ELECTRICAL AND ELECTRONIC ENGINEERING TECHNOLOGY,

Bachelor of Science in Electrical and Electronic Engineering Technology (286103BS)

More on the Electrical and Electronic Engineering Technology programs (https://www.uakron.edu/engineering/ece/undergraduate/electricalelectronic-tech/)

Program Information

Graduates of the Electrical and Electronic Engineering Technology program will work with engineers in developing, manufacturing, testing and servicing Electrical/Electronic components, equipment and systems. The BS in Electrical and Electronic Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org (https://nam11.safelinks.protection.outlook.com/?url=https %3A%2F%2Fwww.abet.org%2F&data=05%7C01%7Ccarlett %40uakron.edu%7C5791045ba2454259bafa08dbb45cc8ca %7Ce8575dedd7f94ecea4aa0b32991aeedd %7C0%7C0%7C638302082821016648%7CUnknown

%7C3000%7C%7C %7C&sdata=0xjmXCWxxZ5slSWjeuS2RrhKBQ6jZ7BuLNoayXcB9Sw

%3D&reserved=0), under the General Criteria and Program Criteria for Electrical/Electronic(s) Engineering Technology and Similarly Named Programs.

This degree program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org (http:// www.abet.org/).

N/A

Program Educational Objectives

Program educational objectives are broad statements that describe what graduates are expected to attain within a few years after graduation. Program educational objectives are based on the needs of the program's constituencies (i.e., students, alumni, employers of our students, and faculty of the program).

The Bachelor of Science in Electrical and Electronic Engineering Technology (EEET) program at the University of Akron has as its primary educational objective to produce technically capable graduates who within five years of graduation, will demonstrate:

- the fundamental knowledge and problem-solving skills to be productive as individual and team contributors in an electrical/ electronic engineering technology career field.
- · a commitment to accountability, attention to detail, and reliability.
- · written and verbal communication skills developed in a broad-based university education.

Student Outcomes

Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviors that students acquire as they progress through the program, including:

- 1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadlydefined engineering problems appropriate to the discipline;
- 2. an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
- 3. an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- 4. an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes;
- 5. an ability to function effectively as a member as well as a leader on technical teams.

Cooperative Education

Co-op work experiences are available on an optional basis in this academic program.

The following information has official approval of The Department of Electrical and Computer Engineering and The College of Engineering and Polymer Science, but is intended only as a supplemental guide. %7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTil6lk1ha**Wficita Jbeyfal6Merq**ufk@Pnents are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (Stellic) which is definitive for graduation requirements. Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others. The transfer process is completed through an appointment with your academic advisor.

Requirements Summary

Code	Title H	Hours
	ducation Requirements (https://bulletin.uakron.edu/ uate/general-education/) *	25-23
Program S	Specific General Education Courses	15
Mathemat	ics Course I	3
Mathemat	ics Courses II	5
Required N	Mechanical Engineering Technology Course I	3
Required N	Mechanical Engineering Technology Course I	3
Required E	Electrical and Electronic Engineering Technology Courses	35
Required E	Electrical and Electronic Engineering Technology Courses	1 15-17
Computer	Programming Electives	2
Electrical a	and Electronic Engineering Technology Electives	12
Technical	Electives	6
Total Hour	s	124

* Several courses required for the major also satisfy General Education requirements. The University minimum of 36 credits are required for

General Education and credit for these courses will apply to multiple requirements.

General Education Courses

Students pursuing a bachelor's degree must complete the following General Education coursework. Diversity courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.

carriing courses may also ramii requirements in the major.	
Academic Foundations	12
Mathematics, Statistics and Logic: 3 credit hours	
Speaking: 3 credit hours	
Writing: 6 credit hours	
Breadth of Knowledge	22
Arts/Humanities: 9 credit hours	
Natural Sciences: 7 credit hours	
Social Sciences: 6 credit hours	
Diversity	
Domestic Diversity	
Global Diversity	
ntegrated and Applied Learning	2
Select one class from one of the following subcategories:	
Complex Issues Facing Society	
Capstone	
Review the General Education Requirements page for detailed course listings.	

Program-Specific General Education

These courses are specifically required by the program, and also meet bachelor's degree General Education requirements. They are all also part of the Associate of Applied Science in Electrical and Electronic Engineering Technology.

Code	Title	Hours
MATH 144	Technical Algebra and Trigonometry 1	4
MATH 154	Technical Algebra and Trigonometry 2 ³	3
PHYS 261	College Physics I ⁴	4
PHYS 262	College Physics II ⁴	4
Total Hours		15

Mathematics Course I

Total Hours

This course is also part of the Associate of Applied Science in Electrical and Electronic Engineering Technology.

