

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 690 – Sustainable Water and Sanitation Systems*
CE 751 – Hydraulics of Open Channels
CE 790 – Sustainability and Green Engineering*
CE 854 – Analysis of Groundwater Flow
CE 863 – Water Supply and Wastewater Collection
Systems
CE 864 – Unit Operations and Processes in
Environmental Engineering
CE 866 – Advanced Wastewater Treatment
CE 967 – Physicochemical Processes
CE 970 – Advanced Topics in Environmental and Water
Resources Engineering

Environmental Engineering Electives

CE 625 – Principles of Geoenvironmental Engineering
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.