TEXAS A&M UNIVERSITY KINGSVILLE

Frank H. Dotterweich College of Engineering

ENVIRONMENTAL ENGINEERING

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What is Environmental Engineering?

Environmental engineers use the principles of engineering, soil science, biology, and chemistry to develop solutions to environmental problems. They are involved in efforts to improve recycling, waste disposal, public health, and water and air pollution control. Environmental engineers apply scientific principles to improve and maintain the environment for the protection of human health, for the protection of nature's beneficial ecosystems, and environment-related enhancement of the quality of human life.

Environmental engineers work in a variety of settings because of the nature of the work they do. When they are working with other engineers and urban/regional planners, environmental engineers are likely to be in offices. When working for private industry, they are often at plant sites. When they are carrying out solutions through construction projects, they are likely to be at construction sites.

Accreditation:

The environmental engineering program is accredited by the Engineering Accreditation Commission of ABET, which provides assurance that the program meets the defined standards of quality. The program prepares students to acquire and apply new knowledge, undertake real-world design, communicate effectively, work in teams, analyze and interpret data, and make decisions.

Tuition and Scholarships:

Low tuition provides a good value for education compared to other universities. Scholarships are available for qualified students at the institutional, college and department levels. Examples of departmental scholarships includes the Jim Cooper Memorial Scholarship, the Citgo Environmental Engineering Challenge Scholarship, the Society of Mining and Mineral Exploration (SME) Scholarship, and the Environmental Engineering CREST Scholarship.

Outstanding Faculty:

All our faculty have PhD degrees and are passionately involved in teaching and research. Environmental engineering course class sizes are typically below 15, allowing for greater student-faculty interaction.

Co-curricular Opportunities:

The department and college provide assistance in identifying student internships and research opportunities. Opportunities are available to develop leadership skills and actively participate in student organizations, including student chapters of the Air & Waste Management Association (AWMA), the American Academy of Environmental Engineers and Scientists (AAEES), and the Society of Women Engineers (SWE).

Employment:

Our graduates are now working for engineering consulting companies, private industry, state and federal agencies, and national labs. Many of our graduates have gone on to complete Master's and Doctoral degrees at top research universities. According to the U.S. Bureau of Labor Statistics, the median annual wage for environmental engineers was $86,800 in 2017.

Further Information:

http://www.tamuk.edu/engineering/departments/even/index.html

We invite you to visit the campus, meet our faculty, and tour our labs and research facilities. Please call or email to schedule a visit.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL ENGINEERING

FRESHMAN YEAR

CHEM 1311 General Inorganic Chemistry I 3
(prereq: MATH 1314, HS chemistry or CHEM 1481)
CHEM 1111 General Inorganic Chemistry Lab I 1
(coreq: CHEM 1311)
ENGL 1301 Rhetoric and Composition 3
HIST 1301 American History 3
MATH 2413 Calculus I 4
(prereq: MATH 1348)
UNIV 1101 Learning in a Global Context I 1

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AEEN 1310 or MEEN 1310 Comp. Based Graphics/Des I 3
ENGL 1302 Rhetoric and Composition 3
MATH 2414 Calculus II 4
(prereq: MATH 2413)
PHYS 2325 University Physics I 3
(prereq: HS physics, PHYS 1305/1105 or 1375, coreq: MATH 2413, PHYS 2125)
PHYS 2125 University Physics Lab I 1
(coreq: PHYS 2325)
UNIV 1102 Learning in a Global Context II 1
^ Language/Philosophy/Culture... 3

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SOPHOMORE YEAR

CHEM 1312 General Inorganic Chemistry II 3
(prereq: CHEM 1311/1111)
CHEM 1112 General Inorganic Chemistry Laboratory II 1
(prereq: CHEM 1311/1111, pre- or coreq: CHEM 1312)
EVEN 2310 Introduction to Environmental Engineering 3
(prereq: sophomore standing in physical science, engineering or agriculture)
HIST 1302 American History 3
MEEN 2355 Statics and Dynamics of Rigid Bodies 3
(prereq: PHYS 2325/2125 and MATH 2414)
POLS 2301 The Government and Politics of the U.S. 3

