# M.S. Civil Engineering—Water Resources

## Masters of Science in Civil Engineering

<table>
<thead>
<tr>
<th>Option</th>
<th>Credit Hours Requirements</th>
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</thead>
<tbody>
<tr>
<td>Thesis Option</td>
<td>30 credit hours: 24 credit hours courses, 6 credit hours CE5559 Thesis</td>
</tr>
<tr>
<td>Project Option</td>
<td>30 credit hours: 27 credit hours courses, 3 credit hours CE5500 Problems</td>
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<tr>
<td>Coursework Option</td>
<td>30 credit hours: 30 credit hours courses</td>
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## Advanced Math (Minimum of 1 Course)

- CE 5501 - Optimization of Engineering Systems (EVEN Spring Semesters)
- CE 5516 - Advanced Engineering Math (EVEN Fall Semesters)
- ME 5572 - Advanced Statistics (EVERY Spring Semesters)
- or 400/500 course from MATH department, (Discuss options with advisor)

## Emphasis Core Courses (Minimum of 3 Courses)

- CE 5552 - Open Channel Flow (EVERY Spring Semester)
- CE5542 - Hydraulic Structures (EVEN Fall Semesters)
- CE5553 - Hydraulics and Variability of Rivers (EVEN Fall Semesters), or
- CE 5554 - River Stability and Scour (ODD Fall Semesters)

## Regularly Offered Elective (Maximum of 5 Courses)

- CE 5501 - Blast and Fire Resistance (EVERY Summer online)
- CE 5501 - Construction Project Risk Management (EVERY Fall)
- CE 5501 - Applied Soil Structure Interaction (EVEN Fall)
- CE 5501 - Hazardous Waste Engineering (EVEN Spring)
- CE 5504 - Project Management of Integrated Design and Construction (EVERY Spring)
- CE 5505 - Capital Projects Delivery Methods (EVERY Fall)
- CE 5517 - Advanced Structures (EVERY Spring)
- CE 5521 - Matrix Methods and FEM (ODD Fall)
- CE 5523 - Advanced Steel Design (EVEN Fall)
- CE 5525 - Prestressed Concrete (ODD Spring)
- CE 5527 - Advanced Concrete Design (EVEN Spring)
- CE 5531 - Fundamentals of Geomaterial Characterization (EVEN Fall)
- CE 5536 - Advanced Soil Mechanics (ODD Fall)
- CE 5537 - Contracts and Law (EVERY Fall)
- CE 5556 - Urban Hydrology (ODD Fall)
- CE 5559 - Environmental Compliance and Permitting (EVERY Spring)
- CE 5563 - Construction Law (EVERY Spring)
- CE 5568 - Construction Planning and Scheduling (EVERY Fall)
- CE 5569 - Construction Methods and Equipment (EVERY Spring)
- CE 5570 - Corrosion Engineering (EVERY Spring)
- CE 5571 - Advanced Portland Cement Concrete (ODD Spring)
- CE 5573 - Durability of Civil Engineering Materials (ODD Spring)
- CE 5575 - Seismic Design (ODD Fall)
- CE 5584 - Pavement Design, Construction, Maintenance, and Rehabilitation (EVERY Spring)
- CE 5679 - Dynamics of Structures (ODD Spring)