Current Trends in Environmental Programs for Environmental Decision Making

By

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"Reliable Data for Sound Decision Making"
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"Reliable Data for Sound Decision Making."

Graduates of Environmental programs at colleges and universities play a significant role in science supporting environmental decision making. The goal of this presentation is to highlight the application and understanding of technical skills needed to solve infrastructure issues and knowledge of mathematical modeling for systems thinking; applications and understanding of environmental regulations, risk assessment, environmental impacts, social and economic impact on humans and knowledge of pollutant measurements and data interpretations; environmental justice dynamics that impact environmental decision making and health and safety challenges in the workplace, home and public spaces, chemical, physical, biological hazards and their controls, toxicological impacts of exposure to hazards and environmental regulations.

Air, Water, Waste, Land, Environmental Justice, Policy and Politics
"Reliable Data for Sound Decision Making."

Improving Farming Systems
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Acid Rain Deposition Impacting Ecological Systems
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NC 17 – National Acid Deposition Program (NADP)
North Carolina Agricultural and Technical State University

Environmental Issues
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- Investment in the nation's climate, energy, water, waste management, transportation, education and infrastructure challenges out-weighs the cost of doing nothing

- With this in mind, we must began to raise awareness about environmental concerns globally

- Environmental crises such as climate driven seas level rise, ocean acidification, waste management, heat waves, wildfires, disease spread, and massive damage of biodiversity and more affect food, water, air, land, energy securities and inflicting serious economic losses globally.

- This is call for quicker environmental sustainability action to contribute knowledge and passion for effective solutions.

- WMI has led the creation of interdisciplinary Energy and Environment Ph.D. program (renamed Science and Technology) and informed interdisciplinary Leadership Studies Ph.D. program, inspired interdisciplinary Computational Science and Engineering Ph.D. program and several interdisciplinary masters, bachelors, and certificate programs and research centers at N.C. A&T. The Institute has established several strategic partnerships with local governments and companies and institutes and universities around the world.

Graduate Level Environmental Certificates for Earned BA/BS

(15 Credit Hours)

Science Supporting Environmental Decisions

Aim: To train students with in-depth knowledge to develop innovative and creative solutions to improve and sustain the environment.

Environmental Engineering

Students will learn the application and understanding of technical   skills needed to solve infrastructure issues and knowledge of   mathematical modeling for systems thinking.

Environmental Sciences

Students will be exposed to applications and understanding of environmental regulations, risk assessment, environmental impacts, social and economic impact on humans and knowledge of pollutant measurements and interpretations.

Expanding Environmental Programs
STEM, Humanities and Social Sciences
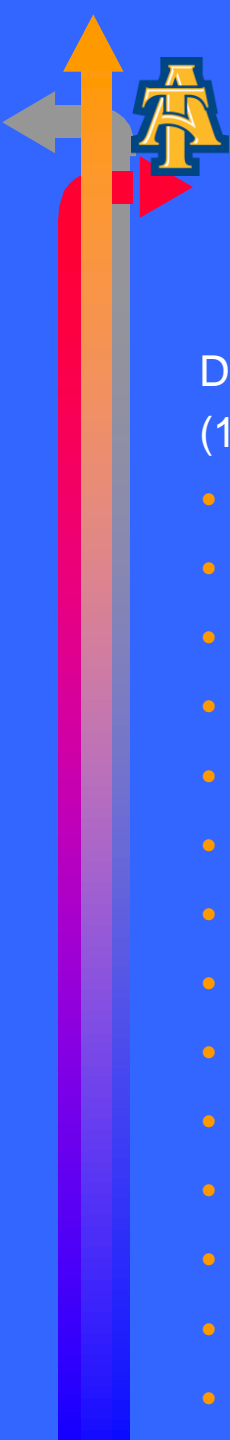### "Reliable Data for Sound Decision Making."

Environmental Justice

Knowledge of social justice dynamics and being aware of what the policies are (local, state, federal), public policy that impact environmental decision making, economic activity and environment, history of environmental justice and ethical considerations of environmental decision making.