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BIOL 1306 General Biology I 3
EVEN 2304 Computer Methods for Environmental Engineers 3
EVEN 2311 Envir Eng Ethics and Policy 3
MATH 3320 Differential Equations 3
(prereq: MATH 2414)
PHYS 2326 University Physics II 3
(prereq: PHYS 2325/2125 or PHYS 1302/1102, coreq: MATH 2414, PHYS 2126)
PHYS 2126 University Physics II Laboratory 1
(coreq: PHYS 2326)

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JUNIOR YEAR

CHEM 3323 Organic Chemistry I 3
(prereq: CHEM 1312/1112)
CHEM 3123 Organic Chemistry Laboratory I 1
(pre- or coreq: CHEM 3323)
EVEN 3321 Environmental Engineering Lab 3
(prereq: EVEN 2310, CHEM 1312/1112)
EVEN 3320 Chemical Principles for Environ. Engineers 3
(prereq: CHEM 1311, CHEM 1312)
POLS 2302 The Government and Politics of Texas 3
***Communications 3

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CEEN 3317 Engineering Economy 3
(prereq: Junior standing in engineering)
CEEN 3392 Hydraulics and Fluid Mechanics 3
(prereq: MEEN 2355)
EVEN 3328 Environ. Eng. Process Fundamentals 3
(prereq: EVEN 2310)
MEEN or CHEN 3347 Thermodynamics 3
(prereq: MATH 2414, coreq: PHYS 2326/2126)
EVEN 2372** Env Eng in Global Soc. ^Social/Behavioral Sc 3
(prereq: Sophomore Standing)
Engineering Elective 3

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SENIOR YEAR

EVEN 4102 Environmental Engineering Design I 1
(prereq: CEEN 3392, EVEN 2310, EVEN 3320, EVEN 3328)
EVEN 4105 Engineering Management 1
EVEN 4306 Solid and Hazardous Waste Fundamentals 3
(prereq: EVEN 3328)
EVEN 4386 Air Pollution Control 3
(prereq: CEEN 3392 and senior standing)
STAT 4303 Statistical Methods 3
(prereq: MATH 2414)
^ Creative Arts 3

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EVEN 4301 Water and Wastewater Treatment 3
(prereq: MATH 3320, EVEN 2310, EVEN 3320)
EVEN 4303 Environmental Engineering Design II 3
(prereq: EVEN 4102)
EVEN 4304 Water Resources and Adv. Computer Methods 3
(prereq: EVEN 2304 or equivalent)
GEOL 4425 Hydrogeology or PLSS 3410 Principles of Soil Sciences 4
Engineering Elective 3

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Total Hours Required: 129

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^ *For courses listed under Core Curriculum "Components" see "General Requirements for Graduation with a Baccalaureate Degree" in TAMUK undergraduate Catalog.*

Electives are selected from the following:

Engineering Electives (Choose six hours from one focus area):

For Focus Area of Water Resources: EVEN 3336, EVEN 3399, EVEN 4336, CEEN 4362, CHEN 3321, EEEN 3331 or MEEN 3344
For Focus Area of Air Pollution: EVEN 3399, EVEN 4336, EEEN 3331 or MEEN 3344
For Focus Area of Geo-environmental: EVEN 3336, EVEN 3399, EVEN 4336, CEEN 4362, ITEN 4332, EEEN 3331 or MEEN 3344
For Focus Area of Sustainability and Green Engineering: EVEN 3336, EVEN 3399, EVEN 4336, CHEN 3321, EEEN 3331 or MEEN 3344

*EVEN 4399 Internship in Environmental Engineering – special approval by department for Engineering Elective.
**EVEN 2372 is strongly recommended as the Social/Behavioral course.
***ENGL 2374 or COMS 2374 is strongly recommended.