Code	Title	Hours
MATH 255	Technical Calculus I	3
Total Hours		3

Mathematics Courses II

Code	Title	Hours
MATH 345	Technical Data Analysis	2
MATH 356	Technical Calculus II	3
Total Hours		5

Required Mechanical Engineering Technology Course I

This course is also part of the Associate of Applied Science in Electrical and Electronic Engineering Technology.

Total Hours		3
MCET 121	Fundamentals of Engineering Drawing	3
Code	Title	Hours

Required Mechanical Engineering Technology Course II

Total Hours		3
MCET 405	Introduction to Industrial Machine Control	3
Code	Title	Hours

Required Electrical and Electronic Engineering Technology Courses I

36

These courses are also part of the Associate of Applied Science in Electrical and Electronic Engineering Technology.

Code	Title	Hours
EEET 120	Circuit Fundamentals ¹	4
EEET 121	Introduction to Electronics and Computers ¹	2
EEET 122	AC Circuits ²	4
EEET 123	Electronic Devices ²	4
EEET 225	Applications of Electronic Devices ¹	4
EEET 237	Digital Circuits ¹	4
EEET 238	Microprocessor Applications ²	4
EEET 242	Machinery & Controls	3
EEET 251	Electronic Communications ²	4
EEET 260	Electrical and Electronic Project ²	2
Total Hours		35

Required Electrical and Electronic Engineering Technology Courses II

Code	Title	Hours
EEET 350	Advanced Circuit Theory ¹	3
EEET 352	Microcontrollers ²	4
EEET 354	Advanced Circuits Applications ²	3
EEET 453	Control Systems ¹	4
EEET 455	Senior Project ²	1-3
or EEET 497	Senior Honors Project: Electronic Technology	
Total Hours		15-17

Computer Programming Electives

Code	Title	Hours
Complete two c	redits:	2
MCET 312	Programming for Technologists	
CPSC 126	Introduction to Visual Basic Programming	
CPSC 209	Computer Science I	
CPEN 208	Programming for Engineers	
Total Hours		2

Electrical and Electronic Engineering Technology Electives

Code	Title I	lours
Complete twelve	credits from the list below: ⁵	12
EEET 290	Special Topics: Electronic Engineering Technology	y
EEET 310	National Electrical Code and Electrical System Design	
EEET 360	Virtual Instrumentation and Data Acquisition	
EEET 400	Computer Simulations in Technology	
EEET 402	Advanced Programmable Logic Controllers and Sensors	
EEET 406	Communication Systems	
EEET 420	Biomedical Electronic Instrumentation	
EEET 451	Industrial Electrical Systems	
EEET 490	Special Topics: Electronic Engineering Technolog	y
Total Hours		12

Technical Electives

Code

Title

•	dits from the list below, or six additional credits ectrical and Electronic Engineering Technology	6
MATH 290	Special Topics: Associate Studies Mathematics	
MATH 361	Applied Cryptography	
MATH 461	Applied Cryptanalysis	
MATH 360	Advanced Mathematics for Surveyors	
AMET 332	Management of Technology Based Operations	
AMET 348	CNC Programming I	
AMET 448	CNC Programming II	
AMET 470	Simulation of Manufacturing Systems	
AMET 480	Automated Production	
AMET 110	Manufacturing Processes	
AMET 140	Computer Aided Drawing	
AMET 201	Robotics & Automated Manufacturing	
AMET 211	Manufacturing Operations	
MCET 101	Introduction to Mechanical Design	
MCET 142	Introduction to Material Technology	
MCET 249	Applied Thermal Energy I	
MCET 252	Thermo-Fluids Laboratory	
MCET 310	Economics of Technology	
SURV 100	Introduction to Geomatics	
SURV 101	Basic Surveying	

Total Hours		6
CPSC 306	Assembly and System Programming	
BIOL 200	Human Anatomy & Physiology I	
COET 469	Contracts and Specifications	
COET 463	Electrical Service Systems	
COET 462	Mechanical Service Systems	
COET 453	Legal Aspects of Construction	
COET 371	Green & Sustainable Building Practices	
COET 245	Construction Estimating	
COET 150	Plan Reading	
COET 125	Statics	
SURV 105	Introduction to Geographic & Land Information Systems	

- 1 Traditionally Fall only (See Program Contact)
- ² Traditionally Spring only (See Program Contact)
- MATH 149 Precalculus Mathematics is an acceptable substitute for MATH 154 Technical Algebra and Trigonometry 2.
- ⁴ Together, PHYS 261 College Physics I and PHYS 262 College Physics II meet the Natural Science (with lab) Requirement for General Education. PHYS 291 Elementary Classical Physics I is an acceptable substitute for PHYS 261 College Physics I, and PHYS 292 Elementary Classical Physics II is an acceptable substitute for PHYS 262 College Physics II.
- Please note that the Electrical and Electronic Engineering Technology Electives classes and Technical Elective classes may be offered only once during the year, including the summer session. Consult the Schedule of Classes for course offerings.

