Electro-Mechanical Engineering Technology (EMET)

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The Electro-Mechanical Engineering Technology program is the largest of its kind in Ohio. The program combines electronics engineering technology and mechanical engineering technology, so students develop skills that are highly valued by industrial firms, including a focus on industrial automation. Students gain skills in controlling systems, linking software and hardware maintaining systems, and improving machines and systems.

Program graduates also are prepared to pursue a Bachelor of Science degree in Engineering Technologies such as Electronics and Electro-Mechanical, or pursue a Bachelor of Science degree in Engineering such as Electrical Engineering.

The Electro-Mechanical Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, phone (410) 347-7700 and has received an Ohio Board of Regents Program Excellence Award.

Electro-Mechanical Engineering Technology—Laser Major (EMETL)

The Laser major prepares graduates to successfully begin careers and advance professionally in local and national industries that utilize lasers and electro-optics systems. Students work with laser material processing systems, and operate and troubleshoot optical systems including lasers, lens systems, and fiber optics. Graduates can support industrial equipment in automated manufacturing and research environments, and are also prepared to pursue a bachelor's degree in Electro-Mechanical Engineering or related fields.

Program graduates also are prepared to pursue a Bachelor of Science degree in Engineering Technologies such as Electronics and Electro-Mechanical, or pursue a Bachelor of Science degree in Engineering such as Electrical Engineering.

Electro-Mechanical Engineering Technology—Renewable Energy and Energy Efficiency Major (EMTR)

The Renewable Energy major prepares graduates to address needs in several related and growing industries, including the manufacturing of photovoltaic electric panels, geothermal, solar thermal, wind turbines, and fuel cells; installing and servicing photovoltaic and wind turbine systems; and assisting energy efficiency companies and consultants. Understanding these new technologies requires most of the traditional foundations of electro-mechanical engineering technology studies.

Program graduates also are prepared to pursue a Bachelor of Science degree in Engineering Technologies such as Electronics and Electro-Mechanical, or pursue a Bachelor of Science degree in Engineering such as Chemical Engineering for research and development.

Electro-Mechanical Engineering Technology (EMET)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Semester 1		**Credits**
ENG 101	English Composition	3
PSET 110	Power Systems CAD	3
MET 111	Manufacturing Processes 1	3
EET 131	Circuit Analysis 1	4
EMET 140	Electro-Mechanical Engineering Technology Foundations	2
MAT XXX Mathematics Elective 1		4
Semester 2		
ENG 10X English Composition Elective		3
EET 121	Digital Systems 1	3
EET 132	Circuit Analysis 2	4
MET 150	Statics and Strength of Materials for MET	3
MAT XXX Mathematics Elective 2		4

Semester 3		
EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
Semester 4		
ECO 1XX Economics Elective		3
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics	3
MET 240	Hydraulics and Pneumatics	3
EET 251	Electronics 1	4
PHY XXX Physics Elective		4
Semester 5		
COMM 110	Public Speaking	3
CULT 110	Social Issues in Technology	3
EMET 250	Servomechanisms	3
EMET 260	Robotics	3
MET 260	Applied Thermodynamics	3
EMET 290	Electro-Mechanical Engineering Technology Capstone	2
Semester 6		
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
Total Credits:		74

Electives

Mathematics Electives		
Select one of the following:		8-10
MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	
MAT 251 & MAT 252	Calculus 1 and Calculus 2	
English Composition Elective		
ENG 102	Composition and Argument	3
ENG 103	Composition and Literature	3
ENG 104	Composition and Technical Communication	3
ENG 105	Composition and Business Communication	3
Economics Elective		
ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3
Physics Elective		
PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

Electro-Mechanical Engineering Technology—Laser Major (EMETL)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Semester 1		**Credits**
ENG 101	English Composition	3
PSET 110	Power Systems CAD	3
MET 111	Manufacturing Processes 1	3
EET 131	Circuit Analysis 1	4
EMET 140	Electro-Mechanical Engineering Technology Foundations	2
MAT XXX Mathematics Elective 1		4
Semester 2		

ENG 10X English Composition Elective		3
EET 121	Digital Systems 1	3
EET 132	Circuit Analysis 2	4
MET 150	Statics and Strength of Materials for MET	3
MAT XXX Mathematics Elective 2		4
Semester 3		
EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
Semester 4		
ECO 1XX Economics Elective		3
MET 240	Hydraulics and Pneumatics	3
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics	3
EMET 245	Laser Foundations and Safety	3
EET 251	Electronics 1	4
PHY XXX Physics Elective		4
Semester 5		
COMM 110	Public Speaking	3
CULT 110	Social Issues in Technology	3
EMET 255	Optical Components, and Geometrical and Wave Optics	4
EMET 265	Industrial Laser Systems	4
EMET 290	Electro-Mechanical Engineering Technology Capstone	2
Semester 6		
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
Total Credits:		76

Electives

Mathematics Electives		
Select one of the following:		8-10
MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	
MAT 251 & MAT 252	Calculus 1 and Calculus 2	
English Composition Elective		
ENG 102	Composition and Argument	3
ENG 103	Composition and Literature	3
ENG 104	Composition and Technical Communication	3
ENG 105	Composition and Business Communication	3
Economics Elective		
ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3
Physics Elective		
PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

Electro-Mechanical Engineering Technology Renewable Energy and Energy Efficiency Major (EMTR)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Semester 1		**Credits**
ENG 101	English Composition	3
PSET 110	Power Systems CAD	3
MET 111	Manufacturing Processes 1	3
EET 131	Circuit Analysis 1	4
EMET 140	Electro-Mechanical Engineering Technology Foundations	2
MAT XXX Mathematics Elective 1		4
Semester 2		
ENG 10X English Composition Elective		3
EET 121	Digital Systems 1	3
EET 132	Circuit Analysis 2	4
MET 150	Statics and Strength of Materials for MET	3
MAT XXX Mathematics Elective 2		4
Semester 3		
EMET 291	Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology	2
Semester 4		
PSC 115	Energy	3
ECO 1XX Economics Elective		3
EMET 210	Energy Efficiency and Audits	3
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics	3
EET 251	Electronics 1	4
Semester 5		
COMM 110	Public Speaking	3
CULT 110	Social Issues in Technology	3
EMET 220	Photovoltaic and Solar Thermal Devices	3
EMET 230	Fuel Cells and Wind Devices	3
MET 260	Applied Thermodynamics	3
EMET 290	Electro-Mechanical Engineering Technology Capstone	2
Semester 6		
EMET 292	Full-Time Cooperative Education 2: Electro-Mechanical Engineering Technology	2
Total Credits:		73

Electives

Mathematics Electives		
Select one of the following:		8-10
MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	
MAT 251 & MAT 252	Calculus 1 and Calculus 2	
English Composition Elective		
ENG 102	Composition and Argument	3
ENG 103	Composition and Literature	3
ENG 104	Composition and Technical Communication	3
ENG 105	Composition and Business Communication	3
Economics Elective		

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3