

# Environmental Engineering Technology

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(Bachelor of Science)

## Accreditation

The Environmental Engineering Technology program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, [www.abet.org](http://www.abet.org).

## UW-Green Bay Engineering Technology

Combine hands-on learning with academic coursework and get ready for high-demand jobs in the growing field of engineering technology. The University partners with regional leaders and technical colleges so that you will be prepared for an ever-changing industry. Get the technical skills that will make you an expert and the critical-thinking skills that will make you indispensable.

## Engineering Technology Mission

All of the Engineering Technology programs (Electrical, Mechanical and Environmental) include a strong liberal arts base along with a number of hands-on experiences, including a capstone experience or internship that often will be working with businesses and organizations within the community.

## Environmental Engineering Technology

Environmental engineering technology is the application of engineering principles and interdisciplinary environmental sciences to address challenges associated with human impacts on the environment. This field characterizes the dynamic relationship between human activity and the environment to determine strategies to minimize negative impacts. Career opportunities as an environmental engineering technologist vary greatly including municipal and industrial treatment facility technologists, laboratory and environmental quality technicians, health and safety managers, environmental consultants, and sustainability managers for industry and governmental agencies.

The Bachelor of Science (B.S.) degree in Environmental Engineering Technology at UW-Green Bay is an interdisciplinary program that prepares students for careers in applied environmental engineering using critical problem solving skills needed in regional and national industries, manufacturing, governmental, and engineering services firms. The focus of the program is the application of engineering principles to the solution of practical problems. Students will develop skills in hands on applications and interdisciplinary coursework in engineering, mathematics, geoscience, chemistry, physics, and biology applied to a variety of environmental challenges. Students examine the effects of pollution on humans and ecosystems, form strategies to improve processes to prevent or minimize negative effects, and develop sustainable solutions to using available resources. Teamwork, technical writing, and project management are also emphasized throughout the curriculum. The goal of the major is to develop well rounded engineering technologists that can adapt and succeed in a highly competitive workplace.

Students will benefit from relationships with local technical colleges and local industry to complete a B.S. in engineering technology in the Northeast Wisconsin area. Students may start earning their degree at UW-Green Bay or local technical colleges to give maximum flexibility in degree completion. In addition, the Northeast Wisconsin Educational Resource Alliance, NEW ERA, has established advisory boards linking leaders in regional industry and participating institutions to the major. Through these relationships students will have many opportunities for internships, co-op experiences, and employment after graduation.

## Environmental Engineering Technology Program Learning Outcomes

1. Program graduates will be employed as an environmental engineering technologist and perform all functions assigned to an environmental engineering technologist.
2. Graduates will apply multidisciplinary approaches including engineering, chemistry, mathematics, physics, geosciences, and biology to manage the unique challenges and balance the competing social, political, economic, and technical goals of environmental problems and solutions.
3. Graduates will exhibit a desire for life-long learning through higher education, technical training, teaching, membership in professional societies, and other developmental activities and will achieve positions of increased responsibility through these activities.
4. Graduates will demonstrate high levels of oral and written communication skills, critical thinking, responsibility and ethical behavior, and leadership in their careers.
5. Graduates will function effectively both as a leader and as a member of project teams and demonstrate an appreciation for diversity.

## Contact

For more information contact:

Jagadeep Thota, Ph.D.  
Chair, Engineering  
Phone: 920-465-2817

Email: thotaj@uwgb.edu

or

Patricia Terry, Ph.D.

Chair, Richard J. Resch School of Engineering

Phone: 920-465-2749

Email: terryp@uwgb.edu

## Major

Code	Title	Credits
<b>Supporting Courses</b>		<b>42</b>
BIOLOGY 201	Principles of Biology: Cellular and Molecular Processes	
BIOLOGY 202	Principles of Biology Lab: Cellular and Molecular Processes	
CHEM 211	Principles of Chemistry I	
CHEM 212	Principles of Chemistry II	
CHEM 213	Principles of Chemistry I Laboratory	
CHEM 214	Principles of Chemistry II Laboratory	
ENGR 236	Technical Writing	
ET 101	Fundamentals of Engineering Technology	
ET 103	Surveying	
ET 105	Fundamentals of Drawing	
MATH 202	Calculus and Analytic Geometry I	
MATH 203	Calculus and Analytic Geometry II	
MATH 260	Introductory Statistics	
<b>Physics (choose one option):</b>		
PHYSICS 103 & PHYSICS 203	Fundamentals of Physics I and Introductory Physics Lab I	
PHYSICS 201 & PHYSICS 203	Principles of Physics I and Introductory Physics Lab I	
<b>Fundamentals Courses</b>		<b>28</b>
Lower-Level Fundamentals		
CHEM 207	Laboratory Safety	
ET 201	Introduction to Environmental Engineering	
ET 203	Introduction to Water and Waste Water	
ET 218	Fluid Mechanics	
GEOG 250	Introduction to Geographic Information Systems (GIS)	
GEOSCI 202	Physical Geology	
Upper-Level Fundamentals		
BIOLOGY 322	Environmental Microbiology	
ENV SCI 320	The Soil Environment	
ET/ENV SCI 330	Hydrology	
<b>Advanced Courses</b>		<b>9</b>
ET 360	Project Management	
ET/ENV SCI 334	Solid Waste Management	
ET 331	Advanced Water and Waste Water Treatment	
<b>Capstone Requirement</b>		<b>3</b>
ET 400 or ET 410	Co-op/Internship in Engineering Technology Capstone Project	
<b>Electives (choose three courses):</b>		<b>9</b>
ECON 305	Environmental Economics	
ENV SCI 305	Environmental Fate and Transport	
ENV SCI 433	Ground Water: Resources and Regulations	
ET/ENV SCI 415	Solar and Alternate Energy Systems	

