Northwest Missouri State University
Department of Natural Sciences
Physics –Geology Emphasis
Bachelor of Science

Term 1	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
17-117	Precalculus	Minimum ACT math score of 22 OR minimum high school GPA 3.5	5	
29-102	Fund of Oral Communication		3	
77-101	University Seminar		1	
	Digital Literacy		3	
24-114/115	General Chemistry I & Lab		4	
		Total Hours	**16**	
Term 2	**Course Title/Description**	**Pre-requisite**	**Cr Hrs**	**Milestone/Notes**
44-141	Computer Programming I		3	
10-111	Composition I		3	
04-106/107	Principles of Biology & Lab		4	
17-120	Calculus I	Precalculus Algebra OR Precalculus AND Trigonometry	4	1
	Global Experience		3	
		Total Hours	**17**	
Term 3	**Course Title/Description**	**Pre-requisite**	**Cr Hrs**	**Milestone/Notes**
17-121	Calculus II	Calculus I	5	
	Humanities		3	
25-120/121	Classical Physics I & Lab	Calculus I	5	FALL only
	American Experiences		3	
		Total Hours	**15**	
Term 4	**Course Title/Description**	**Pre-requisite**	**Cr Hrs**	**Milestone/Notes**
17-321	Calculus III	Calculus II	4	
34-102	Intro to American Government		3	
25-230/231	Classical Physics II & Lab	Classical Physics I & Lab AND Calculus II	5	2 SPRING only
	Social & Behavioral Science		3	
		Total Hours	**15**	
Term 5	**Course Title/Description**	**Pre-requisite**	**Cr Hrs**	**Milestone/Notes**
27-110/111	General Geology & Lab		4	3
25-350	Intro to Quantum Mechanics	Classical Physics II & Lab	3	FALL ODD YEARS only
27-440 OR 27-530	Stratigraphy Sedimentology	Historical Geology	4 4	Geology Elective FALL ODD YEARS only
25-320/321 OR 25-330 OR 25-430	Classical Mechanics & Lab Electricity and Magnetism Optics	Classical Mechanics: General Physics I & Lab AND Calculus II Electricity and Magnetism: Classical Physics II AND Calculus III Optics: Calculus II	4 3 3	Physics Electives Classical Mechanics: FALL ODD YEARS only Electricity and Magnetism & Optics: FALL EVEN YEARS only
10-112	Composition II	Composition I	3	

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

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	Fine Art		3	
		Total Hours	**10-17**	

Term 6	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
27-212	Historical Geology	General Geology	4	
25-352 OR 25-450	Modern Physics Computational Physics	Modern: Classical Physics II & Lab Classical Physics II & Lab AND Computer Programming I	3	Modern: SPRING ODD YEARS only Computational: SPRING EVEN YEARS only
27-335 OR 27-340 OR 27-510	Physical Oceanography Introduction to Hydrogeology Geomorphology	Oceanography: General Science Requirement Hydrogeology: General Geology AND Precalculus Algebra Geomorphology: General Geology	3 3 3	Geology Elective Oceanography: SPRING EVEN YEARS only Hydrogeology: SPRING only Geomorphology: SPRING EVEN YEARS only
25-360	Quantum Mechanics	Quantum: Introduction to Quantum OR Physical Chemistry I & Lab AND Calculus III	3	Physics Electives Quantum: SPRING EVEN YEARS only
17-361	Differential Equations	Calculus II	3	SPRING only
29-102	Fund. Of Oral Communication		3	
		Total Hours	**13-16**	

Term 7	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
27-220	Mineralogy	General Geology	4	
25-350	Intro to Quantum Mechanics	Classical Physics II & Lab	3	FALL ODD YEARS only
27-440 OR 27-530	Stratigraphy Sedimentology	Historical Geology	4 4	Geology Elective FALL ODD YEARS only
25-320/321 OR 25-330 OR 25-430	Classical Mechanics & Lab Electricity and Magnetism Optics	Classical Mechanics: General Physics I & Lab AND Calculus II Electricity and Magnetism: Classical Physics II AND Calculus III Optics: Calculus II	4 3 3	Physics Electives Classical Mechanics: FALL ODD YEARS only Electricity and Magnetism: FALL EVEN YEARS only Optics: FALL EVEN YEARS only
10-220	Intro to Literature		3	
	Elective		3	
		Total Hours	**10-17**	

Term 8	Course Title/Description	Pre-requisite	Cr Hrs	Milestone/Notes
27-420	Petrology	Mineralogy	4	
	Social & Behavioral Science		3	
25-352 OR 25-450	Modern Physics Computational Physics	Modern: Classical Physics II & Lab	3	Modern: SPRING ODD YEARS only

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		Classical Physics II & Lab AND Computer Programming I		Computational: SPRING EVEN YEARS only
27-335 OR 27-340 OR 27-510	Physical Oceanography Introduction to Hydrogeology Geomorphology	Oceanography: General Science Requirement Hydrogeology: General Geology AND Precalculus Algebra Geomorphology: General Geology	3 3 3	<u>Geology Elective</u> Oceanography: SPRING EVEN YEARS only Hydrogeology: SPRING only Geomorphology: SPRING EVEN YEARS only
25-360	Quantum Mechanics	Quantum: Introduction to Quantum OR Physical Chemistry I & Lab AND Calculus III	3	<u>Physics Electives</u> Quantum: SPRING EVEN YEARS only
25-489 OR 25-499	Physics Practicum OR Special Investigations in Physics	Permission of Instructor	2	
	Elective		2	
		Total Hours	**14-17**	

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