



Northwest Missouri State University  
 Department of Natural Sciences  
 Chemistry: General Biochemistry Emphasis – Comprehensive Major – No Minor Required  
 Bachelor of Science

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-118 OR 17-120	Precalculus Algebra OR Calculus	Precalculus Algebra: An ACT Math score of 22 or higher OR a score of PASS on the NW Algebra Review OR concurrently with Strategies for Precalculus Algebra Calculus: Precalculus OR Precalculus Algebra AND Trigonometry.	3-4	Calculus: ACT Math score of at least 27 or high school GPA of 3.9 is recommended
04-106/107	Principles of Biology & Lab		4	
77-101	University Seminar		1	
10-111	Composition I		3	
24-114/115	General Chemistry I & Lab		4	Enrolling in General Chemistry 112/113 should be considered prior to General Chemistry I if a rigorous high school Chemistry background is absent. Similar considerations without proficiency in high school Algebra II.
<b>Total Hours</b>			<b>15-16</b>	
Term 2	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-350	Genetics	Principles of Biology & Lab	4	
10-112	Composition II	Composition I	3	
24-116/117	General Chemistry II & Lab	General Chemistry I & Lab	5	
08-103	General Psychology		3	
<b>Total Hours</b>			<b>15</b>	
Term 3	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
24-342/343	Organic Chemistry I & Lab	General Chemistry II & Lab	4	
24-322/323	Analytical Chemistry & Lab	General Chemistry II & Lab	4	
29-102	Fundamentals of Oral Communication		3	
	Elective		5	
<b>Total Hours</b>			<b>16</b>	
Term 4	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
24-344/345	Organic Chemistry II & Lab	Organic Chemistry I & Lab	4	
04-310	Cell Biology	Principles of Biology & Lab, General Chemistry I & Lab, General Chemistry II & Lab	4	
10-220	Intro to Literature		3	
	American Experience		3	
<b>Total Hours</b>			<b>14</b>	

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

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

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

**4** = 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
24-110/111 OR 25-120/121	General Physics I & Lab OR Classical Physics I & Lab	General: Mathematical Modeling OR Precalc OR Precalculus Algebra OR Calculus I Classical: Calculus I	4-5	If considering graduate study, have the option of a more rigorous curriculum that includes Calculus & Classical Physics in place of General Physics
24-562/563	General Biochemistry & Lab	Organic Chemistry I & Lab with a minimum of C.	4	
	Electives		3	
	Social & Behavioral Sciences		3	
<b>Total Hours</b>			<b>15-16</b>	
Term 6	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
25-112/113 OR 25-230/231	General Physics II & Lab OR Classical Physics II & Lab	General: Mathematical Modeling OR Precalc OR Precalculus Algebra OR Calculus I Classical: Calculus II AND Classical Physics I & Lab	4-5	If considering graduate study, have the option of a more rigorous curriculum that includes Calculus & Classical Physics in place of General Physics
04-440 OR 24-566/567	Molecular Biology OR Macromolecular Structure & Lab	Molecular: Microbiology and General Chemistry I & Lab Macro: General Biochemistry & Lab with a minimum of C.	4	Molecular Biology offered SPRING ODD years
	Department Approved Elective		3	Chosen for 300+ level courses in chemistry or biology
	Fine Art		3	
<b>Total Hours</b>			<b>14-15</b>	
Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
24-592	Chemistry Seminar	Sr. standing; CHEM 24322 with a minimum grade of C; CHEM 24342 with a minimum grade of C.	1	
34-102	Intro to American Government		3	
	Major Approved Electives		3	
	Global Experience		3	
	Western Experiences		3	
<b>Total Hours</b>			<b>15</b>	
Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
04-440 OR 24-566/567	Molecular Biology OR Macromolecular Structure & Lab	Molecular: Microbiology and General Chemistry I & Lab	4	Molecular Biology offered SPRING ODD years



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		Macro: General Biochemistry & Lab with a minimum of C.		
	Electives		6	
	Digital Literacy		3	
<b>Total Hours</b>			<b>16</b>	

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