

**MASTER OF SCIENCE IN CIVIL ENGINEERING  
WATER RESOURCES ENGINEERING**

**At least 9 cr. required from:**

CE 654 - Design of Groundwater Flow Systems  
CE 751 - Hydraulics of Open Channels  
CE 752 - Advanced Hydrology  
CE 803 - Numerical and Analytic Techniques for Engineers  
CE 854 - Analysis of Groundwater Flow

**At least 6cr. required from:**

CE 625 - Principles of Geoenvironmental Engineering  
CE 725 - Seepage in Permeable Materials  
CE 760 - Environmental Engineering Seminar  
CE 762 - Water Treatment Processes  
CE 766 - Wastewater Engineering: Biological Processes  
CE 768 - Geoenvironmental Engineering Design  
CE 861 - Environmental Engineering Chemistry  
CE 863 - Water Supply and Wastewater Collection Systems  
CE 864 - Unit Operations and Processes in Environmental Engineering  
CE 866 - Advanced Wastewater Treatment  
CE 970 - Advanced Topics in Environmental and Water Resources Engineering

**CE Water Resources Electives:**

CE 680 - Economics of Design and Construction  
CE 703 - Responsibility in Engineering: Codes & Professionalism  
CE 704 - Responsibility in Engineering: Leadership & Diversity  
CE 723 - Designing with Geosynthetics  
CE 728 - Advanced Geotechnical Design  
CE 786 - Land Development for Civil Engineers and Planners  
CE 790 - Problems in Civil Engineering  
CE 816 - Selected Topics in Civil Engineering  
CE 823 - Engineering Properties of Cohesive Soils  
CE 824 - Strength and Deformation of Geo-materials  
CE 825 - Environmental Geotechnology  
CE 828 - Advanced Soil Mechanics  
CE 916 - Advanced Topics in Civil Engineering  
GRAD 740 - Water and Society: Interdisciplinary Foundation

**Additional Water Resources Electives:**

AGEC 525 - Natural Resource Economics  
AGEC 825 - Natural Resource Policy  
AGRON 655 - Site Specific Agriculture

AGRON 706 - Remote Sensing of the Environment  
AGRON 746 - Physical Properties of Soils  
AGRON 816 - Soil Physics  
AGRON 820 - Plant Water Relations  
AGRON 893 - Agricultural Simulation Modeling  
AGRON 900 - Micrometeorology  
AGRON 901 - Environmental Instrumentation  
AGRON 916 - Advanced Soil Physics  
BAE 665 - Ecological Engineering Design  
BAE 669 - Watershed Modeling  
BAE 865 - Advanced Ecological Engineering Design  
BAE 869 - Advanced Watershed Modeling  
BIOL 612 - Freshwater Ecology  
BIOL 818 - Advanced Aquatic Ecology  
CHE 642 - Fundamentals of Conversion of Biorenewable Resources  
CHE 650 - Hazardous Waste Engineering Seminar  
CHE 663 - Environmental and Ecological Risk Assessment  
CHE 670 - Sustainability Seminar  
CHE 725 - Biotransport Phenomena  
CHE 862 - Advanced Transport Phenomena I  
CHE 867 - Advanced Transport Phenomena II  
CIS 734 - Introduction to Genomics and Bioinformatics  
GEOG 508 - Geographic Information Systems I  
GEOG 608 - Geographic Information Systems II  
GEOG 700 - Quantitative Analysis in Geography  
GEOG 725 - Geography of Water Resources  
GEOG 740 - Fluvial Geomorphology  
GEOG 890 - Advanced Spatial Analysis Techniques  
GEOL 611 - Hydrogeology  
GEOL 711 - Water Resources Geochemistry  
GEOL 870 - Groundwater Contaminant Remediation  
HORT 820 - Quantitative Agricultural Remote Sensing  
IMSE 822 - Advanced Engineering Economy  
LAR 720 - Public Lands and Natural Resources Law  
MATH 630 - Introduction to Complex Analysis  
MATH 632 - Elementary Partial Differential Equations  
MATH 705 - Computational Math  
MATH 655 - Elementary Numerical Analysis I  
MATH 656 - Elementary Numerical Analysis II  
ME 720 - Intermediate Fluid Mechanics  
ME 831 - Boundary Layer Theory  
PHYS 639 - Computations in Physics  
PHYS 801 - Mathematical Methods of Physics  
STAT 704 - Analysis of Variance  
STAT 705 - Regression and Correlation Analyses  
STAT 716 - Nonparametric Statistics  
STAT 770 - Theory of Statistics I  
STAT 771 - Theory of Statistics  
STAT 880 - Time Series Analysis