

WATER RESOURCES SCIENCE AND MANAGEMENT OPTION (M.S.)

Master of Science. Major in Water Resources - Science and Management Option.

Common Courses

Students in both M.S. and Ph.D. degree programs are required to fulfill a set of common courses, applicable to all three Water Resources Option Areas. The common courses are:

Code	Title	Hours
WR 501	Seminar	1-16
WR 506	Interdisciplinary Methods in Water Resources	2
Select one 500-level Elective Course ¹		3
Total Hours		6-21

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(Or 900- level in LAW) in an option area outside the main option area (3 cr for Ph.D. only).

Entry Requirements

Coursework in the following is required for (M.S. and Ph.D.) admission to the Water Resources Science & Management Option Area. Provisional admission for M.S. students may be granted to those who have completed the majority of this coursework, provided the remaining coursework is completed as deficiency requirements.

- Calculus (6 credits)
- Statistics (3 credits)
- Chemistry or Physics or Biology/Ecology (6 credits total)

Core Courses

M.S. students are required to take 6 credits, and Ph.D. students are required to take 9 credits from the following (6 or 9 credits):

Code	Title	Hours
Aquatic Ecology		
FISH 503	Workshop	1-16
Fluvial Geomorphology and Aquatic Habitat		
CE 526	Aquatic Habitat Modeling (Max 6 credits)	3
CE 535	Fluvial Geomorphology and River Mechanics	3
Physical Hydrogeology		
BE 450	Environmental Hydrology ¹	3
FISH 515	Large River Fisheries ¹	2
Statistics		
ENVS 541	Sampling and Analysis of Environmental Contaminants	3
STAT 431	Statistical Analysis	3
Subsurface Hydrology		
HYDR 509	Quantitative Hydrogeology ²	3

SOIL 515	Soil and Environmental Physics ²	3
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Water Quality

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Either BE 450 or FISH 515 may be used to satisfy this requirement, but not both.

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Either HYDR 509 or SOIL 515 may be used to satisfy this requirement, but not both.

Elective Courses

As noted under Common Courses for Ph.D. only, an elective course *must* be in either the Engineering & Science or Law, Management & Policy Option Areas. A core course may be considered an elective course once the core requirements are satisfied. A detailed list of elective courses for this option area is provided on the Water Resources Program web site.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.
2. Students will gain knowledge of fundamental scientific theories and concepts within their sub-field of water resources and application to management challenges.
3. Students develop the breadth and depth of disciplinary understanding and critical thinking to contribute to the design, data collection, and analysis of an original water resources research project.
4. Student will develop written and oral communication skills to engage professional peers in a concise, factually accurate, mechanically correct, and engaging manner.