Electrical Engineering Technology - Electronics Systems Major (ESET)

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Graduates of the Electrical Engineering Technology - Electronics Systems Major are prepared to pursue careers in diverse engineering-related fields such as computer design and repair, digital systems, microcomputer systems, microelectronics, and telecommunications.

Graduates earn an Associate of Applied Science degree. The curriculum also provides an effective foundation for transfer into a related bachelor's degree program.

The Electrical Engineering Technology - Electronics Systems Major program is accredited by the Engineering Technology Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21202-4012, phone (410) 347-7700.

For more information, please contact the Center for Innovative Technologies at (513) 569-1743.

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Semester 1		Lec	Lab	Credits
EET 131	Circuit Analysis 1 (**B**)	3	2	4
ENG 101	English Composition 1 (**G**)	3	0	3
FYE 1XX First Year Experience (**B**)		1	0	1
MAT XXX Mathematics Elective 1 (**G**)		3	2	4
Semester 2				
EET 121	Digital Systems 1 (**T**)	2	3	3
EET 132	Circuit Analysis 2 (**T**)	3	2	4
CIT 190	Career Preparation: Engineering and Information Technologies (**B**)	1	0	1
MAT XXX Mathematics Elective 2 (**B**)		3	2	4
Semester 3				
EET 291	Full-Time Cooperative Education 1: Electronics Engineering Technology (**T**)	1	40	2
NETC 121	Network Communications 1 (**B**)	2	2	3
PHY XXX Physics Elective (**G**)		3	2	4
Semester 4				
EET 122	Digital Systems 2 (**T**)	2	3	3
ESET 251	Electronics (**T**)	3	3	4
IT 101	.NET Programming 1 (**B**)	2	3	3
ENG 10X English Elective (**G**)		3	0	3
Semester 5				
ESET 290	Electronic Systems Engineering Technology Capstone Project (**T**)	2	4	4
ESET 220	Microprocessor Systems (**T**)	3	3	4
EMET XXX Electro-Mechanical Engineering Technology Elective (**T**)		2	3	3

EET XXX Electrical Engineering Techology Elective 1 (**T**)	2	3	3
Semester 6			
EET XXX Electrical Engineering Technology Elective 2 (**T**)	1	40	2
ECO 1XX Economics Elective (**G**)	3	0	3
Total Credits:	48	117	65

Electives

First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3
Mathematics Elective		8
Take one of the following series:		
MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	
Or		
MAT 251 & MAT 252	Calculus 1 and Calculus 2	
Physics Elective		
PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5
English Composition Elective		
ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
Electro-Mechanical Engineering Technology Elective		
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics	3
EMET 245	Laser 1	3
EMET 270	Robotics and Servomechanisms	4
Electrical Engineering Technology Electives		5
Any EET (2XX level)		
or, Any ESET (2XX level)		
or, Any PSET		
or, Any EMET not used to fulfill the Electro-Mechanical Engineering Technology Elective		
Economics Elective		
ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

Faculty

Program Chair

Dr. Ralph Whaley, Jr., PhD
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Co-op Coordinator

Professor Kimberly Richards, PhD
kimberly.richards@cincinnatistate.edu

EET Courses

EET 100 Introduction to Electrical Engineering Technology
2 Credits. 1 Lecture Hour. 2 Lab Hours.
An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.
Prerequisites: AFM 092 or appropriate placement test score

EET 101 Electronic Fundamentals 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on electrical fundamentals for non-electrical majors. Topics include: DC and AC circuit theory, electrical motors and controls, electromagnetic devices, and transformers.
Prerequisites: AFM 094 or MAT 120, and AFL 085, or appropriate placement test scores

EET 121 Digital Systems 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and programmable logic devices (PLDs); number systems and codes; Boolean algebra; circuit simplification; and functions of logic circuits, latches, flip-flops, counters, timers, and memory.
Prerequisites: MAT 121 or appropriate placement test score

EET 122 Digital Systems 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, input/output (I/O), busses, direct memory access (DMA), memory expansion, and assembly language programming.
Prerequisites: EET 121

EET 131 Circuit Analysis 1
4 Credits. 3 Lecture Hours. 2 Lab Hours.
A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.
Prerequisites: MAT 121 or appropriate placement test score
Ohio Career-Technical Assurance Guide Approved

EET 132 Circuit Analysis 2
4 Credits. 3 Lecture Hours. 2 Lab Hours.
A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.
Prerequisites: EET 131 and MAT 125 or appropriate placement test score
Ohio Transfer Assurance Guide Approved

EET 191 Part-Time Cooperative Education 1: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

EET 192 Part-Time Cooperative Education 2: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 191

EET 193 Part-Time Cooperative Education 3: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 192

EET 194 Part-Time Cooperative Education 4: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 193

EET 195 Part-Time Cooperative Education 5: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 194

EET 196 Part-Time Cooperative Education 6: Electronics Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 195

EET 198 First Year Special Topics in Electronics Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Electronics Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

EET 199 First Year Independent Project in Electronics Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Electronics Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Electronics Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval

EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

EET 292 Full-Time Cooperative Education 2: Electronics Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 291

EET 293 Full-Time Cooperative Education 3: Electronics Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 292

EET 294 Internship 1: Electronics Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 131 and CIT 190

EET 295 Internship 2: Electronics Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 294

EET 298 Second Year Special Topics in Electronics Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Electronics Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

EET 299 Second Year Independent Project in Electronics Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Electronics Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Electronics Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval

ESET Courses

ESET 220 Microprocessor Systems
4 Credits. 3 Lecture Hours. 2 Lab Hours.
A course on designing, programming, and troubleshooting microprocessor systems and applications. Topics include: assembly language programming, interrupt and polled input/output (I/O), interrupt service routines, parallel ports, timer functions, serial interfaces, analog-to-digital (A/D) converters, and external hardware interfaces.
Prerequisites: EET 122

ESET 251 Electronics
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on semiconductor and amplifier theory and application. Topics include: diode circuits and basic power supplies; bipolar transistor, field-effect transistor (FET), thyristor, and operational amplifier theory; inverters; circuit construction; and troubleshooting.
Prerequisites: EET 132

ESET 290 Electronic Systems Engineering Technology Capstone Project
4 Credits. 2 Lecture Hours. 4 Lab Hours.
Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.
Prerequisites: EET 122 and ESET 251