

Northwest Missouri State University School of Computer and Information Systems Data Sciences: Biology Emphasis Comprehensive Major – No Minor Required Bachelor of Science

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-130 OR.	Computers and Info Tech OR	·	3	·
44-101	Foundations of Computing			
24-114/115	General Chemistry I & Lab		4	
17-120	Calculus I	Precalculus OR Precalculus	4	
		Algebra AND Trigonometry		
10-111	Composition I		3	
77-101	University Seminar		1	
		Total Hours	15	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-141	Computer Programming I	Foundations of Computing	3	
		OR Computers & Info Tech		
17-114	General Statistics	ACT Math Score of 22 or	3	
		higher, High School GPA		
		3.0 or higher OR		
		concurrent enrollment in		
		Strategies for General		
		Statistics		
04-106/107	Principles of Biology & Lab		4	
24-116/117	General Chemistry II & Lab	General Chemistry I & Lab	5	
		Total Hours	15	
Term 3	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-241	Computer Programming II	Computer Programming I	3	
17-316	Linear Statistical Models I	General Statistics OR	3	
		Probability and Statistics		
17-311	Linear Algebra	Precalculus OR Calculus I	3	
44-155	Intro to Data Science & Data Mining	General Statistics OR	3	FALL ODD YEAR COURSE
		Probability and Statistics		
33-155 OR	The United States to 1877 OR		3	
33-156	The United States since 1877			
		Total Hours	15	
Term 4	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-356	Data Mining with Applications	General Statistics OR	3	SPRING EVEN YEAR
		Probability and Statistics		COURSE
54-313	Principles of Management		3	
04-350	Genetics	Principles of Biology & Lab	4	
34-102	Intro to American Government		3	
10-112	Composition II	Composition I	3	
		Total Hours	16	
Term 5	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
44-413	Visualization	General Statistics AND	3	
		Computer Programming I		
24-342/343	Organic Chemistry I & Lab	General Chemistry II & Lab	4	FALL ONLY COURSE
		•		
44-555	Introduction to Bioinformatics	Cell AND Genetics	3	FALL EVEN YEAR COURSE

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

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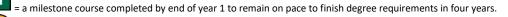
I = a milestone course completed by end of year 3 to remain on pace to finish degree requirements in four years.

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		Total Hours	13	
Term 6	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-318	Linear Statistical Models II	General Statistics OR	3	SPRING ODD YEAR
27 020		Probability and Statistics		COURSE
04-440	Molecular Biology	Genetics	4	SPRING ODD YEAR
	J.			course. Students may
				choose between
				Techniques of Biotech &
				Molecular Biology. Both
				are recommended. If only
				opt for one, need 4
29-102	Fundamentals of Oral Communication		2	additional credit hours.
	Database Systems	Computer Programming II	3	
44-460	Social & Behavioral Sciences	Computer Programming ii	3	
	Social & Bellaviolal Sciences	Total Hours	16	
Tayın 7	Course Title / Description			Nailestana/Notas
Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
10-220	Social & Behavioral Sciences		3	
44-317	Intro to Literature	Principles of Management	3	
44-317	Management Information Systems	AND Foundations of	3	
		Computing OR Computers		
		& Info Tech		
04-511	Techniques in Biotechnology	Genetics. Recommended	4	FALL ODD YEAR course
		to have General		Students may choose
		Microbiology		between Techniques of
				Biotech & Molecular
				Biology. Both are
				recommended. If only opt
				for one, need 4 additional
20.275	0.6 1511:			credit hours.
39-275	Professional Ethics	Tatalillarina	3	
T 0	Communication	Total Hours	16	Ba'lestes /Netse
Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-140 OR	General Microbiology OR	Micro: General Biology &	4	Organic Chemistry I & Lab
04-310	Cell Biology	Lab OR Principles of Biology & Lab & General		recommended for Cell Biology.
		Chemistry I & Lab		ыоюду.
		Cell: Principles of Biology		
		& Lab AND General		
		Chemistry I & Lab AND		
		General Chemistry II & Lab		
	Humanities		3	
52-150	Principles of Macroeconomics		3	
55-330	Principles of Marketing		3	
	Fine Arts		3 16	
Total Hours				



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