ET/ENV SCI 424	Hazardous and Toxic Materials	
ET 430	Sustainable Agricultural Management	
ET 464	Atmospheric Pollution and Abatement	
GEOSCI 432	Hydrogeology	
WATER 444	Aqueous Geochemistry	
<b>Total Credits</b>		<b>91</b>

## Minor

Code	Title	Credits
<b>Supporting Courses</b>		<b>9</b>
ET 103	Surveying	
ET 201	Introduction to Environmental Engineering	
ET 203	Introduction to Water and Waste Water	
<b>Upper-Level Courses</b>		
<b>Required</b>		<b>3</b>
ET 331 or ENV SCI 335	Advanced Water and Waste Water Treatment Water and Waste Water Treatment	
<b>Electives: Complete any 3 courses</b>		<b>9-10</b>
ENV SCI 305	Environmental Fate and Transport	
ENV SCI 433	Ground Water: Resources and Regulations	
ET 334	Solid Waste Management	
ET 424	Hazardous and Toxic Materials	
ET 430	Sustainable Agricultural Management	
ET 464	Atmospheric Pollution and Abatement	
GEOSCI 432	Hydrogeology	
WATER 410	Agriculture-Water Nexus in Wisconsin	
WATER 411	Agriculture-Water Nexus Field Experience	
WATER 444	Aqueous Geochemistry	
<b>Total Credits</b>		<b>21-22</b>

## Curriculum Guide

The following curriculum guide is for a four-year **Environmental Engineering Technology** degree program and is subject to change without notice. Students should consult their program advisor to ensure that they have the most accurate and up-to-date information available. This program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, [www.abet.org](http://www.abet.org).

Total **121** credits necessary to graduate.

Course	Title	Credits
<b>Freshman</b>		
<b>Fall</b>		
ET 101	Fundamentals of Engineering Technology	2
BIOLOGY 201	Principles of Biology: Cellular and Molecular Processes	3
BIOLOGY 202	Principles of Biology Lab: Cellular and Molecular Processes	1
CHEM 207	Laboratory Safety	1
CHEM 211	Principles of Chemistry I	4
CHEM 213	Principles of Chemistry I Laboratory	1
MATH 202	Calculus and Analytic Geometry I	4
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
CHEM 212	Principles of Chemistry II	4
CHEM 214	Principles of Chemistry II Laboratory	1
MATH 203	Calculus and Analytic Geometry II	4
First Year Seminar		3
General Ed		3
<b>Credits</b>		<b>15</b>

**Sophomore****Fall**

ET 103	Surveying	3
ET 105	Fundamentals of Drawing	3
ET 201	Introduction to Environmental Engineering	3
ET 203	Introduction to Water and Waste Water	3
PHYSICS 103 or PHYSICS 201	Fundamentals of Physics I or Principles of Physics I	4
PHYSICS 203	Introductory Physics Lab I	1

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**Credits** **17**

**Spring**

BIOLOGY 322	Environmental Microbiology	4
GEOSCI 202	Physical Geology	4
MATH 260	Introductory Statistics	4
ENGR 236	Technical Writing	3

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**Credits** **15**

**Junior****Fall**

ENV SCI 320	The Soil Environment	4
ET 330	Hydrology	3
ET 391	GIS	3
General Ed		3
General Ed		3

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**Credits** **16**

**Spring**

ET 218	Fluid Mechanics	3
ET 331	Advanced Water and Waste Water Treatment	3
ET 334	Solid Waste Management	3
General Ed		3
General Ed		3

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**Credits** **15**

**Senior****Fall**

ET 360	Project Management	3
Elective I		3
Elective II		3
General Ed		3
General Ed		3

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**Credits** **15**

**Spring**

ET 400 or ET 410	Co-op/Internship in Engineering Technology or Capstone Project	3
Elective III		3
General Ed		3
General Ed		3

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**Credits** **12**

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**Total Credits** **121**

## Faculty

**Maruf Hossain**; Professor; Ph.D., University of Memphis

**John F Katers**; Professor; Ph.D., Marquette University\*

**Patricia A Terry**; Professor; Ph.D., University of Colorado, chair\*

**Riaz Ahmed**; Associate Professor; Ph.D., University of South Carolina

**Md Rasedul Islam**; Associate Professor; Ph.D., University of Wisconsin - Madison

**Mohammad Mahfuz**; Associate Professor; Ph.D., University of Ottawa

**Jagadeep Thota**; Associate Professor; Ph.D., University of Nevada - Las Vegas

**Elie Atallah**; Assistant Professor; Ph.D., University of Central Florida

**Kpoti (Stefan) Gunn**; Assistant Professor; Ph.D., Ohio State University

**Jian Zhang**; Assistant Professor; Ph.D., Mississippi State University

**Taskia Ahammad Khan**; Assistant Teaching Professor; M.S., Bradley University

**Nabila Rubaiya**; Assistant Teaching Professor; M.S., University of Wisconsin - Milwaukee