BACHELOR OF SCIENCE IN APPLIED SCIENCE IN ELECTRICAL ENGINEERING TECHNOLOGY

Bachelor of Science in Applied Science Degree

The Electrical Engineering Technology program is based on the "two-plus-two" educational system which provides the student with the flexibility of earning an associate degree and a bachelor's degree according to his or her needs. After completing the requirements of the associate degree, the student may elect to either enter industry or, through an added two years of full-time study (averaging 17 hours per semester) or equivalent part-time study, earn the Bachelor of Science in Applied Science (BSAS).

The bachelor's degree program in electrical engineering technology prepares students for employment as engineers or engineering designers. The students focus on analog and digital electronics communication systems, smart grid and power distribution, and computer networking systems. Co-op programs with various local companies enable EET students to gain experience and income during their junior and senior years. Many students work full or part-time while completing the BSAS degree taking evening classes. Students are encouraged to take the Fundamentals of Engineering (FE) exam as the first step toward professional registration.

Program Educational Objectives

Educational objectives for the electrical engineering technology programs have been developed by faculty and the program industrial advisory committee to support the university, college, and School of Engineering Technology missions. Graduates of the EET bachelor's degree are prepared to assist in the design and testing of electrical systems and may function independently in some areas.

During their first few years after earning the electrical engineering technology degree at YSU, graduates will have demonstrated the ability to:

- Secure employment in a technical career related to their Electrical Engineering Technology degree.
- Communicate effectively in a professional environment.
- Continue growth in professional knowledge and skills.
- Achieve recognition consistent with their educational achievements.

Accreditation

The Bachelor of Science in Applied Science in Electrical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Program Criteria for Electrical Engineering Technology.

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Date of last campus visit:   October 2024
Accredited through:   2030
Next campus visit:    October 2029
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COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or YSU 1500S	Youngstown State University Success Seminar	
or HONR 1500	Intro to Honors	
General Education Courses:		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
MATH 1513	Algebra and Transcendental Function	5-10
or MATH 1510 & MATH 1511	College Algebra and Trigonometry	
or MATH 1510C & MATH 1511C	College Algebra with Co-requisite Support and Trigonometry with Co-requisite Support	
Natural Science Gen Ed.		
PHYS 1501	Fundamentals of Physics 1	4
or PHYS 2610	General Physics 1	
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
Social Science (6 s.h.)		
Social Science (select 1 course)		3
ECON 2610	Principles 1: Microeconomics	3
Arts and Humanities Gen Ed (6 s.h.)		
PHIL 2625	Introduction to Professional Ethics	3
Arts and Humanities (select 1 course)		3
Gen Ed Electives		
MATH 1570	Applied Calculus 1	4
or MATH 1571	Calculus 1	
GER Electives: Select 2 courses		6
Courses in the major:		
MATH 2670	Applied Calculus 2	4-5
or MATH 1572	Calculus 2	
CSIS 2610 & 2610L	Programming and Problem-Solving and Programming and Problem-Solving Lab	4
ENTC 1505	Engineering Technology Concepts	4
or ENGR 1550 & ENGR 1560	Engineering Concepts and Engineering Computing	
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
EET 1501 & 1501L	Circuit Theory 1 and Circuit Theory 1 Lab	4
EET 1502 & 1502L	Circuit Theory 2 and Circuit Theory 2 Lab	4
EET 2605 & 2605L	Electronics 1 and Electronics 1 Laboratory	4
EET 2620 & 2620L	Digital Electronics and Digital Electronics Lab	3
EET 3710 & 3710L	Electrical Machines and Electrical Machines Lab	4
EET 3712 & 3712L	Programmable Logic Controllers and PLC Laboratory	4
EET 3715 & 3715L	Industrial Instrumentation and Control and Industrial Instrumentation and Control Lab	3
EET 3735 & 3735L	Microprocessor Architecture and Programming and Microprocessor Architecture and Programming Laboratory	3
EET 3700	Methods in Circuit Analysis	3
EET 3745 & 3745L	Microprocessor Systems 2 and Microprocessor Systems 2 Lab	3
EET 3701	Transform Circuit Analysis	3
CCET 3705	Computing for Engineers	3
EET 3760 & 3760L	Variable Speed Drives and Variable Speed Drives Lab	3
EET 4810	Electrical System Design	3
EET 4812	Automation Systems Integration	3

