MASTER OF ENGINEERING IN

Environmental Engineering

Environmental engineers design municipal water supply processes, design treatment systems to control water and air pollution, remediate contaminated sites, and design sanitary waste disposal systems in an effort to both protect public health and protect the environment.

The Rensselaer Environmental Engineering program prepares students for careers in consulting engineering practice, private industry, national and international research laboratories, government agencies and academia. Student needs and career objectives are met through a well-crafted, rigorous, and interdisciplinary curriculum that stresses hands-on learning, grounding in fundamentals, and practical experience. In addition to the Department of Civil and Environmental Engineering, faculty members in the Departments of Biology, Chemical Engineering, Chemistry, Earth and Environmental Sciences and Applied Math have teaching and research interests in environmental problem solving.

Faculty expertise includes such areas as water treatment using adsorption, membrane, and advanced oxidation processes; biotechnology, including phytoremediation; fate and transport of contaminants; biological and abiotic industrial and hazardous waste treatment; soil and sediment remediation; and air quality, with an emphasis on indoor air quality and the health effects of aerosols, including allergens. Our research and teaching activities are supported by state-of-the-art analytical facilities in the Environmental Engineering Laboratories and the Keck Water Quality Laboratory.

ADMISSION REQUIREMENTS

- Bachelor of Science degree in engineering or the physical or natural sciences from an accredited undergraduate institution
- Undergraduate GPA of 3.0 or higher
- Grades of "B" or better in courses completed since bachelor's degree
- GRE General Test is required
- TOEFL general test is required for international students
- Completed application form
- Official transcripts for all undergraduate and graduate work
- Statement of background and goals as it applies to the program
- Two letters of recommendation
- Resume

GRADUATION REQUIREMENTS

- Matriculated status
- Approved Plan of Study and worksheet
- At least 15 credits must be at the 6000 level
- At least 18 credits must be from Environmental Engineering
- Minimum 3.0 GPA; minimum 30 credits

PLAN OF STUDY

(minimum of 30 credit hours, must also conform to the graduation requirements)

I. Core Courses (15 credits)

ENVE-6960	Physicochemical Processes in Environmental Engineering
ENVE-6961	Biological Processes in Environmental Engineering
ENVE-6962	Environmental Chemodynamics
ENVE-6963	Environmental Biotechnology
ENVE-6964	Atmospheric Pollution

II. Electives (15 credits)

ENVE-6965	Mass Transfer Processes
ENVE-6250	Bench Scale Design
ENVE-6300	Bioremediation of Hazardous and Toxic Compounds
ENVE 6140	Stream Pollution Control
ENVE-4110	Aqueous Geochemistry
CHEM-4540	Organic Geochemistry
CHEM-4190	Environmental Measurements
CHEM-4810	Chemistry of the Environment
ERTH-6710	Advanced Groundwater Hydrology
ERTH 6960	Geographic Information Systems
CIVL-6550	Advanced Geoenvironmental Engineering
CIVL-6530	Seepage, Drainage, and Groundwater

NOTE: Students interested in applying for a research-oriented M.S. degree should discuss details related to curriculum and graduation requirements with a faculty adviser.