

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

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-118 OR	Precalculus Algebra OR		3-5	
17-117 OR	Precalculus OR			
17-120	Calculus I			
04-106/107	Principles of Biology & Lab		4	
10-111	Composition I		3	
24-114/115	General Chemistry I & Lab		4	
77-101	University Seminar		1	
		Total Hours	15-17	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-114	General Statistics		3	
10-112	Composition II	Composition I	3	
04-112/113	General Botany & Lab	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
25-110/111	General Physics I & Lab	Mathematical Modeling	4	
		OR Precalculus OR		
		Precalculus Algebra OR		
		Calculus I		
04-114/115	General Zoology & Lab	Principles of Biology & Lab	4	
10-220	Intro to Literature		3	
	Social & Behavioral Science		3	
	Fine Art		3	
	Total Hours		17	
Term 4	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-140	General Microbiology	Principles of Biology & Lab	4	
		AND General Chemistry I &		
		Lab		
25-112/113	General Physics II & Lab	Mathematical Modeling	4	
		OR Precalculus OR		
		Precalculus Algebra OR		
		Calculus I		
04-350	Genetics	Principles of Biology & Lab	4	
29-102	Fundamentals of Oral Communication		3	
	Social & Behavioral Sciences		3	
		Total Hours	18	

= 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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Term 5	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
	Humanities		3	
24-342/343	Organic Chemistry I & Lab	General Chemistry II & Lab	4	FALL ONLY course
04-310	Cell Biology	Principles of Biology & Lab AND General Chemistry I & Lab AND General Chemistry II & Lab	4	
04-511	Techniques in Biotechnology	Genetics	4	Recommended Elective. FALL ODD YEAR only course. Recommended prerequisite General Microbiology
		Total Hours	15	
Term 6	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-238 OR 04-330 OR 04-430 OR 04-438	Physiology Allied Health OR Animal Anatomy & Physiology OR Plant Physiology OR Human Physiology Organic Chemistry II & Lab Humanities	Allied: Principles of Biology & General Chemistry & Lab OR General Chemistry I & Lab Animal: General Zoology & Lab AND General Chemistry I & Lab Plant: General Botany & Lab OR Cell Biology OR Genetics AND General Chemistry I & Lab Human: Cell Biology	4 3	Human Physiology recommends Medical Terminology and Anatomy Allied Health OR Comparative Anatomy OR Human Anatomy Animal A&P – SPRING ONLY course Plant Phys – SPRING EVEN ONLY course SPRING ONLY course
	Digital Literacy		3	
		Total Hours	14	
Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-348	Biological Evolution & Diversity	General Botany & Lab AND General Zoology & Lab	2	
04-376	Basic Ecology	General Botany & Lab AND General Zoology & Lab	4	FALL ONLY course
24-562/563	General Biochemistry & Lab	Organic Chemistry I & Lab	3-4	FALL ONLY course LAB is NOT required but strongly recommended
34-102	Civics: Political Science		3	
		Total Hours	12-13	



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Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
33-155 OR	Civics: History		3	
33-156				
04-491	Biological Science Seminar		1	
	Electives		5-6	
04-440 OR 04-444	Molecular Biology OR Immunology	Molecular: Genetics Immuno: General Microbiology AND Cell Biolgy	4-5	Molecular: SPRING ODD YEARS. Immuno: SPRING ONLY course.
Total Hours			13-15	

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