

# Environmental Engineering Technology

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(Bachelor of Science)

## 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:

Patricia Terry, Ph.D.  
 Chair, Richard J. Resch School of Engineering  
 Phone: 920-465-2749  
 Email: [terryp@uwgb.edu](mailto:terryp@uwgb.edu)

## Major

Code	Title	Credits
<b>Supporting Courses</b>		<b>39</b>
BIOLOGY 201 & BIOLOGY 202	Principles of Biology: Cellular and Molecular Processes and Principles of Biology Lab: Cellular and Molecular Processes	
CHEM 211 & CHEM 213	Principles of Chemistry I and Principles of Chemistry I Laboratory	
CHEM 212 & CHEM 214	Principles of Chemistry II and Principles of Chemistry II Laboratory	
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	
PHYSICS 103 or PHYSICS 201	Fundamentals of Physics I (Algebra or Calculus based equivalent) Principles of Physics I	
<b>Fundamentals Group Courses</b>		<b>28</b>
BIOLOGY 322	Environmental Microbiology	
CHEM 207	Laboratory Safety	
ET 201	Introduction to Environmental Engineering	
ET 203	Introduction to Water and Waste Water	
ET 218	Fluid Mechanics	
ET/ENV SCI 320	The Soil Environment	
ET/ENV SCI 330	Hydrology	
ET 391	GIS	
GEOSCI 202	Physical Geology	
<b>Advanced Study Group Courses</b>		<b>20</b>
ET 360	Project Management	
<b>Choose a minimum of one course from the following course list:</b>		
ET 331	Advanced Water and Waste Water Treatment	
ET/ENV SCI 334	Solid Waste Management	
<b>Choose a minimum of one course from the following course list</b>		
ET/ENV SCI 464	Atmospheric Pollution and Abatement	
ECON 305	Natural Resources Economic Policy	
ET/ENV SCI 305	Environmental Systems	
ET/ENV SCI 323	Pollution Prevention	
ET 377	Industrial Safety and Hygiene	
ET/ENV SCI 415	Solar and Alternate Energy Systems	
ET 420	Lean Processes	
ET/ENV SCI 424	Hazardous and Toxic Materials	
ET/ENV SCI/GEOSCI 432	Hydrogeology	
ET/ENV SCI 433	Ground Water: Resources and Regulations	
ET/WATER 444	Geochemistry of Natural Waters	
PU EN AF 378	Environmental Law	
<b>Final Project:</b>		
ET 400 or ET 410	Co-op/Internship in Engineering Technology Capstone Project	
<b>Total Credits</b>		<b>87</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.

Total **120** 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>
<b>Sophomore</b>		
<b>Fall</b>		
BIOLOGY 322	Environmental Microbiology	4
ET 103	Surveying	3
ET 105	Fundamentals of Drawing	3
PHYSICS 103 or PHYSICS 201	Fundamentals of Physics I or Principles of Physics I	5
		<b>Credits</b>
		<b>15</b>
<b>Spring</b>		
ET 201	Introduction to Environmental Engineering	3
ET 203	Introduction to Water and Waste Water	3
GEOSCI 202	Physical Geology	4
MATH 260	Introductory Statistics	4
General Ed		3
		<b>Credits</b>
		<b>17</b>
<b>Junior</b>		
<b>Fall</b>		
ET 218	Fluid Mechanics	3
ET 330	Hydrology	3
ET 391	GIS	3
General Ed		3
General Ed		3
		<b>Credits</b>
		<b>15</b>

<b>Spring</b>		
ET 320	The Soil Environment	4
General Ed		3
General Ed		3
UL Advanced Study ET elective		3
UL Advanced Study ET elective		3
<b>Credits</b>		<b>16</b>
<b>Senior</b>		
<b>Fall</b>		
ET 360	Project Management	3
Elective		5
General Ed		3
UL Advanced Study ET elective		3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
ET 400 or ET 410	Co-op/Internship in Engineering Technology or Capstone Project	3
Elective		3
UL Advanced Study ET elective		3
UL Advanced Study ET elective		3
<b>Credits</b>		<b>12</b>
<b>Total Credits</b>		<b>120</b>

## Faculty

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

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

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

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

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

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

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

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

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

**Taskia Ahammad Khan**; Lecturer; M.S., Bradley University

**Nabila Rubaiya**; Lecturer; M.S., University of Wisconsin - Milwaukee