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:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR 501</td>
<td>Seminar</td>
<td>1-16</td>
</tr>
<tr>
<td>WR 506</td>
<td>Interdisciplinary Methods in Water Resources</td>
<td>2</td>
</tr>
<tr>
<td>Select one 500-level Elective Course (^1)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>6-21</strong></td>
</tr>
</tbody>
</table>

\(^1\) (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):

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>FISH 503</td>
<td>Workshop</td>
<td>1-6</td>
</tr>
<tr>
<td>FISH 530</td>
<td>Stream Ecology</td>
<td>3</td>
</tr>
<tr>
<td>CE 526</td>
<td>Aquatic Habitat Modeling (Max 6 credits)</td>
<td>3</td>
</tr>
<tr>
<td>CE 535</td>
<td>Fluvial Geomorphology and River Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>BE 450</td>
<td>Environmental Hydrology (^1)</td>
<td>3</td>
</tr>
<tr>
<td>FISH 515</td>
<td>Large River Fisheries (^1)</td>
<td>2</td>
</tr>
<tr>
<td>ENVS 541</td>
<td>Sampling and Analysis of Environmental Contaminants</td>
<td>3</td>
</tr>
<tr>
<td>STAT 431</td>
<td>Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HYDR 509</td>
<td>Quantitative Hydrogeology (^2)</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 515</td>
<td>Soil and Environmental Physics (^2)</td>
<td>3</td>
</tr>
</tbody>
</table>

Water Quality

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE 552</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

\(^1\) Either BE 450 or FISH 515 may be used to satisfy this requirement, but not both.

\(^2\) 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. Graduates will possess skills and breadth of perspectives to apply ethical, socially responsible practice in research and problem solving; engage with communities and stake holders; and understand the different philosophical constructs and paradigms of different Water Resources professions.