



Sustainable Water Interdisciplinary minor

WATER IS CRITICAL TO OUR ECONOMIC, SOCIETAL, AND ENVIRONMENTAL WELL-BEING

Ensuring year-round availability of water in the Western U.S. requires water leaders to understand multiple users and ecosystems, while working with neighboring cities and states to balance competing water needs and make sound decisions regarding supply. These efforts are highly interdisciplinary, addressing not only ecological needs, but those of recreation, agriculture, and municipalities.

Today's water professionals must understand the history of water management, the mechanisms by which water is controlled and distributed, the economics of its development and protection, its ecology, and how its use and quality is impacted by human activities. Students who plan to work in this field should have an area of specialization as well as a solid understanding of Western water.

*If there is magic on this
planet, it is contained
in water.*

– LOREN EISLEY

COLORADO STATE UNIVERSITY IS RECOGNIZED AS ONE OF THE WORLD'S LEADING INSTITUTIONS OF HIGHER EDUCATION FOR WATER PROFESSIONALS

CSU has more than 200 faculty and staff who apply their disciplines to water, and over 180 water-oriented courses. Undergraduate majors — whether fishery and wildlife biology, engineering, or sociology — provide students the disciplined rigor needed to be successful, while the **Sustainable Water Interdisciplinary Minor (SWIM)** offers students an opportunity to gain deeper knowledge about the many dimensions of water. See more information regarding the minor at the [SoGES Focused Minors webpage](#) or by contacting Ryan Deming, Minor Advisor, at SWIMadvising@colostate.edu or use Calendly to [schedule an appointment in-person](#) or [schedule an appointment online](#).

SWIM students complete 21 credits in core and elective courses that are relevant to today's water professional. Completion of the SWIM is certified on the student's academic record.



Sustainable Water Interdisciplinary Minor (SWIM) Checksheet

The SWIM provides students from all majors the opportunity to gain deeper knowledge about the many dimensions of water and prepare for a career or graduate study in water.

Required Core Courses

9 CREDITS REQUIRED

KEY - F: FALL, S: SPRING, (E)/(O) EVEN/ODD YEARS, SS: SUMMER SESSION, O: MAY BE OFFERED ONLINE

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ GES 120	Water Sustainability in the Western U.S.	F	3	
☐ AREC 342	Water Law, Policy, and Institutions	S	3	

SELECT ONE OF THE FOLLOWING COURSES:

☐ AREC / ECON 240	Issues in Environmental Economics (AUCC 3C)	F, S, SS	3	
☐ AREC / ECON 340	Introduction - Economics of Natural Resources	S	3	AREC 202 or ECON 202
☐ AREC 341	Environmental Economics	F	3	AREC 202 or ECON 202

Foundations of Water

SELECT 3 CREDITS FROM THE FOLLOWING COURSE-GROUPS

KEY - F: FALL, S: SPRING, (E)/(O) EVEN/ODD YEARS, SS: SUMMER SESSION, O: MAY BE OFFERED ONLINE

BIOLOGY

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ BZ 104	Basic Concepts of Plant Life (AUCC 3A)	F, S	3	
☐ BZ 110	Principles of Animal Biology (AUCC 3A)	F, S, SS	3	
☐ BZ 120	Principles of Plant Biology (AUCC 3A)	F, S, SS	4	
☐ FW 204	Introduction to Fishery Biology	F	3	
☐ LIFE 103	Biology of Organisms - Animals & Plants (AUCC 3A)	F, S, SS	4	

CHEMISTRY

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ CHEM 103	Chemistry in Context (AUCC 3A)	F, S, SS	3	
☐ CHEM 107	Fundamentals of Chemistry (AUCC 3A)	F, S	4	MATH 117 or MATH 141 or MATH 155 or MATH 160 or MATH 161 or MATH 229 or MATH 261, any may be taken concurrently
☐ CHEM 113	General Chemistry II	F, S, SS	3	(CHEM 107 or CHEM 111 or CHEM 117) and (MATH 124 or MATH 141 or MATH 155 or MATH 160 or MATH 161 or MATH 229 or MATH 261, any may be taken concurrently)

GEOGRAPHY

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ GR 100	Introduction to Geography (AUCC 3C)	F, S	3	
☐ GR/ESS 210	Physical Geography	F, S	3	

ECOLOGY

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ ESS 311	Ecosystem Ecology	F	3	(PH 121 or PH 141) and (LIFE 320)
☐ LAND/LIFE 220	Fundamentals of Ecology (AUCC 3A)	F	3	(BIO 100 to 199 or BZ 100 to 199 or LIFE 100 to 199 or HORT 100) and (MATH 100 to 199)
☐ LIFE 320	Ecology	F, S	3	(BZ 101 or BZ 104 or BZ 110 or BZ 120 or LIFE 102) and (MATH 141 or MATH 155 or MATH 160)

GEOLOGY

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ GEOL 120	Exploring Earth - Physical Geology (AUCC 3A)	F, S, SS	3	
☐ GEOL 122	The Blue Planet - Geology of our Environment (AUCC 3A)	F, S	3	
☐ GEOL 124	Geology of Natural Resources (AUCC 3A)	S	3	
☐ GEOL 150	Physical Geology for Scientists and Engineers (AUCC 3A)	F	4	

