



Hydrologic Sciences Graduate Program

CERTIFICATE AND SUBPLAN APPLICATION

Please complete the following form and email it to the Program Coordinator at hydrogrd@colorado.edu.

Name	_____	Date	_____
	<i>Last First M.I.</i>		
Program	_____	Email	_____
	<i>Home department MS/MA/PhD</i>		
Expected Graduation Date	_____	Student ID number	_____
Thesis or Dissertation Topic	_____		
Student signature	_____	PhD students in ATOC, EBIO, ENVS, GEOG, GEOL: indicate certificate or subplan	
Faculty advisor signature	_____	_____	

Statement of research interests in hydrologic sciences. 150-200 words.

Plan for Required Courses

List A	_____	List B	_____
Semester	_____	Semester	_____
Elective 1	_____	Semester	_____
Elective 2	_____	Semester	_____
Elective 3	_____	Semester	_____

The Hydrologic Sciences certificate and subplan require five courses: one course from List A, one course from List A or B, and three electives for a total of 15 credits. A degree audit tool is available via the [CU Buff Portal](#). A complete description of the requirements for the Hydrologic Sciences Graduate Certificate and Subplan may be found on the [Hydrologic Sciences Program website](#). Course options are reviewed and updated annually by the Program Steering Committee. If a student seeks a substitution or requests a course be added to the Program curriculum, they may email their petition [to the Program Coordinator](#). *N.B.* Substitutions for List A and List B courses are not considered.

Required Courses	Title	Credit Hours
List A Quantitative Skills		
ATOC 5050	Atmospheric Thermodynamics and Dynamics	3
ATOC 5060	Dynamics of the Atmosphere and Oceans	3
CVEN 5313	Environmental Fluid Mechanics	3
CVEN 5353	Groundwater Hydrology	3
CVEN 5464	Environmental Engineering Processes	3
GEOL 5080	Advanced Hydrogeology and Modeling Concepts	3
GEOL 5110	Geomechanics	3
List B Introduction to a Hydrologic Science		
ATOC 5051	Introduction to Physical Oceanography	3
ATOC 5061	Advanced Ocean Dynamics and Air-Sea Coupled ENSO Mechanisms	3
CVEN 5333	Physical Hydrology	3
CVEN 5404	Water Chemistry	3
GEOG 5251	River Systems and Landforms	3
GEOG 5321	Snow Hydrology	3-4

2024-2025 elective list	Title	Credit Hours
ATOC 5200	Biogeochemical Oceanography	3
ATOC 5235	Introduction to Atmospheric Radiative Transfer and Remote Sensing	3
ATOC 5500	Special Topics in ATOC (HydroSciences topics)	3
ATOC 5550	Mountain Meteorology	3
ATOC 5600	Physics and Chemistry of Clouds and Aerosols	3
ATOC 5730	Physical Oceanography and Climate	3
ATOC 5750	Desert Meteorology and Climate	3
ATOC 5780	Ice Sheets and Climate	3
ATOC 5850	Numerical Methods Laboratory	3
CHEM 5141	Environmental Water and Soil Chemistry	3
CVEN 5323	Applied Stream Ecology	3
CVEN 5343	Transport and Dispersion in Surface Water	3
CVEN 5363	Modeling of Hydrologic Systems	3
CVEN 5383	Applied Groundwater Modeling	3
CVEN 5424	Environmental Organic Chemistry	3
CVEN 5454	Statistical Methods for Natural and Engineered Systems	3
CVEN 5537	Numerical Methods in Civil Engineering	3
CVEN 5833	Special Topics (HydroSciences topics)	3
CVEN 6414	Aquatic Surfaces and Particles	3
EBIO 5030	Limnology	3
ENVS 5840/GEOL 5305	Global Biogeochemical Cycles	3
GEOG 5023	Advanced Quantitative Methods for Spatial Data	4
GEOG 5093/GEOL 5093	Remote Sensing of the Environment	4
GEOG 5241	Topics in Physical Geography (HydroSciences topics)	3
GEOG 5271	The Arctic Climate System	4
GEOG 5303	Geographic Information Science: Spatial Programming	3
GEOG 5463	Earth Analytics Data Science Bootcamp	3
GEOL 5060	Oceanography	4
GEOL 5270	Marine Chemistry and Geochemistry	4
GEOL 5280	Aqueous and Environmental Geochemistry	4
GEOL 5430	Paleoceanography and Paleoclimatology	3
GEOL 5700	Geological Topics Seminar (HydroSciences topics)	3