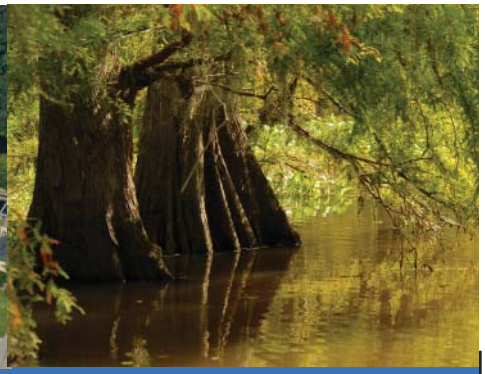
Environmental Engineering
at Louisiana State University

LSU DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

Environmental Engineering as a Profession

Environmental engineers play a key role in maintaining balance between natural systems and the built human environment. Environmental engineers quantitatively assess environmental problems and design engineering solutions to protect the biosphere, land, water, and air quality. Problems include providing safe drinking water, solid and hazardous waste disposal, air pollution-both indoor and outdoor, human health and ecological risk management. To address these challenges, environmental engineers work with other engineers, scientists, corporations, non-governmental organizations and the public in a true multidisciplinary arena. To excel, environmental engineers need to be technically proficient with strong communication skills. Because of the global scope of many environmental problems, environmental engineers have increasing opportunities to practice internationally.



Demand for Environmental Engineers

The US Bureau of Labor Statistics projects environmental engineering to have the highest percentage growth rate of any engineering field over the next decade. When compared with all professions, environmental engineering has been ranked in the top 25 nationally for growth over the next decade.

"Environmental engineers should have employment growth of 25 percent during the projections decade, much faster than the average for all occupations. More environmental engineers will be needed to comply with environmental regulations and to develop methods of cleaning up existing hazards. A shift in emphasis toward preventing problems rather than controlling those that already exist, as well as increasing public health concerns resulting from population growth, also are expected to spur demand for environmental engineers."--US Bureau of Labor Statistics, Occupational Outlook Handbook, 2008-2009

Environmental Engineering at LSU

LSU offers a fully ABET accredited B.S. degree in Environmental Engineering within the Department of Civil and Environmental Engineering. This program prepares students for careers in Environmental Engineering and advanced training in a variety of professional fields. The basic mission of the program is to provide the fundamental knowledge, supplemented by professional experience, which will provide the technical and interpersonal skills required to conceive, plan, design, and implement the systems needed to ensure environmental protection for human health and the sustainability of our natural ecosystem. The program includes coursework in civil engineering, environmental engineering, water resources and chemical engineering. Depending on their career goals students would pursue 1 of 3 tracks in their junior and senior year. These are described below:

Tracks

Sustainability:

Sustainability is a way of thinking about meeting the needs of society today without compromising the ability of future generations to meet their own needs. Students pursuing this track will take courses in sustainability engineering and global climate change and develop expertise in geographic information systems and remote sensing. This track will prepare students for careers with U.S. and global non-government organizations, governmental agencies, and further graduate study.

Coastal Engineering:

Students pursuing this track would prepare for careers in coastal engineering, coastal and ecosystem restoration by pursuing coursework in coastal engineering, coastal systems and processes, geographic information systems and remote sensing. This track will prepare students for the Master's Program in Coastal and Ecological Engineering also offered within the department.

Flex:

With this option, environmental engineering students can work with faculty advisors to design a track that meets their own career interests. This can include advanced coursework within environmental engineering, civil engineering, chemical engineering or complementary fields of science. Examples include bioremediation, industrial waste treatment, water and wastewater treatment and air pollution control.

Special Opportunities at LSU

Environmental Engineering at LSU offers a number of other opportunities outside the classroom to advance your career and expand your horizons

- Students have access to state-of-the-art laboratories for conducting course-related experiments, design projects and undergraduate research. These laboratories include the latest analytical instrumentation for measuring pollutants in water, soil and air. The Water Quality Laboratory is fully state-certified.

- Students can live in Engineering Residential College (ERC) - South Hall, opened in Spring 2008, one of the newest learning communities helping to develop the next generation of engineers facing the technical challenges of a global economy. A prime goal of the ERC is to jump start students' professional development by quickly acquainting them with the College of Engineering.

- Students in Environmental Engineering are involved in student organizations including the Louisiana Water Environment Association, the American Society of Civil Engineers, Engineers Without Borders, and the Environmental Conservation Organization.

- Seniors undertake a full year capstone design project which often includes competing in international competitions such as the WERC Design Competition held every year in Las Cruces, New Mexico. LSU teams have won numerous awards at the WERC competition.

- Undergraduate environmental engineering students have a number of opportunities to conduct research with the faculty at LSU, developing new knowledge and approaches for solving important environmental problems.

- International experiences are also available to environmental engineering students including Engineers Without Borders and other international opportunities for credit through LSU.

Faculty

The Environmental Engineering B.S. program draws from dedicated faculty in the Environmental and Water Resources groups within the Department of Civil & Environmental Engineering at LSU. An updated listing of faculty, contact information and research interests is attached. Please feel free to contact these faculty for an interview or to obtain further information about the program.

Further information

About the program at LSU:

Undergraduate Programs Office, 3418 Patrick F. Taylor Hall, 225-578-8442

Department of Civil & Environmental Engineering
www.cee.lsu.edu

College of Engineering
www.eng.lsu.edu

About environmental engineering:

American Academy of Environmental Engineers
www.aaee.net

American Society of Civil Engineers
www.asce.org

Engineers without Borders
www.ewb-usa.org

Water Environment Federation
www.wef.org

Air and Waste Management Association
www.awma.org