

Northwest Missouri State University Department of Natural Sciences Biology: Biomedical Sciences Comprehensive Major – No Minor Required Bachelor of Science

This degree track is intended for students interested in preparation for professional programs such as **medical, dental, veterinary, and optometry** school. Many of the requirements for these programs are the same. Students are encouraged to speak to their academic advisor about how best to utilize their elective hours to give themselves the best chance for admission to one of these programs.

	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-106/107	Principles of Biology & Lab		4	
24-114/115	General Chemistry I & Lab		4	
10-111	Composition I		3	
17-117 OR	Precalculus OR	Precalculus: A minimum ACT	3-5	
17-118 OR	Precalculus Algebra OR	Math score of 22, or a		
17-120	Calculus I	minimum high school GPA of		
		3.5		
		Precalc Algebra: A minimum		
		ACT Math score of 22, or a		
		minimum high school GPA of		
		3.5 OR concurrent with		
		Strategies for Precalculus		
		Algebra		
		Calculus I: Precalculus OR		
		Precalculus Algebra AND		
		Trigonometry OR ACT Math		
		score of at least 27, or high		
		school GPA of 3.9 is		
		recommended		
77-101	University Seminar		1	
		Total Hours	15-17	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-112/113 OR	General Botany & Lab OR	Principles of Biology & Lab	4	
04-114/115				
	General Zoology & Lab			
24-116/117	General Chemistry II & Lab	General Chemistry I & Lab	5	
24-116/117 10-112	General Chemistry II & Lab Composition II	General Chemistry I & Lab Composition I	3	
24-116/117	General Chemistry II & Lab	-		Recommended Social & Behavioral Science
24-116/117 10-112	General Chemistry II & Lab Composition II	-	3	
24-116/117 10-112	General Chemistry II & Lab Composition II	Composition I Total Hours Pre-requisite	3 3	
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR	Composition I Total Hours	3 3 <b>15</b>	Behavioral Science
24-116/117 10-112 08-103 Term 3	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab	Composition I Total Hours Pre-requisite Principles of Biology & Lab	3 3 15 Cr Hrs	Behavioral Science
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR	Composition I Total Hours Pre-requisite	3 3 15 Cr Hrs	Behavioral Science
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-114/115	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab	Composition I Total Hours Pre-requisite Principles of Biology & Lab	3 3 <b>15</b> Cr Hrs 4	Behavioral Science
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab	Composition I Total Hours Pre-requisite Principles of Biology & Lab	3 3 <b>15</b> Cr Hrs 4 4	Behavioral Science
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab Fundamentals of Oral	Composition I Total Hours Pre-requisite Principles of Biology & Lab	3 3 <b>15</b> Cr Hrs 4 4	Behavioral Science
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-114/115 24-342/343 29-102	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab Fundamentals of Oral Communication	Composition I Total Hours Pre-requisite Principles of Biology & Lab	3 3 <b>15</b> <b>Cr Hrs</b> 4 4 3	Behavioral Science Milestone/Notes Recommended Social &
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343 29-102 35-102	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab Fundamentals of Oral Communication General Sociology	Composition I Total Hours Pre-requisite Principles of Biology & Lab General Chemistry II & Lab	3 3 <b>15</b> <b>Cr Hrs</b> 4 3 3	Behavioral Science Milestone/Notes Recommended Social &
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343 29-102 35-102	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab Fundamentals of Oral Communication General Sociology	Composition I Total Hours Pre-requisite Principles of Biology & Lab General Chemistry II & Lab An ACT Math score of 22 or	3 3 <b>15</b> <b>Cr Hrs</b> 4 3 3	Behavioral Science Milestone/Notes Recommended Social &
24-116/117 10-112 08-103 <b>Term 3</b> 04-112/113 OR 04-112/113 OR 04-114/115 24-342/343 29-102 35-102	General Chemistry II & Lab Composition II General Psychology Course Title/Description General Botany & Lab OR General Zoology & Lab Organic Chemistry I & Lab Fundamentals of Oral Communication General Sociology	Composition I Total Hours Pre-requisite Principles of Biology & Lab General Chemistry II & Lab An ACT Math score of 22 or higher, high school GPA of 3.00	3 3 <b>15</b> <b>Cr Hrs</b> 4 3 3	Behavioral Science Milestone/Notes Recommended Social &



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

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



Term 4	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-350	Genetics	Principles of Biology & Lab	4	
24-344/345	Organic Chemistry II & Lab	Organic Chemistry I & Lab	4	
	Digital Literacy		3	
	Fine Art		3	
		Total Hours	14	
Term 5	<b>Course Title/Description</b>	Pre-requisite	Cr Hrs	Milestone/Notes
25-110/111	General Physics I & Lab	Mathematical Modeling	4	Consider taking during a
		OR Precalculus OR		summer term to
		Precalculus Algebra OR		distribute your science
		Calculus I		course load more evenly.
04-310	Cell Biology	Principles of Biology & Lab	4	Recommended
		AND General Chemistry I &		prerequisite Organic
		Lab AND General		Chemistry I & Lab
		Chemistry II & Lab		
	Humanities		3	
24-562	General Biochemistry	Organic Chemistry I & Lab	3	
		Total Hours	14	
Term 6	<b>Course Title/Description</b>	Pre-requisite	Cr Hrs	Milestone/Notes
39-276	Biomedical Ethics		3	Recommended
				Humanities
25-112/113	General Physics II & Lab	Mathematical Modeling	4	Consider taking during a
		OR Precalculus OR		summer term to
		Precalculus Algebra OR		distribute your science
		Calculus I		course load more evenly.
04-140	General Microbiology	Principles of Biology & Lab	4	Consider taking during a
		AND General Chemistry I &		summer term to
		Lab		distribute your science
				course load more evenly.
04-438	Human Physiology	Cell Biology	4	



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Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-435 OR	Comparative Anatomy OR	Comparative: General	4-5	Human Anatomy
04-436	Human Anatomy	Zoology & Lab AND		recommended
		General Physics I & Lab OR		prerequisite Medical
		Classical Physics I & Lab		Terminology
		Human: General Zoology &		
		Lab		
34-102	Intro to American Government and		3	
	Politics			
04-376	Basic Ecology	General Botany & Lab AND	4	
		General Zoology & Lab		
33-155 OR	The United States to 1877 OR		3	
33-156	The United States since 1877			
		Total Hours	14-15	
Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-348	Biological Evolution & Diversity	General Botany & Lab AND	2	Consider taking during a
		General Zoology & Lab		summer term to
				distribute your science
				course load more evenly.
04-491	Biological Science Seminar	Genetics	1	
10-220	Intro to Literature		3	
04-444	Immunology	Microbiology AND General	5	Recommended Upper-
		Chemistry I & Lab		Level Elective
	Upper-level Elective		1	
	Elective		4	Consider Psychology
				course.
		Total Hours	16	

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

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