

# ENVIRONMENTAL SYSTEMS SCIENCE

## DEGREE REQUIREMENTS

- 42 Hours of Core Curriculum
- 50 Hours of ENSS Courses
- 3 Hours of Environmental Governance
- 3 Hours of Computer Programming
- 19 Hours of Environmental Theme Electives
- 3 Hours of General Electives

## INTERNSHIPS

Environmental programs students regularly obtain internships in places like:

- Texas Water Resources Institute
- TCEQ
- Drake Environmental
- EPA Water Division
- Repsol Renewables
- Amazon
- Alaska Wildlife Conservation Center
- Harris County, District Attorney's Office
- Terracon Consultants
- North Texas Municipal Water District

## DEGREE OVERVIEW

The Bachelor of Science degree in Environmental Systems Science (BS-ENSS) offers interdisciplinary training in environmental science, systems thinking, and data analytics to tackle complex environmental challenges. The program focuses on Earth system processes and human-environment interactions, preparing students to apply quantitative skills and systems-based learning to address critical problems and challenges.

The program's curriculum integrates theoretical knowledge with practical applications, preparing students to collect, analyze, and interpret environmental data using modern analytical tools and approaches. The program develops key competencies and skills including systems thinking, environmental data analysis, GIS and spatial analysis, climate science, environmental modeling, statistical analysis, scientific programming, data visualization, project management and research methods

## STUDENT EXPERIENCE

Experiential learning through research, internships, fieldwork, study abroad, and problem-based learning projects is vital for ENSS students. The program provides hands-on experience through cornerstone and capstone courses, with opportunities for research and internships in environmental fields. These develop practical skills, deepen understanding of environmental issues, create a sense of belonging, and prepare students to become effective environmental professionals capable of creating positive change.



## WORKFORCE DEVELOPMENT

This degree prepares graduates for diverse careers in environmental science, natural resource management, environmental monitoring and assessment, climate change analysis, environmental data science, government agencies. Graduates can pursue opportunities with government agencies, research institutions, consulting firms, and organizations focused on environmental technology and innovation.

## CONTACT US

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# LEARN MORE

[envp.tamu.edu](http://envp.tamu.edu)



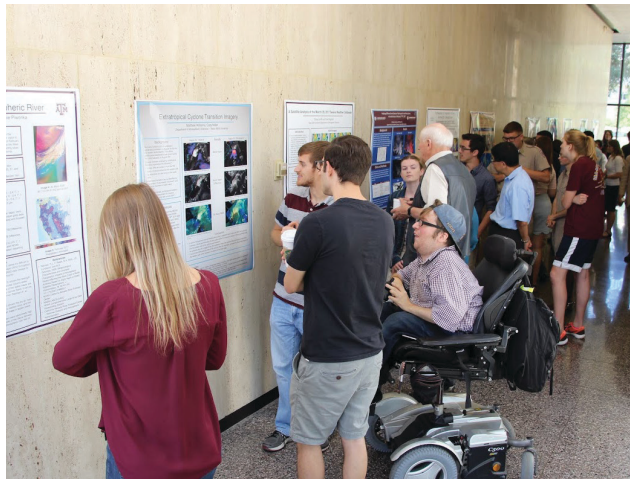
# ENVIRONMENTAL THEMES

- **Biosphere** provides advanced training in biological systems and ecological processes through biogeography, oceanography, and soil science, with an emphasis on monitoring and management of biological resources.
- **Climate Change** focuses on climate science, modeling, and policy.
- **Environmental Modeling and Data Science** provides advanced training in statistical analysis and computational methods related to environmental systems.
- **Hazards and Resilience** examines natural hazards and environmental risks on society through the study of geomorphology and environmental geology.
- **Water Systems Science** concentrates on hydrology, hydrogeology, and water resources management for surface and groundwater systems.



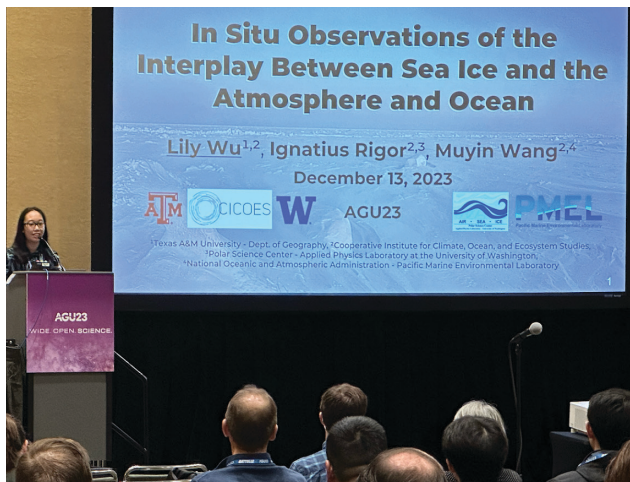
# ENSS CORE COURSES

- Two Earth Sciences (ATMO, GEOG, GEOL, and OCNG)
- Fundamentals of Ecology (ESSM 205)
- Introduction to Environmental Systems Science (ENSS 105)
- Socio-Environmental Systems & Sustainability (ESST 201)
- ENVP Cornerstone (ENSS 205)
- Life on a Dynamic Planet (GEOL 208)
- Climate Change (ATMO 210)
- Pattern and Processes in Biogeography (GEOS 334)
- Data Science in Geosciences (OCNG 470)
- Global Science and Policy Making (ENSS 430)
- Global Change (GEOG 410/OCNG 412)
- ENVP Capstone (ENSS 405)



# PROGRAMMING

The Environmental Systems Science program requires computer programming courses in Python, MATLAB, or R for students.



TEXAS A&M UNIVERSITY  
College of Arts  
& Sciences