



**MAJOR IN  
WATERSHED SCIENCE &  
SUSTAINABILITY**  
Concentration: Watershed Data

Check or list course sub	YEAR 1		Offered	Sequenced Prerequisites	# of credits	AUCC Category
<b>Required courses for Year 1:</b>						
_____	CS 152	Python for STEM	F, S, SS	MATH 124 or higher with a minimum grade of B.	2	
_____	STAT 158	Intro to R Programming	S, SS		1	
_____	WR/GR 204	Sustainable Watersheds	F, S		3	3A

<b>AUCC Category 1A Intermediate Writing – Suggested completion during Year 1</b>						
_____	CO 150	College Composition	F, S, SS	Test or scores, or CO 130	3	1A

<b>Biology Selection – Choose one course from the following:</b>						
_____	BZ 110/111	Principles of Animal Biology/Lab	F, S, SS	BZ 111: BZ 110 or concurrent registration	4	3A
	BZ 120	Principles of Plant Biology	F, S, SS		4	3A

<b>Geology/Geography Selection – Choose one course from the following:</b>						
_____	GEOL 110	Intro to Geology-Parks and Monuments	F, S, SS		3	3A
	GEOL 120	Physical Geology	F, S, SS		3	3A
	GEOL 122	The Blue Planet: Geology of Our Environment	F, S		3	3A
	GEOL 124	Geology of Natural Resources	S		3	3A
	GEOL 150	Physical Geology for Scientists and Engineers	F		4	
	GR/ESS 210	Physical Geography	F		3	

<b>Chemistry Selection – Choose one course from the following:</b>						
_____	CHEM 107	Fundamentals of Chemistry	F, S, SS	MATH 117 or test placement; Lab: CHEM 107 or concurrent registration	4	3A
	CHEM 111	General Chemistry I	F, S, SS	MATH 118 or test placement; Lab: CHEM 111 or concurrent registration	4	3A

<b>Calculus Selection – Choose one course from the following:</b>						
_____	MATH 155	Calculus for Physical Scientists I	F, S, SS	MATH 117, MATH 118, MATH 124, MATH 125	4	1B
	MATH 160	Calculus for Biological Scientists I	F, S, SS	MATH 117, MATH 118, MATH 124, MATH 126	4	1B

Check or list course sub	YEAR 2		Offered	Sequenced Prerequisites	# of credits	AUCC Category
<b>Required courses for Year 2:</b>						
_____	CS 220	Discrete Structures and their Applications	F, S	CS 152 (with a minimum grade of B); MATH 155 or 160	4	
_____	NR 319	Introduction to Geospatial Science	F, S		4	
_____	SOCR 240	Introduction to Soil Science	F, S	CHEM 107 or 111	4	
_____	DSCI 369	Linear Algebra for Data Science	F, S	MATH 155 or 160	4	
<b>Statistics Selection – Choose one course from the following:</b>						
_____	STAT 301	Intro to Applied Statistical Methods	F, S, SS	MATH 117 or higher	3	
_____	STAT 315	Intro to Theory and Practice of Statistics	F, S, SS	MATH 160 or 155	3	
<b>Physics Selection – Choose one course from the following:</b>						
_____	PH 121	General Physics I	F, S, SS	MATH 125 or concurrent registration	5	3A
_____	PH 141	Physics for Scientists and Engineers I	F, S, SS	MATH 126; MATH 155 or 160 or concurrent reg.	5	3A

Check or list course sub	YEAR 3		Offered	Sequenced Prerequisites	# of credits	AUCC Category
<b>Required courses for Year 3:</b>						
_____	STAT 341	Statistical Data Analysis I	F	STAT 158; STAT 301 or 315	3	
_____	WR 416	Land Use Hydrology	F	SOCR 240 or Geology; Statistics; Physics	3	4
_____	WR 474	Snow Hydrology	F	WR 416; may be taken concurrently	3	
_____	WR 486	Watershed Field Practicum	F	Junior standing	2	
_____	AREC 342	Water Law, Policy, and Institutions	S		3	
_____	DSCI 335	Inferential Reasoning in Data Analysis	S	CO 301B or JTC 300; STAT 301 or 315	3	
_____	WR 418	Land Use and Water Quality	S	Any Chemistry class with lab; Statistics; STAT 158	3	

<b>Advanced Writing Selection – Choose one course from the following:</b>						
_____	CO 301B	Writing in the Disciplines-Sciences	F, S, SS	CO 150 or HONR 193	3	2
_____	JTC 300	Strategic Writing & Communications	F, S, SS	CO 150 or HONR 193	3	2

Check or list course sub	YEAR 4		Offered	Sequenced Prerequisites	# of credits	AUCC Category
<b>Required courses for Year 4:</b>						
	WR 417	Watershed Measurements	F	WR 416; WR 418	3	
	WR 440	Watershed Problem Analysis (Capstone course)	S	NR 319; WR 416 and WR 418	3	4
	Watershed Technical Electives*				12	

<b>MOUNTAIN CAMPUS SUMMER FIELD PROGRAM – Recommended summer between Year 2 and Year 3</b>						
	NR 220	Natural Resource Ecology & Measurements	SS	BZ 120 or similar, MATH 118	5	

Check or list course sub	<b>OTHER REQUIRED COURSEWORK – To be completed at any time in major program</b>				# of credits	AUCC Category
	Diversity, Equity, and Inclusion				3	1C
	Arts and Humanities				3	3B
	Arts and Humanities				3	3B
	Social and Behavioral Sciences				3	3C
	Historical Perspectives				3	3D
	Open Electives – Non-directed electives of students' choice; can be used toward a minor				10-11	

\* Watershed Technical Electives – Choose from the list of approved courses selected for Watershed Science and Sustainability students. Please see the ESS Department website or check with your Watershed Academic Success Coordinator or Faculty Mentor for the most up-to-date course list.

Note: Students in this concentration may be eligible to earn a minor in Applied Data Science. Please see your ESS academic advisor for assistance with choosing this additional program.