

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

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

### Entry Requirements

Coursework in the following is required for admission to the Water Resources M.S. in the Science & Management Option. Provisional admission 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)

### Common Courses

Students are required to fulfill a set of common courses, applicable to all three Water Resources Option Areas. These include the following courses:

Code	Title	Hours
WR 501	Seminar	1
WR 506	Interdisciplinary Methods in Water Resources	2
<b>Total Hours</b>		<b>3</b>

### Core Courses

Students are required to take 6 credits from the following:

Code	Title	Hours
<b>Aquatic Ecology</b>		
FISH 430	Riparian and River Ecology	3
FISH 535	Limnology	4
<b>Fluvial Geomorphology and Aquatic Habitat</b>		
CE 526	Aquatic Habitat Modeling	3
CE 535	Fluvial Geomorphology and River Mechanics	3
<b>Physical Hydrology</b>		
ENVS 450	Environmental Hydrology	3
<b>Subsurface Hydrology</b>		
HYDR 509	Quantitative Hydrogeology	3
SOIL 515	Soil and Environmental Physics	3
<b>Water Quality</b>		
HYDR 512	Environmental Hydrogeology	3
SOIL 552	Environmental Water Quality	3

### Elective Courses

The thesis degree consists of at least 30 graduate credits, including at least 6 credits and a maximum of 10 credits of Master's Research & Thesis (WR 500) and a minimum of 24 credits of coursework. The non-thesis option requires at least 30 graduate credits, including a minimum of 3 credits of Non-thesis Master's Research (WR 599) and 27 credits of course work.

At least one elective course should 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. All students are strongly encouraged to take at least one course in tools and technology such as statistics, GIS, remote sensing, numerical modeling, or programming that most closely aligns with their career goals. A detailed list of elective courses for this option area is provided in the Graduate Handbook on the Water Resources Program web site.

1. Students will understand the diverse philosophical bases of different disciplines and work effective 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. Students will develop written and oral communication skills to engage professional peers in a concise, factually accurate, mechanically correct, and engaging manner.