Hydrologic Sciences Graduate Program Application

Please complete the following form and email to: hydrogrd@colorado.edu or send it to: Hydrologic Sciences Graduate Program at INSTAAR, 450 UCB, Boulder, CO 80309-0450.

Also attach:
1) a letter of intent describing your research interests including which aspect of hydrologic sciences (physical, chemical or biological) you wish to pursue and
2) a copy (official or unofficial) of your undergraduate and graduate transcripts.

Today’s Date ___________________________ Intended Graduation Date ___________________________

Name ___________________________________ Student ID Number __________ - ______ - _______

Email Address ___________________________ Phone Number ________________________________

Home Department ___________________________ Faculty Advisor ____________________________

Undergraduate Prerequisites:
All students entering the program are expected to have had taken a standard year-long sequence of courses in calculus and physics, plus upper division courses in differential equations and fluid mechanics.

The math prerequisite can be satisfied by taking APPM 2360: Introduction to Differential Equations and Linear Algebra. The fluid mechanics prerequisite can be satisfied by taking one of several courses, including CVEN 3313: Theoretical Fluid Mechanics, GEOL 5110: Geomechanics, ATOC/ASTR 5400: Introduction to Fluid Mechanics, or GEOL 5700: Sediment Transport Mechanics. These supplementary courses may count toward your overall graduate degree, but only count as prerequisites toward the graduate certificate in hydrology.

You are encouraged to contact the Graduate Program Coordinator about your application to the program if you have deficiencies in either of these areas. Please indicate your plan to meet these prerequisites as part of your application, which will be considered by the Hydrologic Sciences Steering Committee along with your planned coursework and thesis research.

Please indicate when and where you have taken these pre-requisites or when you plan to take them:

<table>
<thead>
<tr>
<th>Semester and Year</th>
<th>Course number and University / College</th>
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Fluid or Geo mechanics/Sediment Transport:

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<th>Course number and University / College</th>
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Differential Equations/Linear Algebra:

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You are required to take 2 Core Courses and 3 electives from the pre-approved list that follows this form**. If you feel another course would be appropriate to your studies, you may include that course here and explain why you are requesting that course in your letter of intent.

Please list the courses to be taken for the certificate program and when they were taken or are planned.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Semester</th>
<th>Year</th>
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<tr>
<td></td>
<td>Hydrologic Sciences Core Courses</td>
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<td>Hydrologic Sciences Elective Courses</td>
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** A list of courses is attached to this application, but also visit: http://hydrosciences.colorado.edu/academics/courses.php

Master of Science Students, please provide your thesis topic and the Hydrologic Sciences Faculty member that will be serving on your committee, if you have one.

Thesis Topic: __________________________________________________________

Faculty Committee Member: ____________________________________________

PhD Students, please provide your dissertation topic and the 2 Hydrologic Sciences Faculty members that will be serving on your committee, also indicate if you are applying for the certificate or the PhD in Hydrologic Sciences

Dissertation Topic: ______________________________________________________

Faculty Committee Members: ____________________________________________ and ____________________________________________

Certificate ____________ or PhD Program ____________

Student’s Signature __________________________________ Faculty Advisor’s Signature __________________________________

For more information, visit http://hydrosciences.colorado.edu or email hydrogrd@colorado.edu
### List** of Courses for the Hydrologic Sciences Graduate Certificate and PhD Programs

#### Prerequisites (1 of each needed)

**Differential Equations:**
- Intro to Diff. Equations and Linear Algebra  
  APPM 2360

**Fluids:**
- Sediment Transport Mechanics  
  GEOL 5700
- Theoretical Fluid Mechanics  
  CVEN 3313
- Geomechanics  
  GEOL 5110
- Intro to Fluid Mechanics  
  ASTR/ATOC 5400

#### Core Courses (2 needed)

- Environmental Fluid Dynamics  
  CVEN 5313
- Intro to Fluid Mechanics  
  ASTR/ATOC 5400
- Hydrology  
  CVEN 5333
- Groundwater Hydrology  
  CVEN 5353
- Adv. Hydrogeology & Modeling  
  GEOL 5080
- Snow Hydrology  
  GEOG 5321
- Surface Water Hydrology  
  GEOG 5241
- Atmospheric Processes and Climate  
  ATOC 5600
- Terrestrial Hydrology  
  GEOL 5700

#### Additional Courses (3 needed)

- Watershed Biogeochemistry  
  GEOG 5241
- Environmental Eng. Chemistry  
  CVEN 5404
- Global Biogeochemical Cycles  
  GEOL 5840
- Advanced Aquatic Chemistry  
  CVEN 6404
- Aqueous and Environ. Geochem.  
  GEOL 5280
- Geomechanics  
  GEOL 5110
- Glaciers and Permafrost  
  GEOG 5100
- Fluvial Geomorphology  
  GEOG 5251
- Sediment Transport Mechanics  
  GEOL 5700
- Transport & Dispersion  
  CVEN 5343
- Applied Groundwater Modeling  
  CVEN 5383
- Stream Ecology  
  EBIO 5020
- Limnology  
  EBIO 5030
- Applied Stream Ecology  
  CVEN 5323
- GIS Programming  
  GEOG 5303
- Modeling Hydrologic Systems  
  CVEN 5363
- Numerical Methods in Civil Eng.  
  CVEN 5537
- Quantitative Methods  
  CVEN 5454
- Oceanography  
  GEOL 5060
- Paleocean. and Paleoclimate  
  GEOL 5430
- Marine Chemistry and Ocean.  
  GEOL 5270
- Remote Sensing of the Environ.  
  GEOG 5093
- Quantitative Methods  
  GEOG 5023
  CVEN 5833
- Aquatic Surface Particles  
  CVEN 6414
- Porous Flow & Transport  
  CVEN 6383
- Intro. to Atmospheric Dynamics  
  ATOC 5050
- Desert Meteorology and Climate  
  ATOC 5750
- Mountain Meteorology  
  ATOC 7500
- The Arctic Climate System  
  GEOG 5271

*Please check our website for course updates:* [http://hydrosciences.colorado.edu/academics/courses.php](http://hydrosciences.colorado.edu/academics/courses.php)