University of Colorado **Boulder**

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	_____ *Last* _____ *First* _____ *M.I.*	Date	_____
Program	_____ *Home department* _____ *MS/MA/PhD*	Email	_____
Expected Graduation Date	_____	Student ID number	_____
Faculty Advisor	_____		
Thesis or Dissertation Topic	_____		
Student signature	_____	PhD students in ATOC, EBIO, ERTH, ENVS, GEOG: 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 complete description of the requirements and updated course lists may be found on the Hydrologic Sciences Program website. The course lists are reviewed annually by the Program Steering Committee. If a student seeks a substitution or to request to add an elective, email the petition to the Program Coordinator. *N.B.* Substitutions for List A and List B courses are not considered.

Core Requirements: Choose two, at least one must be from the List A (six credits total)

List A: Advanced 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
☐	ERTH 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 5241	Topics in Physical Geography (Fluvial Geomorphology)	3
☐	GEOG 5251	River Processes and Forms: Fluvial Geomorphology	3-4
☐	GEOG 5321	Snow Hydrology	3

Elective Courses: Choose 3, additional classes from the core list may serve as electives (nine credits total)

☐	ATOC 5200	Biogeochemical Oceanography	3
☐	ATOC 5235	Introduction to Atmospheric Radiative Transfer and Remote Sensing	3
☐	ATOC 5550	Mountain Meteorology	3
☐	ATOC 5600	Physics and Chemistry of Clouds and Aerosols	3
☐	ATOC 5730	Physical Oceanography and Climate	3
☐	ATOC 5735	Coastal Oceanography	3
☐	ATOC 5750	Desert Meteorology and Climate	3
☐	ATOC 5780	Ice Sheets and Climate	3
☐	CHEM 5141	Environmental Water and Soil Chemistry	3
☐	CVEN 5122	The Colorado River Water Crisis: Water Policy, Hydrological Variability, and Climate Change	3
☐	CVEN 5133	Land Use and Water Quality	3
☐	CVEN 5303	Analysis of Urban Water Systems	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 (Surface-Groundwater Exchanges, AI for Earth System Science & Engineering)	3
☐	ERTH 5430	Paleoceanography and Paleoclimatology	3
☐	EBIO 5030	Limnology	3
☐	EBIO 5155	Ecosystem Ecology	4
☐	ENVS 5100	Special Topics in Environmental Studies (Water Society and Policy; Hazardous algal blooms: impacts and management)	1-3
☐	ENVS 5840	Global Biogeochemical Cycles	3
☐	ERTH 5093	Remote Sensing of the Environment	4
☐	ERTH 5270	Marine Chemistry and Geochemistry	3
☐	ERTH 5280	Aqueous and Environmental Geochemistry	3
☐	ERTH 5305	Global Biogeochemical Cycles	3
☐	ERTH 5430	Paleoceanography and Paleoclimatology	3
☐	ERTH 5640	Glaciology	3
☐	ERTH 5700	Earth Science Topics Seminar (Terrestrial Hydrology, The Future of Snow)	3-4
☐	ERTH 5700	Earth Science Topics Seminar (Sedimentary Modeling)	3-4
☐	ERTH 5721	Classics and Frontiers in Hydrology	2
☐	ERTH 5775	Introduction to Numerical Modeling in Geoscience	3
☐	ERTH 5980	Surface Water Hydrology	3
☐	GEOG 5023	Advanced Quantitative Methods for Spatial Data	4
☐	GEOG 5093	Remote Sensing of the Environment	4
☐	GEOG 5241	Topics in Physical Geography (Watershed Biogeochemistry)	3
☐	GEOG 5241	Topics in Physical Geography (Mountain Hydrology)	3
☐	GEOG 5241	Topics in Physical Geography (Snow from Space)	3
☐	GEOG 5241	Topics in Physical Geography (Adv in Measuring Mtn Snowpack)	3
☐	GEOG 5271	The Arctic Climate System	3
☐	GEOG 5303	Geographic Information Science: Spatial Programming	4
☐	GEOG 5463	Earth Analytics Data Science Bootcamp	3