

Degree: BS MS Environmental Geoscience (Geology Majors on Thesis Track)				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
1A		Written Communication		3
3B		Arts & Humanities		3
Major Required and Area 5 Physical and Biological Sciences (Physical) 5A 5C	EESC 210	Physical and Environmental Geology and Geography y Units: 4 with lab Breadth Area: GE-5A, GE-5C		4
Major Required	PHYS 125	Principles of Physics I Units: 4 ; Breadth Area: GE-5A 5C	Satisfactory score of 78 or higher on Math Proficiency Assessment or MATH 120.	4
Major Required	EESC 297	Introductory Field Experience Units: 1		1
			<b>Total:</b>	15
<b>Second Semester (SPRING)</b>				
1C		Oral Communication		3
Area 2	MATH 130	Calculus I Units: 4 ; Breadth Area: GE-2	One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	3

Major Required	EESC 211	Historical Geology and Geography Units: 4 ; Breadth Area: GE-5A 5C		4
Major Required	PHYS 126	Principles of Physics II Units: 4 ; Breadth Area: GE-5A 5C		4
Free Elective				1
			<b>Total:</b>	15
<b>Third Semester (FALL)</b>				
1B/Second Comp		Critical Thinking		3
3A		Arts & Humanities		3
Major Required	CHEM 111	General Chemistry I Units: 3 ; Breadth Area: GE-5A		3
Major Required	CHEM 111L	General Chemistry Lab I Units: 2 ; Breadth Area: GE-5C		2
Area 4/Code 2		Social Sciences and U.S. Code (1,3)		3
Free Elective/Code 1/Code 2	TBD	TBD		3
			<b>Total:</b>	17
<b>Fourth Semester (SPRING)</b>				
Area 6		Ethnic Studies		3
Free Elective				2
Major Required	CHEM 112	General Chemistry II Units: 3	CHEM 111 & CHEM 111L with a C- or higher	3

Major Required	CHEM 112L	General Chemistry II Laboratory Units: 2	CHEM 111 & CHEM 111L with a C- or higher	2
Area 4/Code 2		Social Science and U.S. Code (US 1,2)		3
			<b>Total:</b>	13
<b>Fifth Semester (FALL)</b>				
UD Areas 5		Upper-division Science or Mathematical Concepts/Quantitative Reasoning	Completion of Areas 1 & 2.	3
UD Area 3 and DIV		UD Arts OR Humanities	Completion of Areas 1 & 2.	3
Major Required	EESC 360	Introduction to GIS in Earth, Environmental and Sustainability Sciences Units :3		3
Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
Major Required	EESC 361	Mineralogy and Optical Crystallography Units: 4	CHEM 112 and EESC 210.	4
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				

UD Area 4 and SJ		UD Social and Behavioral Sciences	Completion of Areas 1 & 2.	3
UWR		University Writing Req		3
Major Required	EESC 362	Igneous and Metamorphic Petrology Units: 4	EESC 361	4
Major Required Elective	EESC 655, EESC 675	Watersheds, Sustainable Food Systems, Fire		3

			<b>Total:</b>	13
<b>Seventh Semester (FALL)</b>				
Major Required	EESC 420	Global Climate Change Units: 3 GE SUST		3
Major Required	EESC 363	Sedimentary Geology and Stratigraphy Units: 4	EESC 362	4
Major Required	EESC 460	Advanced GIS in Earth, Environmental and Sustainability Sciences Units: 3	EESC 360	3
Major Required Elective	EESC 350 or EESC 432	Environmental Hydrology Units: 4 or Hydrogeology Units: 4	EESC 350 requires either CHEM 100 or CHEM 111, and either MATH 120, MATH 125, or MATH 130, and Highy recommended either PHYS	4
Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
			<b>Total:</b>	16
<b>Eighth Semester (SPRING)</b>				
Major Required	EESC 499	Capstone Seminar in Earth, Environmental and Sustainability Sciences Units: 3		3
Major Required	EESC 364	Structural Geology Units: 5	EESC 361	5

Major Required Elective	EESC 651, EESC 660, EESC 661	Hydroinformatics, Advanced GIS in Earth, Environmental and Sustainability Sciences , Remote Sensing of the Environment in Earth, Environmental and Sustainability Sciences	EESC 660 requires EESC 360	4
Major Required Elective	EESC 634, EESC 631, EESC 633	Biogeochemistry, Isotope Geochemistry, Science of Soils	EESC 634 requires PHYS 125, PHYS 126, and CHEM 110 or CHEM 111. and EESC 631	4
			<b>Total:</b>	16
<b>Ninth Semester (FALL)</b>				
Grad Major	EESC 632, EESC 622, EESC 641	Groundwater Flow and Contaminant Transport, Seismic Exploration, Earthquake Geology		4
Grad Major	EESC 601	Professional Ethics in Environmental Geosciences		1
Grad Major	EESC 691	University Thesis		3
			<b>Total:</b>	8
<b>Ten Semester (SPRING)</b>				

