Electrical Engineering Technology

(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 Programs 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.

Electrical Engineering Technology

Electrical engineering technology (EET) is the field that implements and applies principles of electrical engineering. With a greater focus on application and implementation, electrical engineering technologists help design, develop, test, and manufacture electrical and electronic equipment such as communication equipment, radar and industrial systems, medical monitoring equipment, control devices, and computer technology. As the largest branch of engineering technology, it includes a diverse range of disciplines including electronics, embedded systems, control systems, instrumentation, telecommunications, and power systems.

The Bachelor of Science (B.S.) degree in Electrical Engineering Technology at UW-Green Bay is a professional program that prepares students for careers in electrical engineering technology with the technical and managerial skills necessary to enter careers in the design application, installation, manufacturing, operation, and maintenance of electrical systems. Students specialize in product improvement, manufacturing, construction, and operational engineering functions. The focus of the program is the application of engineering principles to the solution of practical problems. Students will develop skills in hands on application labs and courses that explore the fundamentals of electronics, mathematics, physics, computers, and control systems. 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.

Electrical Engineering Technology Program Learning Outcomes

1. Program graduates will secure and maintain employment in appropriate EET positions industry-wide and perform all functions assigned to an electrical engineering technologist.
2. Graduates will apply their knowledge of mathematics, science, engineering technology, and computing to identify, analyze, and solve problems pertaining to design, development, and implementation of electronic systems.
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, teamwork and appreciation for diversity, and leadership in their careers.

Contact

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Major

Code	Title	Credits
Supporting Courses:		**32**
WF 100	First Year Writing	
MATH 202	Calculus and Analytic Geometry I	
MATH 203	Calculus and Analytic Geometry II	
MATH 320	Linear Algebra and Matrix Theory	
PHYSICS 103	Fundamentals of Physics I	
or PHYSICS 201	Principles of Physics I	
ET 101	Fundamentals of Engineering Technology	
ET 105	Fundamentals of Drawing	
ET 206	Chemistry for Engineers	
ENGR 236	Technical Writing	
Fundamentals Courses:		**28**
ET 142	Introduction to Programming	
ET 250	Continuous Signals and Linear Systems	
ENGR 120	Electrical Circuits I	
ENGR 121	Electrical Circuits I Lab	
ENGR 210	Electrical Circuits II	
ENGR 211	Electrical Circuits II Lab	
ENGR 222	Electronic Devices	
ENGR 223	Electronic Devices Lab	
ENGR 224	Electrical Codes, Safety, and Standards	
ENGR 320	Energy Conversion	
ENGR 321	Energy Conversion Lab	
ENGR 328	Microcontrollers and Programmable Logic Controllers	
ENGR 329	Microcontrollers and Programmable Logic Controllers Lab	
Advanced Courses:		**25**
ET 340	Advanced Programmable Logic Controllers	
ET 342	Supervisory Control and Data Acquisition	
ET 350	Data Communication and Protocols	
ET 360	Project Management	
ENGR 310	Digital Logic Design	
ENGR 311	Digital Logic Design Lab	
ENGR 346	Electrical Power Systems	
ENGR 348	Electromagnetic Fields and Applications	
ENGR 434	Power Electronics	
Capstone Requirement:		**3**
ET 400	Co-op/Internship in Engineering Technology	
or ET 410	Capstone Project	
Technical Electives: (choose three courses)		**9**
ET 415	Solar and Alternate Energy Systems	
ENGR 334	Industrial Decision Processes	
ENGR 402	Smart Cities: Engineering the Future	
ENGR 414	Power System Analysis and Protection	
ENGR 426	Wireless Communications	
ENGR 428	Wireless Networks	
ENGR 493	Special Topics in Electrical Engineering	
ENGR 498	Independent Study	
ENGR 494	Co-op	
Total Credits		**97**

Curriculum Guide

The following curriculum guide is for a four-year **Electrical 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 **127** credits necessary to graduate.

Course	Title	Credits
Freshman		
Fall		
MATH 202	Calculus and Analytic Geometry I	4
ET 101	Fundamentals of Engineering Technology	2
ET 105	Fundamentals of Drawing	3
WF 100	First Year Writing	3
First Year Seminar		3
	Credits	**15**
Spring		
MATH 203	Calculus and Analytic Geometry II	4
ENGR 120	Electrical Circuits I	3
ENGR 121	Electrical Circuits I Lab	1
ET 142	Introduction to Programming	3
General Education		3
General Education		3
	Credits	**17**
Sophomore		
Fall		
MATH 320	Linear Algebra and Matrix Theory	4
PHYSICS 201 or PHYSICS 103	Principles of Physics I or Fundamentals of Physics I	5
ET 206	Chemistry for Engineers	4
ENGR 210	Electrical Circuits II	3
ENGR 211	Electrical Circuits II Lab	1
	Credits	**17**
Spring		
ENGR 222	Electronic Devices	3
ENGR 223	Electronic Devices Lab	1
ENGR 224	Electrical Codes, Safety, and Standards	2
ENGR 320	Energy Conversion	3
ENGR 321	Energy Conversion Lab	1
ENGR 236	Technical Writing	3
General Education		3
	Credits	**16**
Junior		
Fall		
ET 250	Continuous Signals and Linear Systems	3
ENGR 310	Digital Logic Design	3
ENGR 311	Digital Logic Design Lab	1
ENGR 348	Electromagnetic Fields and Applications	3
General Education		3
General Education		3
	Credits	**16**
Spring		
ENGR 328	Microcontrollers and Programmable Logic Controllers	3

ENGR 329	Microcontrollers and Programmable Logic Controllers Lab	1
ENGR 346	Electrical Power Systems	3
ET 350	Data Communication and Protocols	3
ET 360	Project Management	3
General Education		3
	Credits	**16**
Senior		
Fall		
ET 340	Advanced Programmable Logic Controllers	3
ET 342	Supervisory Control and Data Acquisition	3
Technical Elective I		3
Technical Elective II		3
General Education		3
	Credits	**15**
Spring		

ET 400
    or ET 410
	Co-op/Internship in Engineering Technology
	    or Capstone Project
		3

ENGR 434	Power Electronics	3
Technical Elective III		3
General Education		3
General Education		3
	Credits	**15**
	Total Credits	**127**

Technical Electives (choose any three):

1. ET 415 Solar and Alternate Energy Systems (3 s.h.)
2. ENGR 334 Industrial Decision Processes (3 s.h.)
3. ENGR 402 Smart Cities: Engineering the Future (3 s.h.)
4. ENGR 414 Power System Analysis and Protection (3 s.h.)
5. ENGR 426 Wireless Communications (3 s.h.)
6. ENGR 428 Wireless Networks (3 s.h.)
7. ENGR 493 Special Topics in Electrical Engineering (3 s.h.)
8. ENGR 494 Co-op (1-2 s.h.)
9. ENGR 498 Independent Study (1-4 s.h.)

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