Environmental Health and Safety

Knowledge of health and safety challenges in the workplace, home and public spaces, chemical, physical, biological
hazards and their controls, toxicological impacts of exposure to hazards an environmental regulations.

Expanding Environmental Programs
STEM, Humanities and Social Sciences
Undergraduate Programs
"Reliable Data for Sound Decision Making."

DEGREE PROGRAMS WITH WMI CERTIFICATES IN WASTE MANAGEMENT
(18 Credit Hours)

- • Animal Science
- • Agricultural Education
- • Agricultural Economics
- • Architectural Engineering
- • Biology
- • Biological Engineering
- • Business Administration
- • Chemical Engineering
- • Chemistry
- • Civil Engineering
- • Computer Science
- • Curriculum & Instruction
- • Construction Mgmt. & Safety
- • Economics

Expanding Environmental Programs
STEM, Humanities and Social Sciences
Undergraduate Programs
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- • Electrical Engineering
- • History
- • Family and Consumer Sciences
- • Industrial Systems Engineering
- • Liberal Studies
- • Journalism and Mass Communication
- • Mathematics
- • Mechanical Engineering
- • Nursing
- • Natural Resources
- • Physics
- • Political Science
- • Sociology/Social Work

This added value training will make science simple for informing society

- **Interdisciplinary WMI Courses** Undergraduate Core Courses
- WMI 236- Recycling
- WMI 333- Capstone Seminar
- WMI 417- Environmental Ethics
- WMI 419- Environmental Justice
- WMI 429 – 40 Hour-Hazmat Training
- WMI 490 – Independent Study

- Graduate Core Courses
- WMI 617- Environmental Ethics
- WMI 619- Environmental Justice
- WMI 629 – 40 Hour-Hazmat Training
- WMI 747 – Advanced Capstone Seminar

- Total Enrollment in WMI and Related Courses –Fall 2023 and Spring 2024
- 3,143 Students
- 110 Interdisciplinary Environmental and Waste Management Courses

NC A&T & EPA Scientists
March 18, 2024
"Reliable Data for Sound Decision Making."

Ethics Questions
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- **Ethics Questions**

  Impartial advice

  Previous involvement with the review document(s) under consideration

  Public statements (written or oral)

Character
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- *To the world and to your colleagues, your character is what you actually do.*

- *Nobody can really know your knowledge, intentions, attitudes, feelings, likes and dislikes.*

- *The decisions people make about who, what and how are based on behavior that they actually see.*
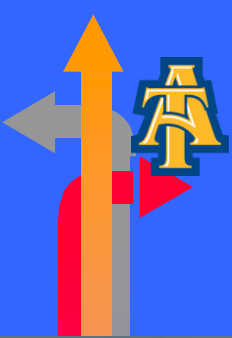
Leadership

The core responsibility of leadership is making decisions. When deciding, do not ask whether the outcomes will advance you personally in any way: popularity, admiration or money; but ask only what is the right thing to do, all things and all stakeholders considered?

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In their Words
"Reliable Data for Sound Decision Making."

- *I am a Greensboro, N.C. native and at 71 years of age, it is exciting to see and learn about the evolution of waste management. I have always regarded Greensboro as a clean city, so to read about the dedication and passion to reduce, reuse and prevent waste and the structure of the Institute to attract a growing student population is encouraging for future generations*

- *…I understand why Dr.Uzo worked so hard for this class to make sure we understood what going on in the environment, with the class.*

- *It makes sense now why we were pushed during this semester to "be taught and not teach ourselves". It is clear that Dr.Uzo is not just a professor, but clearly cares about this program and what it has to offer us, not just academically, but fundamentally.*

- *EPA Administrator "...Dr. Uzo ... you made me study, you made me focus, you gave me advice, you held me to a level of excellence. You, my friend, helped me get here! Thank you so much. Aggie Pride..." Michael Regan, President Elect Biden's nominee to lead EPA. 12.19.20*

- *"…thanks very much Uzo for the work you are doing to educate our students and to keep our university informed about the importance of the environment and recycling...*

Water Pollution
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Air Pollution
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EPA Administrator Regan
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