Grad Major	EESC 6xx	Choice of Grad Class		4
Grad Major	EESC 602	Graduate Seminar		2
Grad Major	EESC 691	University Thesis		3
Grad Major	EESC 671	Field Experience		2
			<b>Total:</b>	11
<b>Total Units:</b>				139

Degree: BS MS Environmental Geoscience (Geology Majors on Project Track)				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
1A		Written Communication		3
3B		Arts & Humanities		3
Major Required and Area 5 Physical and Biological Sciences (Physical) 5A 5C	EESC 210	Physical and Environmental Geology and Geography y Units: 4 with lab Breadth Area: GE-5A, GE-5C		4
Major Required	PHYS 125	Principles of Physics I Units: 4 ; Breadth Area: GE-5A 5C	Satisfactory score of 78 or higher on Math Proficiency Assessment or MATH 120.	4
Major Required	EESC 297	Introductory Field Experience Units: 1		1
			<b>Total:</b>	15
<b>Second Semester (SPRING)</b>				
1C		Oral Communication		3
Area 2	MATH 130	Calculus I Units: 4 ; Breadth Area: GE-2	One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	3

Major Required	EESC 211	Historical Geology and Geography Units: 4 ; Breadth Area: GE-5A 5C		4
Major Required	PHYS 126	Principles of Physics II Units: 4 ; Breadth Area: GE-5A 5C		4
Free Elective				1
			<b>Total:</b>	15
<b>Third Semester (FALL)</b>				
1B/Second Comp		Critical Thinking		3
3A		Arts & Humanities		3
Major Required	CHEM 111	General Chemistry I Units: 3 ; Breadth Area: GE-5A		3
Major Required	CHEM 111L	General Chemistry Lab I Units: 2 ; Breadth Area: GE-5C		2
Area 4/Code 2		Social Sciences and U.S. Code (1,3)		3
Free Elective/Code 1/Code 2	TBD	TBD		3
			<b>Total:</b>	17
<b>Fourth Semester (SPRING)</b>				
Area 6		Ethnic Studies		3
Free Elective				2
Major Required	CHEM 112	General Chemistry II Units: 3	CHEM 111 & CHEM 111L with a C- or higher	3

Major Required	CHEM 112L	General Chemistry II Laboratory Units: 2	CHEM 111 & CHEM 111L with a C- or higher	2
Area 4/Code 2		Social Science and U.S. Code (US 1,2)		3
			<b>Total:</b>	13
<b>Fifth Semester (FALL)</b>				
UD Areas 5		Upper-division Science or Mathematical Concepts/Quantitative Reasoning	Completion of Areas 1 & 2.	3
UD Area 3 and DIV		UD Arts OR Humanities	Completion of Areas 1 & 2.	3
Major Required	EESC 360	Introduction to GIS in Earth, Environmental and Sustainability Sciences Units :3		3
Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
Major Required	EESC 361	Mineralogy and Optical Crystallography Units: 4	CHEM 112 and EESC 210.	4
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				

UD Area 4 and SJ		UD Social and Behavioral Sciences	Completion of Areas 1 & 2.	3
UWR		University Writing Req		3
Major Required	EESC 362	Igneous and Metamorphic Petrology Units: 4	EESC 361	4
Major Required Elective	EESC 655, EESC 675	Watersheds, Sustainable Food Systems, Fire		3

			<b>Total:</b>	13
<b>Seventh Semester (FALL)</b>				
Major Required	EESC 420	Global Climate Change Units: 3 GE SUST		3
Major Required	EESC 363	Sedimentary Geology and Stratigraphy Units: 4	EESC 362	4
Major Required	EESC 460	Advanced GIS in Earth, Environmental and Sustainability Sciences Units: 3	EESC 360	3
Major Required Elective	EESC 350 or EESC 432	Environmental Hydrology Units: 4 or Hydrogeology Units: 4	EESC 350 requires either CHEM 100 or CHEM 111, and either MATH 120, MATH 125, or MATH 130, and Highy	4
Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
			<b>Total:</b>	16
<b>Eighth Semester (SPRING)</b>				
Major Required	EESC 499	Capstone Seminar in Earth, Environmental and Sustainability Sciences Units: 3		3
Major Required	EESC 364	Structural Geology Units: 5	EESC 361	5

