year Plan is meant to supplement your **Degree Audit**. You should work with your academic advisor on a regular basis for individual academic planning.

This Four-Year Plan represents a Comprehensive major which needs no minor. General Electives will be needed to reach the **120 credit hours needed for graduation**. Advanced courses (300-level or higher) should be chosen with Advisor counseling.

*PHIL 39-275, ECON 52-150, MATH 17-114 and CSIS 44-101 fulfill both a NW Core requirement and a major requirement, but the number of credit hours counts only once toward the total number of hours needed for graduation.

Milestone courses are courses which, if not taken in the appropriate semester, can delay graduation. Milestone courses are denoted in yellow below.

Term 1	Course Title/Description	Prerequisite	Cr Hrs
77-101	University Seminar		1
10-111	Composition I	A grade of C or better in ENGL 10110, an ACT English subscore of 18 or higher, or successful placement challenge.	3
17-120	Calculus I	MATH 17117 with a minimum grade of C, or MATH 17118 and MATH 17119 with a minimum grade of C in both, or equivalent. ACT Math score of at least 27, or a high school GPA of 3.9 is recommended.	3
44-101	Foundations of Computing		3
44-155	Intro to Data Science & Data Mining		3
	Humanities NW Core Requirement		3
		Total Hours	16
Term 2	Course Title/Description	Prerequisite	Cr Hrs
10-112	Composition II	ENG 10-111	3
17-114	General Statistics	An ACT Math score of 22 or higher, high school GPA of 3.00 or higher, or a minimum grade of C in MATH 17082, or concurrent enrollment in MATH 17014.	3
29-102	Fundamentals of Oral Communication		3
44-141	Computer Programming I	2 units of high school algebra and either CSIS 44-101 OR CSIS 44-130 with a grade of C or better, or School Director's permission	3
	Social and Behavioral Sciences NW Core Requirement		3
		17082, or concurrent enrollment in MATH 17014. 2 units of high school algebra and either CSIS 44-101 OR CSIS 44-130 with a grade of C or better, or School Director's permission	15
Term 3	Course Title/Description	Prerequisite	Cr Hrs
32-201	Maps & Spatial Reasoning		3
17-316	Linear Stat Models I	A minimum grade of C in either MATH 17114 or MATH 17230, or consent of instructor.	3
44-241	Computer Programming II	CSIS 44-141 with a grade of C or better	3
17-311	Linear Algebra	MATH 17117 with a minimum grade of C, or MATH 17120 with a minimum grade of C.	3
	American History NW Core Requirement		3
		Total Hours	15



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Term 4	Course Title/Description	Prereguisite	Cr Hrs
		CSIS 44241, and MATH	
		17114 or MATH 17117 or MATH	
		17118 or MATH 17120 (or	_
44-242	Data Structures	concurrent enrollment), all with a	3
		grade of C or better, or consent of	
		instructor.	
04.400	Introduction to American Government &		2
34-102	Politics		3
17-318	Linear Stats Models II	A minimum grade of C in	3
54-313	Principles of Management	either MATH 17114 OR 17230.	3
04 010	Physical Science and Lab NW Core		
	Requirement		4
		Total Hours	16
Term 5	Course Title/Description	Prerequisite	Cr Hrs
10-220	Introduction to Literature		3
44-413	Visualization	MATH 17114 and CSIS 44141.	3
		MGMT 54313 and either CSIS	
44-317	Management Information Systems	44101 or CSIS 44130, each with a	3
		grade of C or better.	
52-150	Principles of Macroeconomics		3
32-365	Geographic Information Systems	GEOG 32201 or junior standing.	3
		Total Hours	15
Term 6	Course Title/Description	Prerequisite	Cr Hrs
39-275	Professional Ethics		3
		CSIS 44542 with a grade of B or	
44-460	Database Systems	better, or concurrent enrollment	3
		in CSIS 44542, or consent of	-
55.000	Drin sintes of Marketin s	instructor.	0
55-330	Principles of Marketing		3
32-362	Web Mapping	GEOG 32201 or taking concurrently.	3
	Fine Arts NW Core Requirement	Tatalllauma	3
		Total Hours	15
Term 7	Course Title/Description	Prerequisite	Cr Hrs
17-356	Data Mining and Applications	MATH 17114 or MATH 17230 or	
	Data Mining and Applications		3
ļ	Data Mining and Applications	consent of instructor.	3
32-462	Digital Cartography and Geovisualization	consent of instructor. GEOG 32201 or permission of	3
		consent of instructor. GEOG 32201 or permission of instructor.	
		consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of	
32-462	Digital Cartography and Geovisualization Remote Sensing	consent of instructor. GEOG 32201 or permission of instructor.	3
32-462	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of	3 3 4
32-462	Digital Cartography and Geovisualization Remote Sensing	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor.	3 3 4 3
32-462 32-463	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement General Electives	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor. Total Hours	3 3 4 3 16
32-462 32-463 Term 8	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement General Electives	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor. Total Hours Prerequisite	3 3 4 3 16 Cr Hrs
32-462 32-463 Term 8 32-465	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement General Electives Course Title/Description Introduction to Customized GIS	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor. Total Hours Prerequisite GEOG 32365	3 3 4 3 16 Cr Hrs 3
32-462 32-463 Term 8 32-465 32-565	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement General Electives Course Title/Description Introduction to Customized GIS Advanced Geographic Information Systems	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor. Total Hours Prerequisite GEOG 32365 GEOG 32365	3 3 4 3 16 Cr Hrs 3 3 3
32-462 32-463 Term 8 32-465	Digital Cartography and Geovisualization Remote Sensing Life Science & Lab NW Core Requirement General Electives Course Title/Description Introduction to Customized GIS	consent of instructor. GEOG 32201 or permission of instructor. GEOG 32201 or permission of instructor. Total Hours Prerequisite GEOG 32365	3 3 4 3 16 Cr Hrs 3