EET 4870	Process Control Technology	4
ENGL 3743	Introduction to Public, Professional and Technical Writing	3
Technical Elective: Select 3 hours		**3**
CCET 3708	Building Information Modeling	
CCET 3740	Construction Management	
CCET 4807	Project Planning & Scheduling	
MET 3705	Thermodynamics	
MET 3713	Fluid Power Systems	
MET 4860 & 4860L	Robotics Technology and Robotics Technology Laboratory	
EET Elective 37XX/48XX: Select 6 hours		**6**
EET 3706 & 3706L	Electronics 2 and Electronics 2 Laboratory	
EET 3730 & 3730L	Logic Systems Design and Logic Systems Design Lab	
EET 3780 & 3780L	Communication Systems and Communication Systems Lab	
EET 4815	Power System Studies	
EET 4820 & 4820L	Power System Protection and Control and Power System Protection and Control Lab	
EET 4845 & 4845L	Microprocessor Systems 3 and Microprocessor Systems 3 Lab	
EET 4850 & 4850L	Integrated Circuit Applications and Integrated Circuit Applications Lab	
EET 4890	Special Topics in EET	
STEM 4890	STEM Internship	
Any EET 48XX		
Total Semester Hours		**124-132**

Year 1
Fall

		S.H.
YSU 1500 or YSU 1500S or HONR 1500	Success Seminar or Youngstown State University Success Seminar or Intro to Honors	1-2
ENTC 1505 or ENGR 1550 *and* ENGR 1560	Engineering Technology Concepts or Engineering Concepts *and* Engineering Computing	4
EET 1501	Circuit Theory 1	3
EET 1501L	Circuit Theory 1 Lab	1
MATH 1513 or MATH 1510 *and* MATH 1511 or MATH 1510C *and* MATH 1511C	Algebra and Transcendental Function or College Algebra *and* Trigonometry or College Algebra with Co-requisite Support *and* Trigonometry with Co-requisite Support	5-10
	Semester Hours	**14-20**

Spring

MATH 1570 or MATH 1571	Applied Calculus 1 or Calculus 1	4
EET 1502	Circuit Theory 2	3
EET 1502L	Circuit Theory 2 Lab	1
EET 2620	Digital Electronics	2
EET 2620L	Digital Electronics Lab	1
PHYS 1501 or PHYS 2610	Fundamentals of Physics 1 or General Physics 1	4
	Semester Hours	**15**

Year 2
Fall

CHEM 1515	General Chemistry 1	3
CHEM 1515L	General Chemistry 1 Laboratory	1
EET 2605	Electronics 1	3
EET 2605L	Electronics 1 Laboratory	1
EET 3710	Electrical Machines	3
EET 3710L	Electrical Machines Lab	1
ENGL 1550 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
	Semester Hours	**15-16**

Spring

CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
EET 3712	Programmable Logic Controllers	3
EET 3712L	PLC Laboratory	1
EET 3715	Industrial Instrumentation and Control	2
EET 3715L	Industrial Instrumentation and Control Lab	1
ENGL 1551	Writing 2	3
PHIL 2625	Introduction to Professional Ethics	3
	Semester Hours	**17**

Year 3
Fall

MATH 2670 or MATH 1572	Applied Calculus 2 or Calculus 2	4-5
EET 3700	Methods in Circuit Analysis	3
CSIS 2610 or CSIS 2605	Programming and Problem-Solving or Fundamentals of Programming and Problem- Solving 2	3
CSIS 2610L or CSIS 2605L	Programming and Problem-Solving Lab or Fundamentals of Programming and Problem- Solving 2 Lab	1
EET 3735	Microprocessor Architecture and Programming	2
EET 3735L	Microprocessor Architecture and Programming Laboratory	1
	Semester Hours	**14-15**

Spring

EET 3701	Transform Circuit Analysis	3
EET 3745	Microprocessor Systems 2	2
EET 3745L	Microprocessor Systems 2 Lab	1
EET 3760	Variable Speed Drives	2
EET 3760L	Variable Speed Drives Lab	1
EET 4810	Electrical System Design	3
Social Science GER [1]		3
	Semester Hours	**15**

Year 4
Fall

EET 4812	Automation Systems Integration	3
EET or Tech Elective [2]		3
CCET 3705	Computing for Engineers	3
ENGL 3743	Introduction to Public, Professional and Technical Writing	3
ECON 2610	Principles 1: Microeconomics	3
General Education Elective		3
	Semester Hours	**18**

Spring

EET 4870	Process Control Technology	4

EET or Tech Elective [2]	3
EET or Tech Elective [2]	3
Arts & Humanities GER [1]	3
GER Elective [1]	3
Semester Hours	**16**
Total Semester Hours	**124-132**

[1] General Education Requirement:
SS = Social Science (2 required for BSAS)
AH = Arts & Humanities (2 required for BSAS)
Elective (3 required for BSAS)

[2] EET Electives: 3706/L, 3730/L, 3780/L, 4815, 4817, 4820/L, 4845/L, 4850/L, 48XX (Special Topics)
Technical Electives: CCET 3708, CCET 3740, CCET 4807, MET 3705, MET 3713, MET 4860/L, STEM 4890

Program Outcomes
BACHELOR OF SCIENCE IN APPLIED SCIENCE in Electrical engineering technology

Graduates of the Bachelor's Degree in Electrical Engineering Technology will possess the following competencies upon graduation:

1. an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined 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; and

5. an ability to function effectively as a member as well as a leader on technical teams.