

To support continued exploration, an oil producer employs nanoscale filtration membranes to process the water used in drilling and safely return it to the municipal supply.

To remediate the soil around a former military base, an environmental engineering firm injects microbes that are genetically engineered to process certain hydrocarbons.

Before launching a much needed urban freeway project, the local transportation authority authorizes an in-depth study of its effect on local air quality.

The developed world must find ways to sustain economic and technological progress without sacrificing ecological preservation. It must leverage available resources to provide food, clean water, energy, and transportation for its growing populations. And all must anticipate and adapt to the increasing exigencies of climate change. Our responses to these challenges depend on specialists who combine a knowledge of chemistry, biology, and other natural sciences with an engineering approach to solutions—exactly those who achieve a master's in environmental engineering from SMU-Lyle.

FIND US HERE

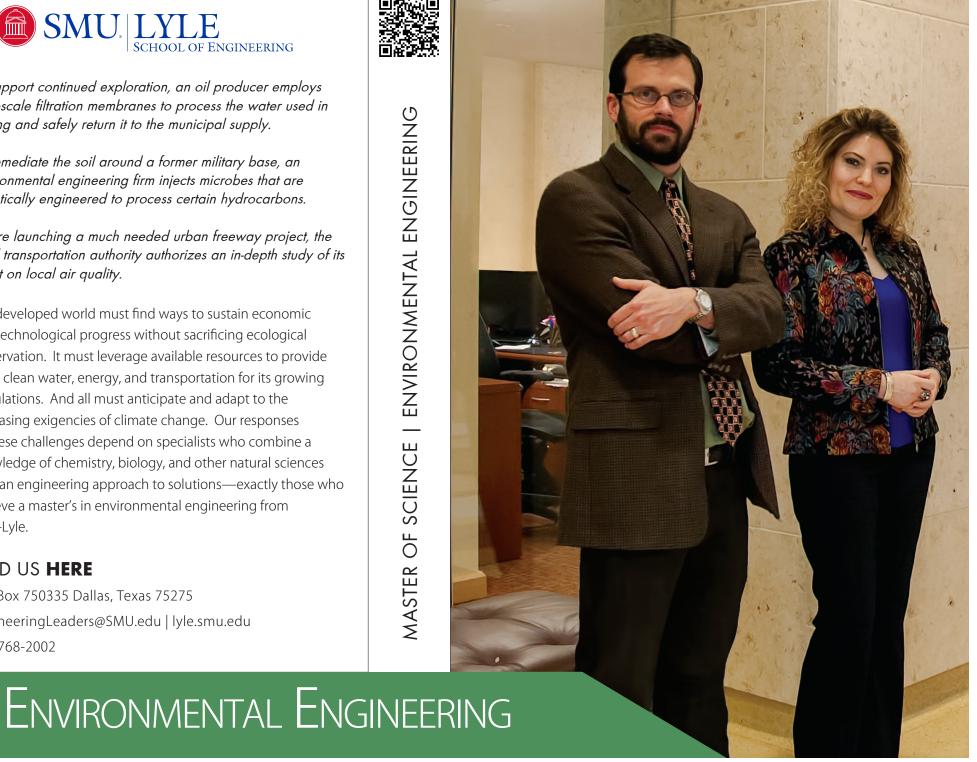
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MASTER





ENGINEER SOLUTIONS

Environmental engineers are intimately involved in finding solutions to the ecological problems of energy and food production, manufacturing and transportation, water quality and availability, and waste treatment—virtually every facet of 21st century life. They must deal with constantly changing environmental policies, mandates, and regulations. And they must be able to engineer innovative solutions, often by combining knowledge from different fields. Our master's in environmental engineering program was created to provide a solid grounding in multiple disciplines, starting with such core topics as Risk Assessment, Environmental Chemistry and Biology, and Air Pollution Management. Students then expand their horizon through a wide range of electives, including Ground Water Hydrology, Environmental Regulations and Compliance, Environmental Epidemiology, and Engineering Economics. They benefit from the broad-based education needed to launch a career or later pursue a Ph.D. in this essential field.

RESEARCH IMPACT

The master's in environmental engineering curriculum at SMU-Lyle is presented by an exceptionally qualified faculty whose own cross-disciplinary research investigations into the role of nanoscale minerals in environmental processes, new filtration materials targeted at specific pollutants, hydrologic and hydraulic modeling of water resource systems, and fate and transport of contaminants, for example, touch upon many key issues in this critical field. Courses are offered in small classes to produce the optimal environment for individual mentoring, hands-on engagement, and long-range success.

ACADEMIC PROGRAM

Requirements include the completion of ten graduate level courses (30 CH), or the completion of eight courses (24 CH) and a thesis.

Core Courses (15 CH).

Air Pollution Management and Engineering Biological Waste Treatment Environmental Chemistry and Biology Environmental Engineering Principles and Processes Risk Assessment and Health Effects

Group I Specialization Electives (9 CH).

Aerosol Mechanics Disaster Management Environmental Organic Chemistry Fate and Transport of Contaminants Geographical Information Systems and Mapping Groundwater Hydrology and Contamination Intermediate Fluid Dynamics Probability and Statistics for Scientists and Engineers Soil Chemistry and Mineralogy

Group II Breadth Electives (6 CH).

Engineering Accounting Engineering Economics and Decision Analysis Engineering Finance Engineering Management Engineering Microbiology Environmental Epidemiology Environmental Regulations and Compliance Introduction to Environmental Management Systems Introduction to Environmental Toxicology Management of Radioactive Hazards Operations Research Models Optimization Models for Decision Support Project Management Thesis