



# Hydrologic Sciences Graduate Program

## CERTIFICATE AND SUBPLAN APPLICATION

Please complete the following form and email it to the Program Coordinator at [hydrogrd@colorado.edu](mailto:hydrogrd@colorado.edu).

Name	<i>Last</i> <i>First</i> <i>M.I.</i>	Date	
Program	<i>Home department</i> <i>MS/MA/PhD</i>	Email	
Expected Graduation Date		Student ID number	
Faculty Advisor			
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 C	Title	Credit Hours
<i>List A</i>		
<a href="#">ATOC 5050</a>	Atmospheric Thermodynamics and Dynamics	3
<a href="#">ATOC 5060</a>	Dynamics of the Atmosphere and Oceans	3
<a href="#">CVEN 5313</a>	Environmental Fluid Mechanics	3
<a href="#">CVEN 5353</a>	Groundwater Hydrology	3
<a href="#">GEOL 5110</a>	Geomechanics	3
<i>List B</i>		
<a href="#">ATOC 5051</a>	Introduction to Physical Oceanography	3
<a href="#">ATOC 5061</a>	Advanced Ocean Dynamics and Air-Sea Coupled ENSO Mechanisms	3
<a href="#">CVEN 5333</a>	Physical Hydrology	3
<a href="#">CVEN 5404</a>	Water Chemistry	3
<a href="#">GEOG 5321</a>	Snow Hydrology	3-4
<a href="#">GEOL 5080</a>	Advanced Hydrogeology and Modeling Concepts	3

2023-2024 elective list	Title	Credit Hours
<a href="#">ATOC 5235</a>	Introduction to Atmospheric Radiative Transfer and Remote Sensing	3
<a href="#">ATOC 5500</a>	Special Topics in ATOC (Field Observations and Measurements)	1-3
<a href="#">ATOC 5550</a>	Mountain Meteorology	3
<a href="#">ATOC 5600</a>	Physics and Chemistry of Clouds and Aerosols	3
<a href="#">ATOC 5730</a>	Physical Oceanography and Climate	3
<a href="#">ATOC 5750</a>	Desert Meteorology and Climate	3
<a href="#">ATOC 5780</a>	Ice Sheets and Climate	
<a href="#">ATOC 5850</a>	Numerical Methods Laboratory	
<a href="#">CHEM 5141</a>	Environmental Water and Soil Chemistry	3
<a href="#">CVEN 5323</a>	Applied Stream Ecology	3
<a href="#">CVEN 5343</a>	Transport and Dispersion in Surface Water	3
<a href="#">CVEN 5363</a>	Modeling of Hydrologic Systems	3
<a href="#">CVEN 5383</a>	Applied Groundwater Modeling	3
<a href="#">CVEN 5404</a>	Water Chemistry	3
<a href="#">CVEN 5454</a>	Statistical Methods for Natural and Engineered Systems	3
<a href="#">CVEN 5833</a>	Special Topics (Analysis of Urban Water Systems)	1-3
<a href="#">CVEN 5537</a>	Numerical Methods in Civil Engineering	3
<a href="#">CVEN 5833</a>	Special Topics (Environmental Transport and Dispersion Processes)	1-3
<a href="#">CVEN 6383</a>	Flow and Transport through Porous Media	3
<a href="#">CVEN 6414</a>	Aquatic Surfaces and Particles	3
<a href="#">EBIO 5030</a>	Limnology	3
<a href="#">ENVS 5840</a>	Global Biogeochemical Cycles	3
<a href="#">GEOG 5023</a>	Advanced Quantitative Methods for Spatial Data	4
<a href="#">GEOG 5093</a>	Remote Sensing of the Environment	4
<a href="#">GEOG 5241</a>	Topics in Physical Geography (Watershed Biogeochemistry)	1-3
<a href="#">GEOG 5241</a>	Topics in Physical Geography (Fluvial Geomorphology)	1-3
<a href="#">GEOG 5251</a>	River Systems and Landforms	4
<a href="#">GEOG 5271</a>	The Arctic Climate System	3
<a href="#">GEOG 5303</a>	Geographic Information Science: Spatial Programming	4
<a href="#">GEOL 5060</a>	Oceanography	4
<a href="#">GEOL 5093</a>	Remote Sensing of the Environment	4
<a href="#">GEOL 5270</a>	Marine Chemistry and Geochemistry	3
<a href="#">GEOL 5280</a>	Aqueous and Environmental Geochemistry	3
<a href="#">GEOL 5305</a>	Global Biogeochemical Cycles	3
<a href="#">GEOL 5430</a>	Paleoceanography and Paleoclimatology	3
<a href="#">GEOL 5700</a>	Geological Topics Seminar (Terrestrial Hydrology)	3-4
<a href="#">GEOL 5700</a>	Geological Topics Seminar (Sedimentary Modeling)	1-4