Recommended Sequence

Hours

	masa sequence	
1st Year		
Fall Semester		Hours
ENGL 111	English Composition I ³	3
MATH 144	Technical Algebra and Trigonometry 1	4
EEET 120	Circuit Fundamentals (Sch. lab) ¹	4
EEET 121	Introduction to Electronics and Computers (Sch. lab) ¹	2
	Speaking Requirement	3
	Hours	16
Spring Semester		
MATH 154	Technical Algebra and Trigonometry 2 ⁴	3
PHYS 261	College Physics I ⁵	4
EEET 122	AC Circuits (Sch. lab) ²	4
EEET 123	Electronic Devices (Sch. lab) ²	4
	Hours	15
2nd Year		
Fall Semester		
MATH 255	Technical Calculus I	3
EEET 225	Applications of Electronic Devices ¹	4
EEET 237	Digital Circuits (Sch. lab) ¹	4
EEET 242	Machinery & Controls (Sch. lab)	3
MCET 121	Fundamentals of Engineering Drawing	3
	Hours	17
Spring Semester		
PHYS 262	College Physics II ⁵	4

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EEET 238	Microprocessor Applications (Sch. lab) ²	4
FFFT 251	Electronic Communications (Sch. lab) ²	4
EEET 260	Electrical and Electronic Project (Sch. lab) ² Social Science Requirement ⁶	2
	· · · · · · · · · · · · · · · · · · ·	3
01.1/	Hours	17
3rd Year		
Fall Semester	- 1 · 10 1 1 · ·	•
MATH 356	Technical Calculus II	3
EEET 350	Advanced Circuit Theory 1	3
	Writing II Requirement	3
	Computer Programming Elective	2
	Electrical and Electronic Engineering Technology Elective ⁷	3
	Hours	14
Spring Semester		
MATH 345	Technical Data Analysis	2
MCET 405	Introduction to Industrial Machine Control (Sch. lab)	3
EEET 352	Microcontrollers (Sch. lab) ²	4
EEET 354	Advanced Circuits Applications ²	3
	Social Science Requirement ⁶	3
	Hours	15
4th Year		
Fall Semester		
EEET 453	Control Systems (Sch. lab) 1	4
	Electrical and Electronic Engineering Technology Elective ⁷	3
	Technical Elective ^{7,8}	3
	Arts Requirement ⁶	3
	Humanities Requirement ⁶	3
	Hours	16
Spring Semester		
EEET 455	Senior Project ^{2, 9}	2
	Electrical and Electronic Engineering Technology Elective ⁷	3
	Electrical and Electronic Engineering Technology Elective ⁷	3
	Technical Elective ^{7, 8}	3
	Arts/Humanities Requirement ⁶	3
	Hours	14
	Total Hours	124

¹ Typically offered Fall only.

³ Writing First Course General Education Requirement.

MATH 149 Precalculus Mathematics is an acceptable substitute for MATH 154 Technical Algebra and Trigonometry 2.

Students should ensure that their Social Science, Arts and Humanities courses are chosen to also meet the Global Diversity and Domestic Diversity General Education Requirements. Please note that each of the Electrical and Electronic Engineering Technology Electives classes and Technical Elective classes may be offered only once during the year, including the summer session. Consult the Schedule of Classes for course offerings.

Technical Electives are technical courses that support a student's career interest and may include any of the approved Electrical and Electronic Engineering Technology Electives. Some courses may have prerequisites that must be met. Any course taken that is not on the list Technical Electives or Electrical and Electronic Engineering Technology Electives must be approved by the Program Director in writing in advance to be used towards the Technical Elective requirement.

This course is required for the program and also meets the Integrated and Applied Learning (Capstone) Requirement for General Education.

Note that Honors students should take EEET 497 Senior Honors

Project: Electronic Technology in place of this class.

² Typically offered Spring only.

Together, PHYS 261 College Physics I and PHYS 262 College Physics II meet the Natural Science (with lab) Requirement for General Education. PHYS 291 Elementary Classical Physics I is an acceptable substitute for PHYS 261 College Physics I, and PHYS 292 Elementary Classical Physics II is an acceptable substitute for PHYS 262 College Physics II.