Major Required Elective	EESC 651, EESC 660, EESC 661	Hydroinformatics, Advanced GIS in Earth, Environmental and Sustainability Sciences , Remote Sensing of the Environment in Earth, Environmental and Sustainability Sciences	EESC 660 requires EESC 360	4
Major Required Elective	EESC 634, EESC 631, EESC 633	Biogeochemistry, Isotope Geochemistry, Science of Soils	EESC 634 requires PHYS 125, PHYS 126, and CHEM 110 or CHEM 111. and EESC 631	4
			<b>Total:</b>	16
<b>Ninth Semester (FALL)</b>				
Grad Major	EESC 622, EESC 632, EESC 641	Seismic Exploration, Groundwater Flow and Contaminant Transport, Earthquake Geology		4
Grad Major	EESC 601	Professional Ethics in Environmental Geosciences		1
Grad Major	EESC 693	Project		1
UD Major or Grad Major	EESC 3xx- 6xx	Choice of Class		4
			<b>Total:</b>	10

Ten Semester (SPRING)				
Grad Major	EESC 6xx	Choice of Grad Class		4
Grad Major	EESC 602	Graduate Seminar		2
Grad Major	EESC 693	Project		1
Grad Major	EESC 671	Field Experience		2
			<b>Total:</b>	9
<b>Total Units:</b>				139

Degree: BS MS Environmental Geoscience (Geology Majors on Exam Track)				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
1A		Written Communication		3
3B		Arts & Humanities		3
Major Required and Area 5 Physical and Biological Sciences (Physical) 5A 5C	EESC 210	Physical and Environmental Geology and Geography y Units: 4 with lab Breadth Area: GE-5A, GE-5C		4
Major Required	PHYS 125	Principles of Physics I Units: 4 ; Breadth Area: GE-5A 5C	Satisfactory score of 78 or higher on Math Proficiency Assessment or MATH 120.	4
Major Required	EESC 297	Introductory Field Experience Units: 1		1
			<b>Total:</b>	15
<b>Second Semester (SPRING)</b>				
1C		Oral Communication		3
Area 2	MATH 130	Calculus I Units: 4 ; Breadth Area: GE-2	One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	3

Major Required	EESC 211	Historical Geology and Geography Units: 4 ; Breadth Area: GE-5A 5C		4
Major Required	PHYS 126	Principles of Physics II Units: 4 ; Breadth Area: GE-5A 5C		4
Free Elective				1
			<b>Total:</b>	15
<b>Third Semester (FALL)</b>				
1B/Second Comp		Critical Thinking		3
3A		Arts & Humanities		3
Major Required	CHEM 111	General Chemistry I Units: 3 ; Breadth Area: GE-5A		3
Major Required	CHEM 111L	General Chemistry Lab I Units: 2 ; Breadth Area: GE-5C		2
Area 4/Code 2		Social Sciences and U.S. Code (1,3)		3
Free Elective/Code 1/Code 2	TBD	TBD		3
			<b>Total:</b>	17
<b>Fourth Semester (SPRING)</b>				
Area 6		Ethnic Studies		3
Free Elective				2
Major Required	CHEM 112	General Chemistry II Units: 3	CHEM 111 & CHEM 111L with a C- or higher	3

Major Required	CHEM 112L	General Chemistry II Laboratory Units: 2	CHEM 111 & CHEM 111L with a C- or higher	2
Area 4/Code 2		Social Science and U.S. Code (US 1,2)		3
			<b>Total:</b>	13
<b>Fifth Semester (FALL)</b>				
UD Areas 5		Upper-division Science or Mathematical Concepts/Quantitative Reasoning	Completion of Areas 1 & 2.	3
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Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
Major Required	EESC 361	Mineralogy and Optical Crystallography Units: 4	CHEM 112 and EESC 210.	4
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				

UD Area 4 and SJ		UD Social and Behavioral Sciences	Completion of Areas 1 & 2.	3
UWR		University Writing Req		3
Major Required	EESC 362	Igneous and Metamorphic Petrology Units: 4	EESC 361	4
Major Required Elective	EESC 655, EESC 675	Watersheds, Sustainable Food Systems, Fire		3

			<b>Total:</b>	13
<b>Seventh Semester (FALL)</b>				
Major Required	EESC 420	Global Climate Change Units: 3 GE SUST		3
Major Required	EESC 363	Sedimentary Geology and Stratigraphy Units: 4	EESC 362	4
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Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
			<b>Total:</b>	16
<b>Eighth Semester (SPRING)</b>				
Major Required	EESC 499	Capstone Seminar in Earth, Environmental and Sustainability Sciences Units: 3		3
Major Required	EESC 364	Structural Geology Units: 5	EESC 361	5

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Grad Major	EESC 601	Professional Ethics in Environmental Geosciences		1
UD Major or Grad Major	EESC 3xx- 6xx	Choice of Class		4
			<b>Total:</b>	9
<b>Ten Semester (SPRING)</b>				

Grad Major	EESC 6xx	Choice of Grad Class		4
Grad Major	EESC 602	Graduate Seminar		2
Grad Major	EESC 692	Exam		2
Grad Major	EESC 671	Field Experience		2
			<b>Total:</b>	10
<b>Total Units:</b>				139