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

Master of Science. Major in Water Resources - Engineering and Science 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 Engineering & Science 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 (minimum of 9 credits)
- Differential Equations (3 credits)
- Statistics for Scientists/Engineers (3 credits)
- Chemistry (minimum of 4 credits)
- Physics (minimum of 4 credits)
- Engineering Fluid Mechanics (minimum of 3 credits)

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
CE 421	Engineering Hydrology	3
CE 526	Aquatic Habitat Modeling [1]	3
CE 535	Fluvial Geomorphology and River Mechanics [1]	3
HYDR 509	Quantitative Hydrogeology	3
HYDR 576	Fundamentals of Modeling Hydrogeologic Systems	3
SOIL 515	Soil and Environmental Physics	3

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Either CE 526 or CE 535 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 Science & Management 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 engineering practices.

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.