

# 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>
1. Environmental		
ENCE650	Process Dynamics in Environmental Systems	
ENCE651	Chemistry of Natural Waters	
ENCE652	Microbiological Principles of Environmental Engineering	
2. Civil Systems		
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)	
3. Geotechnical		
	All courses approved by advisor	
4. Project Management		
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	
5. Structures		
	All courses approved by advisor	
6. Transportation		
	All courses approved by advisor	
7. Water Resources		
ENCE431	Hydrologic Engineering	