

MINOR IN WATERSHED SCIENCE

The Watershed Science minor addresses land use hydrology and sustainable watersheds through a set of core courses and engages students in experiential learning in a watershed field course. The program offers a broad and flexible selection of additional coursework options that emphasize physical, biogeochemical, and societal aspects of water resources and watershed management. Students can select the combination of courses that best fits their interests and complements their major.

Learning Objectives

Upon successful completion, students will be able to:

1. Demonstrate understanding of the key concepts in watershed science, including surface and subsurface hydrology and water quality.
2. Demonstrate understanding of land use effects on fresh water resources.
3. Develop skills in collection and analysis in two or more areas, such as terrain meteorological, hydrological, and/or water quality analyses.

Undergraduate Advising

Would you like to learn more from a Peer Mentor or Academic Success Coordinator?

Please visit our ESS Advising page here (<https://warnrcnr.colostate.edu/ess/advising-student-resources/>).

Requirements Effective Fall 2025

Students must satisfactorily complete the total credits required for the minor. Minors and interdisciplinary minors require 12 or more upper-division (300- to 400-level) credits.

Code	Title	Credits
Lower Division		
STAT 158	Introduction to R Programming	1
WR 204/GR 204	Sustainable Watersheds (GT-SC2)	3
Choose one course from the following:		3-4
ESS 210/GR 210	Physical Geography	
GEOL 110	Introduction to Geology-Parks and Monuments (GT-SC2)	
GEOL 120	Geology and Society (GT-SC2)	
GEOL 122	Geoscience–Climate and Environmental Change (GT-SC2)	
GEOL 124	Earth Resources and Sustainability (GT-SC2)	
GEOL 150	Dynamic Earth (GT-SC2)	
Upper Division		
WR 416	Land Use Hydrology	3
WR 486	Watershed Field Practicum	2
Select at least 9 credits from the following:		9
AREC 342	Water Law, Policy, and Institutions	
ATS 350	Introduction to Weather and Climate	

ATS 351	Introduction to Weather and Climate Lab
BZ 471	Stream Biology and Ecology
BZ 472	Stream Biology and Ecology Laboratory
CHEM 334	Quantitative Analysis Laboratory
CIVE 322	Basic Hydrology
CIVE 423	Groundwater Engineering
CIVE 440	Nonpoint Source Pollution
ESS 474	Limnology
ESS 523A	Environmental Data Science Applications: Introduction
ESS 523B/ SOCR 523B	Environmental Data Science Applications: Food and Agriculture
ESS 523C/ WR 523C	Environmental Data Science Applications: Water Resources
GEOL 452	Hydrogeology
GEOL 454	Geomorphology
GR 410	Climate Change: Science, Policy, Implications
NR 310	Ecosystem Services and Human Well-Being
NR 320	Natural Resources History and Policy
SOC 461	Water and Social Justice
SOCR 470	Soil Physics
SOCR 471	Soil Physics Laboratory
WR 406	Seasonal Snow Environments
WR 417	Watershed Measurements
WR 418	Land Use and Water Quality
WR 474	Snow Hydrology
WR 511	Water Resource Development
WR 512	Water Law for Non-Lawyers
WR 514	GIS and Data Analysis in Water Resources
WR 575	Snow Hydrology Field Methods

Program Total Credits: 21-22