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 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.

Date of last campus visit: October 2017

Accredited through: 2024

Next campus visit: October 2023

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or SS 1500	Strong Start 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
CMST 1545	Communication Foundations	3
MATH 1513	Algebra and Transcendental Function	5
Natural Science Gen Ed (8 s.h.)		
PHYS 1501	Fundamentals of Physics 1	4
CHEM 1515	General Chemistry 1	3
CHEM 1515L	General Chemistry 1 Laboratory	1
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.)		
Arts and Humanities (select 1 course)		3
PHIL 2626	Engineering Ethics	3
or PHIL 2625	Introduction to Professional Ethics	
Social & Personal Awareness (6 s.h.)		6
Courses in the major:		
MATH 1570	Applied Calculus 1	4
MATH 2670	Applied Calculus 2	5
CSIS 2610	Programming and Problem-Solving	3
CSIS 2610L	Programming and Problem-Solving Lab	1
ENTC 1505	Engineering Technology Concepts	4
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
EET 1501	Circuit Theory 1	3
EET 1501L	Circuit Theory 1 Lab	1
EET 1502	Circuit Theory 2	3
EET 1502L	Circuit Theory 2 Lab	1
EET 2605	Electronics 1	3
EET 2605L	Electronics 1 Laboratory	1
EET 2620	Digital Electronics	2
EET 2620L	Digital Electronics Lab	1
EET 3710	Electrical Machines	3
EET 3710L	Electrical Machines Lab	1
EET 3712	Programmable Logic Controllers	3
EET 3712L	PLC Laboratory	1
EET 3715	Industrial Instrumentation and Control	3
EET 3735	Microprocessor Architecture and Programming	2
EET 3735L	Microprocessor Architecture and Programming Laboratory	1
EET 3700	Methods in Circuit Analysis	3
EET 3745	Microprocessor Systems 2	2
EET 3745L	Microprocessor Systems 2 Lab	1
EET 3701	Transform Circuit Analysis	3
CCET 3705	Computing for Engineers	3
EET 3760	Variable Speed Drives	2
EET 3760L	Variable Speed Drives Lab	1
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**
MET 3705	Thermodynamics	
ISEN 3710		
ISEN 3724	Engineering Economy	

MET 4860	Robotics Technology	
MET 4860L	Robotics Technology Laboratory	
EET Elective 37XX/48XX: Select 6 hours		**6**
EET 3706	Electronics 2	
EET 3706L	Electronics 2 Laboratory	
EET 3730	Logic Systems Design	
EET 3730L	Logic Systems Design Lab	
EET 3780	Communication Systems	
EET 3780L	Communication Systems Lab	
EET 4815	Power System Studies	
EET 4820	Power System Protection and Control	
EET 4820L	Power System Protection and Control Lab	
EET 4845	Microprocessor Systems 3	
EET 4845L	Microprocessor Systems 3 Lab	
EET 4850	Integrated Circuit Applications	
EET 4850L	Integrated Circuit Applications Lab	
EET 4890	Special Topics in EET	
STEM 4890	STEM Internship	
Any EET 48XX		
Total Semester Hours		**128-130**

Year 1

Fall		**S.H.**
YSU 1500 or SS 1500 or HONR 1500	Success Seminar or Strong Start Success Seminar or Intro to Honors	1-2
MATH 1513	Algebra and Transcendental Function	5
EET 1501	Circuit Theory 1	3
EET 1501L	Circuit Theory 1 Lab	1
ENTC 1505	Engineering Technology Concepts	4
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
	Semester Hours	**18-19**
Spring		
EET 1502	Circuit Theory 2	3
EET 1502L	Circuit Theory 2 Lab	1
EET 2620	Digital Electronics	2
EET 2620L	Digital Electronics Lab	1
MATH 1570	Applied Calculus 1	4
ENGL 1550 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
PHYS 1501	Fundamentals of Physics 1	4
	Semester Hours	**18-19**

Year 2

Fall		
EET 2605	Electronics 1	3
EET 2605L	Electronics 1 Laboratory	1
EET 3710	Electrical Machines	3
EET 3710L	Electrical Machines Lab	1
ENGL 1551	Writing 2	3
CHEM 1515	General Chemistry 1	3
CHEM 1515L	General Chemistry 1 Laboratory	1
	Semester Hours	**15**
Spring		
EET 3715	Industrial Instrumentation and Control	3.0
EET 3712	Programmable Logic Controllers	3
EET 3712L	PLC Laboratory	1
ECON 2610	Principles 1: Microeconomics	3
PHIL 2625	Introduction to Professional Ethics	3
CMST 1545	Communication Foundations	3
	Semester Hours	**16**

Year 3

Fall		
MATH 2670	Applied Calculus 2	5
EET 3700	Methods in Circuit Analysis	3
EET 3735	Microprocessor Architecture and Programming	2
EET 3735L	Microprocessor Architecture and Programming Laboratory	1
CSIS 2610	Programming and Problem-Solving	3
CSIS 2610L	Programming and Problem-Solving Lab	1
ENGL 3743	Introduction to Public, Professional and Technical Writing	3
	Semester Hours	**18**
Spring		
EET 3701	Transform Circuit Analysis	3
EET 3760	Variable Speed Drives	2
EET 3760L	Variable Speed Drives Lab	1
EET 3745	Microprocessor Systems 2	2
EET 3745L	Microprocessor Systems 2 Lab	1
EET or Technical Elective [2]		3
Social Science GER [1]		3
	Semester Hours	**15**

Year 4

Fall		
EET 4812	Automation Systems Integration	3.0
EET 4810	Electrical System Design	3
EET Elective [2]		3
CCET 3705	Computing for Engineers	3
Social & Personal Awareness GER [1]		3
	Semester Hours	**15**
Spring		
EET 4870	Process Control Technology	4
EET Elective [2]		3
Arts & Humanities GER [1]		3
Social & Personal Awareness GER [1]		3
	Semester Hours	**13**
	Total Semester Hours	**128-130**

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

[2] EET Electives: 3706/L, 3780/L, 3730/L, 4815, 4817, 4820, 4845, 4850/L, 48XX (Special Topics)
Technical Electives: ISEN 3720, ISEN 3724, MET 3705, MET 4860/L, CSIS 2620, EET 2653/L

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:

- Learning Outcome 1: be able to apply principles of mathematics and applied science, to perform technical calculations and solve technical

problems of the types commonly encountered in electrical engineering technology careers.

- Learning Outcome 2: demonstrate the ability to identify, formulate, and present creative solutions to technical problems in a variety of specialty areas within the broad fields of electrical engineering technology.
- Learning Outcome 3: be able to function competently in a laboratory setting, making measurements, operating technical equipment, critically examining experimental results, and properly reporting on experimental results, including their potential for improvement.
- Learning Outcome 4: be able to use modern computational tools for technical problem solving, including scientific calculators, computers, and appropriate software.
- Learning Outcome 5: demonstrate an ability to communicate and function effectively with members of multi-disciplinary teams from a variety of backgrounds.
- Learning Outcome 6: the ability to identify, formulate, and solve engineering problems in the following major electrical engineering technology disciplines: analog and digital electronics, communication systems, power, aerospace and computer systems.