

**MASTER OF SCIENCE IN CIVIL ENGINEERING**

**COURSE REQUIREMENTS FOR SPECIALIZATION IN  
ENVIRONMENTAL ENGINEERING**

**Core Courses: (at least 9 cr hrs required)**

CE 762 – Water Treatment Processes  
CE 766 – Wastewater Engineering: Biological Processes  
CE 861 – Environmental Engineering Chemistry  
CE 816 – Fate and Transport Processes\*

**Additional courses (at least 6 cr hrs required)**

CE 654 – Design of Groundwater Flow Systems  
CE 751 – Hydraulics of Open Channels  
CE 816C - Environmental Biotechnology I\*  
CE 816V - Sustainable Resource Recovery Technologies\*  
CE 854 – Analysis of Groundwater Flow  
CE 866 – Advanced Wastewater Treatment  
CE 967 – Physicochemical Processes

**Environmental Engineering Electives**

CE 625 – Principles of Geoenvironmental Engineering  
CE 752 - Advanced Hydrology  
CE 790 - Problems in Civil Engineering  
CE 816 - Selected Topics in Civil Engineering  
CE 916 - Advanced Topics in Civil Engineering  
BAE 651 – Air Pollution Engineering  
BAE 665 – Ecological Engineering Design  
BAE 669 - Watershed Modeling  
BAE 869 - Advanced Watershed Modeling  
CHE 642 - Fundamentals of Conversion of Biorenewable  
Resources  
CHE 663 - Environmental and Ecological Risk  
Assessment  
CHE 715 - Biochemical Engineering  
CHE 725 - Biotransport Phenomena  
CHE 862 - Advanced Transport Phenomena I  
CHE 867 - Advanced Transport Phenomena II

**Additional Electives**

AGRON 605 - Soil and Environmental Chemistry  
AGRON 905 - Advanced Soil Chemistry  
AGRON 816 - Soil Physics  
AGRON 901 - Environmental Instrumentation  
BIOL 612 - Freshwater Ecology  
BIOL 818 - Advanced Aquatic Ecology  
BIOL 826 - Nutrient Dynamics  
GEOG 508 - Geographic Information Systems I  
GEOG 608 - Geographic Information Systems II  
GEOL 650 - Geomicrobiology  
GEOL 711 - Water Resources Geochemistry  
GEOL 790 - Biogeochemical Reaction Modeling\*  
GEOL 870 - Groundwater Contaminant Remediation  
GRAD 740 - Water and Society: Interdisciplinary  
Foundation  
MATH 632 - Elementary Partial Differential Equations  
MATH 655 - Elementary Numerical Analysis I  
MATH 656 - Elementary Numerical Analysis II  
STAT 704 - Analysis of Variance  
STAT 705 - Regression and Correlation Analyses  
STAT 716 - Nonparametric Statistics  
STAT 880 - Time Series Analysis

\* courses with an asterisk are special topics or problems courses, and upon approval, their course numbers will change. Pending advisor and committee approval, other courses may be added to the program of study.