

MASTER OF ENGINEERING IN ENVIRONMENTAL ENGINEERING

The Master of Engineering in Environmental Engineering is a coursework-based graduate degree program oriented toward students who wish to develop more knowledge in multiple areas of environmental engineering. The program provides students with opportunities to gain experience in a variety of environmental engineering domains, including water and wastewater treatment, water resources engineering, indoor and outdoor air quality, hazardous waste management, environmental health and safety and industrial hygiene, and environmental sustainability.

The program is intended for preparation for advanced engineering practice rooted in the principles of physics, chemistry, biology, and mathematics to develop and analyze solutions to environmental problems, including air and water pollution control, water and wastewater treatment systems design, climate change, resource depletion, and more.

Students with a variety of academic backgrounds are eligible to apply for the program, including those with undergraduate degrees in engineering disciplines (e.g., civil, chemical, or mechanical engineering) and also non-engineering but related disciplines (e.g., environmental science, biology, chemistry, geology, or others). All admitted students are expected to have completed undergraduate coursework or equivalent in chemistry, physics, mathematics through differential equations, and fluid mechanics. If students have not completed these courses, they may be required to take proficiency courses in their first year of study or in the summer before their first year of study. Each applicant will be evaluated on a case-by-case basis during the application review process to determine any proficiency course requirements.

Up to 12 credit hours of 400-level undergraduate coursework may be included in the program with adviser approval.

Curriculum

Code	Title	Credit Hours
Required Courses		(12)
Select minimum of 12 credit hours from the list below:		12
ENVE 404	Water and Wastewater Engineering	3
ENVE 463	Introduction to Air Pollution Control	3
ENVE 501	Environmental Chemistry	3
ENVE 506	Chemodynamics	3
ENVE 513	Biotechnological Processes in Environmental Engineering	3
ENVE 522	Global Environmental Change and Sustainability Analysis	3
or ENVE 422	Global Environmental Change and Sustainability Analysis	
ENVE 523	Geoenvironmental Engineering	3
or ENVE 423	Geoenvironmental Engineering	
ENVE 528	Modeling of Environmental Systems	3
ENVE 542	Physicochemical Processes in Environmental Engineering	3
Statistics/Data Analysis Requirement		(3)
CAE 523	Statistical Analysis of Engineering Data	3
or MATH 474	Probability and Statistics	
or MATH 564	Regression	
or MMAE 500	Data Driven Modeling	
or BME 533	Biostatistics	
or STAT 514	Applied Computational Statistics for Analytics	
Major Electives		(9)
Select minimum of 9 credit hours of major electives from the list below:		9
CAE 539	Introduction to Geographic Information Systems	3
ENVE 401	Introduction to Water Resources Engineering	3
ENVE 402	Introduction to Environmental Engineering and Sustainable Design	3
ENVE 495	Environmental Capstone Design	3
ENVE 503	Occupational and Environmental Health and Safety	3
ENVE 543	Carbon Capture, Utilization, and Storage	3
or ENVE 444	Carbon Capture, Utilization, and Storage	
ENVE 561	Design of Environmental Engineering Processes	3
ENVE 576	Indoor Air Pollution	3

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ENVE 577	Design of Air Pollution Control Devices	3
ENVE 578	Physical and Chemical Processes for Industrial Gas Cleaning	3
ENVE 580	Hazardous Waste Engineering	3
ENVE 597	Special Problems	1-4
General Electives		(6)
Select up to 6 credit hours of general electives ¹		6
Total Credit Hours		30

¹General electives can be taken in CAE, CHE, CHEM, EG, ENVE, MMAE, SAM, or other disciplines with advisor approval.

Up to 12 credit hours of 400-level courses can be applied to the program.

A maximum of 4 credit hours of 597 Special Problems can be applied to the degree program.