

Northwest Missouri State University School of Computer Science and Information Systems Data Sciences Computer Science Track Comprehensive Major-No Minor Required Bachelor Science Education

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-101	Foundations of Computing*		3	
44-155	Intro to Data Science and Data Mining		3	New offering: Fall WB
29-102	Fund of Oral Communication		3	<u>0</u>
10-111	Composition I		3	
44-141	Computer Programming I	2 units of high school algebra	3	1
44-141		and either CSIS 44101 OR CSIS	Ū.	
		44130 with a grade of C or		
		better, or School director's		
		permission		
77-101	University Seminar		1	
		Total Hours	16	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
10-112	Composition II	ENGL 10111	3	
		An ACT Math score of 22 or	3	1 0
		higher, high school GPA of 3.00		
		or higher, or a minimum grade		Depending on semester
17-114	General Statistics*	of C in MATH 17082, or concurrent enrollment in		of enrollment; is a
		MATH 17014		prerequisite for 17-356
				which is only offered
		MATH 17117 with a minimum	4	every other year.
		grade of C, or MATH 17118 and	4	
		MATH 17119 with a minimum		
17-120	Calculus I	grade of C in both, or		
		equivalent. ACT Math score of		
		at least 27 or a high school GPA		
		of 3.9 is recommended.		
44-241	Computer Programming II	CSIS 44141 with a grade of C or	3	2
		better		
		T . 1 . 1 . 1	4.2	
		Total Hours	13	
	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
	Course Title/Description	Pre-requisite CSIS 44241, and MATH 17114	-	Milestone/Notes
	Course Title/Description	Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH	Cr Hrs	
	Course Title/Description	Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or	Cr Hrs	
		Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or concurrent enrollment), all	Cr Hrs	
		Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or	Cr Hrs	
Term 3 44-242 17-316		Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or concurrent enrollment), all with a grade of C or better, or	Cr Hrs	
44-242		Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or concurrent enrollment), all with a grade of C or better, or consent of instructor	Cr Hrs 3	
44-242	Data Structures Linear Statistics Models I	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in either	Cr Hrs 3	
44-242 17-316	Data Structures Linear Statistics Models I Social & Behavioral Sciences	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in eitherMATH 17114 or MATH 17230,	Cr Hrs 3 3 3	
44-242 17-316	Data Structures Linear Statistics Models I	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in eitherMATH 17114 or MATH 17230,	Cr Hrs 3 3 3 3 3	
44-242 17-316	Data Structures Linear Statistics Models I Social & Behavioral Sciences	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in eitherMATH 17114 or MATH 17230,	Cr Hrs 3 3 3	
44-242 17-316	Data Structures Linear Statistics Models I Social & Behavioral Sciences Intro to American Gov. & Politics	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in eitherMATH 17114 or MATH 17230,	Cr Hrs 3 3 3 3 3	
44-242	Data Structures Linear Statistics Models I Social & Behavioral Sciences Intro to American Gov. & Politics Fine Arts	Pre-requisite CSIS 44241, and MATH 17114 or MATH 17117 or MATH 17118 or MATH 17120 (or concurrent enrollment), all with a grade of C or better, or consent of instructor A minimum grade of C in either MATH 17114 or MATH 17230, or consent of instructor	Cr Hrs 3 3 3 3 3 3	3
44-242 17-316 34-102	Data Structures Linear Statistics Models I Social & Behavioral Sciences Intro to American Gov. & Politics	Pre-requisiteCSIS 44241, and MATH 17114or MATH 17117 or MATH17118 or MATH 17120 (orconcurrent enrollment), allwith a grade of C or better, orconsent of instructorA minimum grade of C in eitherMATH 17114 or MATH 17230,or consent of instructor	Cr Hrs 3 3 3 3 3 3 3 15	

= a milestone course completed by end of year 1 to remain on pace to finish degree requirements in four years.

= a milestone course completed by end of year 2 to remain on pace to finish degree requirements in four years.

= a milestone course completed by end of year 3 to remain on pace to finish degree requirements in four years.

a milestone courses taken in final year to complete degree requirements.

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	Civics-History		3	
44-460	Database Systems	CSIS 44241, with a grade of C or better	3	3
54-114	Principles of Management		3	
	Physical Science		4	
		Total Hours	16	
Term 5	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-413	Visualization	MATH 17114 and CSIS 44141	3	
17-311	Linear Algebra	MATH 17117 with a minimum grade of C, or MATH 17120 with a minimum grade of C	3	
52-150	Principles of Microeconomics*		3	
44-317	Management Information Systems	MGMT 54313 and either CSIS 44101 or CSIS 44130, each with a grade of C or better	3	3
10-220	Introduction to Literature		3	
		Total Hours	15	

, = a milestone course completed by end of year 3 to remain on pace to finish degree requirements in four years.

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Term 6	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
39-275	Professional Ethics*		3	
44-560	Advanced Topics in Database Systems	CSIS 44241 and CSIS 44460, each with a grade of C or better.	3	
17-356	Data Mining with Apps	MATH 17114 or MATH 17230 or consent of instructor.	3	Offered every other Spring; take when available
55-330	Principles of Marketing		3	
	Electives		4	
		Total Hours	16	
Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-517	Big Data	MATH 17230 or MATH 17316, both with a grade of C or better and CSIS 44242 with a grade of C or better	3	
44-411	Systems Analysis and Design	CSIS 44317 with a minimum grade of C, and advanced standing, or consent of the instructor. (F)	3	
44-563	Dev Web apps and Services	CSIS 44241 and CSIS 44460, each with a grade of C or better	3	
	Life Science and Lab		4	
	Humanities		3	
		Total Hours	16	
Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-520	Web Mining	A grade of C or better in both CSIS 44242 and CSIS 44460	3	
44-418	IT Project Management	CSIS 44317 and either CSIS 44411 or CSIS 44561, each with a grade of C or better.	3	
	Electives		6	
		Total Hours	12	
			12	

* Class satisfies a NW Core requirement or Institutional Requirement

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= a milestone courses taken in final year to complete degree requirements.

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