MAJOR IN ENVIRONMENTAL ENGINEERING

Requirements
Effective Fall 2025

Freshman

		AUCC	Credits
CHEM 111	General Chemistry I (GT-SC2)	3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)	3A	1
CO 150	College Composition (GT-CO2)	1A	3
ENGR 111	Fundamentals of Engineering		3
ENGR 114	Engineering for Grand Challenges		3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	1B	4
MATH 161	Calculus for Physical Scientists II (GT-MA1)	1B	4
PH 141	Physics for Scientists and Engineers I (GT-SC1)	3A	5
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)		3B	3
	Total Credits		**30**

Sophomore

CHEM 113	General Chemistry II		3
CHEM 114	General Chemistry Lab II		1
CIVE 202	Numerical Modeling and Optimization		3
CIVE 203	Engineering Systems and Decision Analysis		3
CIVE 260	Engineering Mechanics-Statics		3
CIVE 261	Engineering Mechanics-Dynamics		3
CIVE 360	Mechanics of Solids		3
MATH 261	Calculus for Physical Scientists III		4
MATH 340	Intro to Ordinary Differential Equations		4
MECH 237	Introduction to Thermal Sciences		3
Select four credits from the following course or course pair:			4
Group A:			
BZ 110	Principles of Animal Biology (GT-SC2)	3A	
BZ 111	Animal Biology Laboratory (GT-SC1)	3A	
Group B:			
BZ 120	Principles of Plant Biology (GT-SC1)	3A	
Group C:			
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	
	Total Credits		**34**

Junior

CHEM 245	Fundamentals of Organic Chemistry		4
CIVE 300	Fluid Mechanics		3
CIVE 301	Fluid Mechanics Laboratory		1
CIVE 322	Basic Hydrology		3
CIVE 339	Environmental Engineering Concepts		3
CIVE 355	Geotechnical Engineering		3
CIVE 356	Geotechnical Engineering Laboratory		1
CIVE 442	Air Quality Engineering		3

MIP 300	General Microbiology		3
Select one course from the following:			3
AREC 202	Agricultural and Resource Economics (GT-SS1)	3C	
ECON 202	Principles of Microeconomics (GT-SS1)	3C	
Advanced Writing (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)		2	3
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		3D	3
	Total Credits		**33**

Senior

CIVE 401	Hydraulic Engineering		3
CIVE 402	Senior Design Principles	4A,4B	3
CIVE 403	Senior Project Design	4C	3
CIVE 439	Applications of Environmental Engr Concepts		3
CIVE 441	Water Quality Analysis and Treatment		3
ERHS 446	Environmental Toxicology		3
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)		1C	3
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)		3B	3
Engineering Technical Electives (see list below)			6
Additional Technical Electives (see list below)			3
	Total Credits		**33**
	Program Total Credits:		**130**

Engineering Technical Electives – Select a minimum of 6 credits

Code	Title	Credits
CIVE 305	Intermediate AutoCAD	3
CIVE 330	Ecological Engineering	3
CIVE 405	Sustainable Civil/Environmental Engineering	3
CIVE 421	Global Water Challenges	3
CIVE 423	Groundwater Engineering	3
CIVE 437	Wastewater Treatment Facility Design	3
CIVE 440	Nonpoint Source Pollution	3
CIVE 455	Applications in Geotechnical Engineering	3
CIVE 458	Environmental Geotechnics	3
CIVE 502	Fluid Mechanics	3
CIVE 511	Coastal Engineering	3
CIVE 512	Irrigation Systems Design	3
CIVE 513	Morphodynamic Modeling	3
CIVE 514	Hydraulic Structures/Systems	3
CIVE 515	River Mechanics	3
CIVE 519	Irrigation Water Management	3
CIVE 520	Physical Hydrology	3
CIVE 521	Hydrometry	3
CIVE 524/WR 524	Modeling Watershed Hydrology	3
CIVE 525	Water Engineering International Development	3
CIVE 526	Pollution, Exposure, and the Environment	3
CIVE 527	Tools for Food-Energy-Water Systems Analysis	3
CIVE 529	Environmental Organic Chemistry	3
CIVE 530	Environ Engr at the Water-Energy-Health Nexus	3
CIVE 531	Groundwater Hydrology	3
CIVE 533/BIOM 533	Biomolecular Tools for Engineers	3
CIVE 538	Aqueous Chemistry	3
CIVE 540/CBE 540	Advanced Biological Wastewater Processing	3
CIVE 541	Physical Chemical Water Treatment Processes	3
CIVE 542	Water Quality Modeling	3
CIVE 544	Water Resources Planning and Management	3
CIVE 547/STAT 547	Statistics for Environmental Monitoring	3
CIVE 549	Drainage and Wetland Engineering	3
CIVE 558	Containment Systems for Waste Disposal	3
CIVE 572	Analysis of Urban Water Systems	3
CIVE 574	Civil Engineering Project Management	3
CIVE 575	Sustainable Water and Waste Management	3
CIVE 576	Engineering Applications of GIS and GPS	3
ENGR 502	Engineering Project and Program Management	3
ENGR 550/ MATH 550	Numerical Methods in Science and Engineering	3
SYSE 501	Foundations of Systems Engineering	3

Additional Technical Electives – Select a minimum of 3 credits

Code	Title	Credits
AREC 340/ECON 340	Introduction-Economics of Natural Resources	3
AREC 342	Water Law, Policy, and Institutions	3
AREC 444/ECON 444	Economics of Energy Resources	3
ATS 555	Air Pollution	3
ATS 560	Air Pollution Measurement	2
BZ 471	Stream Biology and Ecology	3
BZ 472	Stream Biology and Ecology Laboratory	1
ERHS 320	Environmental Health--Water Quality	3
ERHS 448	Environmental Contaminants	3
ESS 474	Limnology	3
ESS 524	Foundations for Carbon/Greenhouse Gas Mgmt	3
JTC 461	Writing About Science, Health and Environment	3
LIFE 320	Ecology	3
MGT 305	Fundamentals of Management	3
NR 319	Introduction to Geospatial Science	4
NR 323/GR 323	Remote Sensing and Image Interpretation	3
PSY 517/IE 517	Perspectives in Global Health	3
RS 478	Ecological Restoration	3
SOCR 455	Microbiomes of Soil Systems	3
SOCR 467	Soil and Environmental Chemistry	3
SOCR 470	Soil Physics	3