

# CIVIL AND ENVIRONMENTAL ENGINEERING, MASTER OF SCIENCE (M.S.)

ENCE630	Environmental and Water Resource Systems I	
<b>Total Credits</b>		<b>30</b>

Students are required to complete 30 credits within one of the seven specializations. Students complete a set of core courses as well as electives. The M.S. degree program offers a thesis option and very rarely a non-thesis option. Applicants who do not wish to complete a thesis are encouraged to consider the Professional Master of Engineering (ENPM) degree instead: <https://academiccatalog.umd.edu/graduate/programs/civil-environmental-engineering-pmce/>

## THESIS OPTION:

- At least 24 credits of coursework are required beyond the B.S. degree, including a minimum of 18 credits at the 600 level or above.
- In addition, six credits of ENCE799 are required.

## NON-THESIS OPTION:

- At least 30 credits of coursework are required beyond the B.S. degree, including a minimum of 24 credits at the 600 level or above.
- In addition, students are required to complete a scholarly paper

Course	Title	Credits
<b>Specialization Requirements (select one)</b>		<b>30</b>
<b>1. Environmental</b>		
ENCE650	Process Dynamics in Environmental Systems	
ENCE651	Chemistry of Natural Waters	
ENCE652	Microbiological Principles of Environmental Engineering	
<b>2. Civil Systems</b>		
ENSE621	Systems Engineering Concepts and Processes: A Model-Based Approach	
	or ENSE622 System Trade-off Analysis, Modeling, and Simulation	
ENCE603	Bayesian Data Analytics for Engineering	
	or ENCE677 OR Models for Transportation Systems Analysis	
ENCE688	Advanced Topics in Civil Engineering (ENCE688A Sensing and Systems Control)	
<b>3. Geotechnical</b>		
All courses approved by advisor		
<b>4. Project Management</b>		
ENCE661	Project Cost Accounting and Finance	
ENCE662	Introduction to Project Management	
ENCE664	Legal Aspects of Engineering Design and Construction	
ENCE665	Management of Project Teams	
ENCE627	Project Risk Management	
<b>5. Structures</b>		
All courses approved by advisor		
<b>6. Transportation</b>		
All courses approved by advisor		
<b>7. Water Resources</b>		
ENCE431	Hydrologic Engineering	