PHYSICS

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ PH 110	Physics of Everyday Phenomena (AUCC 3A)	F, S	3	
☐ PH 121	General Physics I (AUCC 3A)	F, S, SS	5	MATH 125 or MATH 155 or MATH 157 or MATH 160, any may be taken concurrently
☐ PH 141	Physics for Scientists and Engineers I (AUCC 3A)	F, S, SS	5	(MATH 126 and MATH 155, both may be taken concurrently) or (MATH 155 or MATH 159 or MATH 160, any may be taken concurrently)

Context of Water

SELECT A MINIMUM OF 9 CREDITS FROM THE FOLLOWING COURSES. AT LEAST 3 CREDITS MUST BE TAKEN IN EACH CONTEXT CATEGORY

KEY – F: FALL, S: SPRING, (E)/(O) EVEN/ODD YEARS, SS: SUMMER SESSION, O: MAY BE OFFERED ONLINE

SOCIOLOGICAL – ECONOMIC CONTEXT

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ GES 101	Foundations of Environmental Sustainability	F	3	
☐ AGRI/IE 270	World Interdependence – Population and Food (AUCC 3E)	S	3	
☐ AREC 340	Introduction–Economics of Natural Resources	S	3	AREC 202 or ECON 202
☐ AREC 341	Environmental Economics	F	3	AREC 202 or ECON 202
☐ CON 476¹	Sustainable Practice – Design and Construction	F	3	
☐ E 339	Literature of the Earth	F, S	3	CO 150
☐ JTC 461	Writing about Science, Health, and Environment	F	3	JTC 210 or JTC 300 or LB 300
☐ MGT 360	Social and Sustainable Venturing	S	3	
☐ NR 320	Natural Resources History and Policy	F, S, SS	3	Junior standing or higher
☐ PHIL 320	Ethics of Sustainability	F, S	3	
☐ PHIL 345	Environmental Ethics	F, S	3	Sophomore standing or higher
☐ POLS 361	U.S. Environmental Politics and Policy	F, S, SS	3	POLS 101
☐ SOC 323	Sociology of Env. Cooperation and Conflict	S	3	SOC 100 or SOC 105
☐ SOC 461	Water, Society, and Environment	F, S, SS	3	SOC 100 or SOC 105

BIOLOGICAL – PHYSICAL CONTEXT

COURSE CODE	COURSE NAME	OFFERED	CREDITS	PREREQUISITES
☐ ATS 150	Science of Global Climate Change	S	3	
☐ BZ 415	Marine Biology	S (O)	4	LIFE 320
☐ BZ 471	Stream Biology and Ecology	F (O)	3	LAND/LIFE 220 or LIFE 320
☐ BZ/ESS 474	Limnology	S (O)	3	LAND/LIFE 220 or LIFE 320
☐ CIVE 322	Basic Hydrology	F, S	3	(CBE 331 or CIVE 300 or WR 416) and (CIVE 203 or STAT 301 or STAT 315)
☐ CIVE 330	Ecological Engineering	S	3	([BZ 110 and BZ 111] or BZ 120 or LIFE 102 or SOCR 240) and (CHEM 113) and (CIVE 300 or LIFE 320)

(CONTINUATION)

☐ CIVE 413	Environmental River Mechanics	F	3	CIVE 300 or WR 416
☐ CIVE 423	Groundwater Engineering	S	3	CBE 331 or CIVE 300 or WR 416
☐ CIVE 440	Nonpoint Source Pollution	F	3	CIVE 300 or CIVE 322 or SOCR 240 or WR 416
☐ ERHS 320	Environmental Health - Water Quality	F	3	MIP 300 - May be taken concurrently
☐ FW 300	Biology and Diversity of Fishes	S	2	BZ 111 or LIFE 103
☐ FW 301	Ichthyology Lab	F, S	1	FW 300 - May be taken concurrently
☐ FW 400	Conservation of Fish in Aquatic Ecosystems	F	3	FW 300 and LIFE 320
☐ GEOL 452	Hydrogeology	F	4	(GEOL 110 or GEOL 120 or GEOL 122 or GEOL 124 or GEOL 150 or GR 210) and (MATH 161 or MATH 255) and (PH 121 or PH 141)
☐ LAND/HORT 368	Landscape Irrigation and Water Conservation	F, S	3	HORT 100 or LAND 110
☐ SOCR 370	Irrigation Principles	S	2	(HORT 100 or SOCR 100 or BZ 120) and (SOCR 240)
☐ SOCR 371	Irrigation of Field Crops	F	1	SOCR 370
☐ GR/WR 204²	Sustainable Watersheds (AUCC 3A)	F, SS	3	
☐ WR 416	Land Use Hydrology	F	3	(GEOL 120 or GEOL 122 or GEOL 124 or GEOL 150 or SOCR 240) and (CIVE 202 or STAT 201 or STAT 301 or STAT 307 or STAT 315) and (PH 110 or PH 121 or PH 141)
☐ WR 418	Land Use and Water Quality	S	3	([CHEM 103 and CHEM 104] or [CHEM 107 and CHEM 108] or [CHEM 111 and CHEM 112]) and (STAT 158) and (STAT 301 or STAT 315)
☐ WR 474	Snow Hydrology	F	3	WR 416

SWIM Requirements

- 21 Total credits for completion, 12 of the 21 credits must be upper division (300 level or above).
- Some courses have prerequisite(s), and some may only be offered during certain semesters. Visit the CSU Catalog at catalog.colostate.edu to confirm.
- ¹Enrollment in CON 476 is limited to Construction Management majors only.
- ² Students who have previously completed GR/WR304 may count this course towards the Context of Water requirement

MORE INFORMATION:



**Want to see how it fits into your studies?
Declare early to track your progress! Scan the QR for
more information.**