

Electro-Mechanical Engineering Technology - Laser Major and Laser Certificate (EMETL, EMETLC)

Electro-Mechanical Engineering Technology—Laser Major (EMETL)

Graduates with the Electro-Mechanical Engineering Technology - Laser Major are prepared to successfully begin careers and advance professionally in local and national industries that utilize lasers and electro-optics systems, or use industrial equipment in automated manufacturing and research environments.

Students work with laser material processing systems, and operate and troubleshoot optical systems including lasers, lens systems, and fiber optics.

Graduates earn an Associate of Applied Science degree and are also prepared to pursue a bachelor's degree in fields such as electro-mechanical engineering or electrical engineering.

Electro-Mechanical Engineering Technology—Laser Certificate (EMETLC)

The Electro-Mechanical Engineering Technology – Laser Certificate prepares students to enter careers and advance professionally in local and national industries that utilize laser and electro-optics systems.

Students work with laser material processing systems, and operate and troubleshoot optical systems including laser, lens systems, and fiber optics.

Graduates of the certificate program receive OSHA 10 Electrical Safe Practices certification and are prepared for Laser Safety Officer training based on ANSI 36 standards, OSHA guidelines and the FDA Center for Devices and Radiological Health (CDRH).

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

To apply for this program at Cincinnati State, visit our Admissions Page (<http://www.cincinnati.edu/academics/admission>)

Electro-Mechanical Engineering Technology—Laser Major (EMETL)

Semester 1		Lec	Lab	Credits
EMET 150	Introduction to Controls and Robotics (B)	1	2	2
CIT 105	OSHA 10 General Industry Safety (B)	1	0	1

EET 131	Circuit Analysis 1 (T)	3	2	4
PSET 110	Power Systems Computer Aided Drafting (B)	2	3	3
FYE 1XX	First Year Experience Elective (B)	1	0	1
MAT XXX	Mathematics Elective 1 (G)	3	2	4
Semester 2				
EMET 180	Process Instrumentation (T)	2	3	3
EET 132	Circuit Analysis 2 (T)	3	2	4
ENG 101	English Composition 1	3	0	3
MAT XXX	Mathematics Elective 2 (B)	3	2	4
Semester 3				
XXX XXX	Cooperative Education or Transfer Elective 1 (T)	1	40	2
Semester 4				
EMET 240	Programmable Logic Controllers, Motors, Motor Controls, and Kinematics (T)	2	3	3
EMET 245	Laser 1 (T)	2	3	3
PHY XXX	Physics Elective (G)	3	2	4
ENG 10X	English Composition Elective (G)	3	0	3
Semester 5				
EMET 246	Laser 2 (T)	3	3	4
EMET 270	Robotics and Servomechanisms (T)	3	3	4
EMET 275	Electric Drive Mechanisms (T)	3	3	4
MET 150	Statics and Strength of Materials for MET (B)	2	3	3
XXX XXX	Arts/ Humanities or Social/ Behavioral Science Elective (G)	3	0	3
Semester 6				

XXX XXX Cooperative Education or Transfer Elective 2 (T)	1	40	2
Total Credits:	48	116	64

Electives

First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Mathematics Electives

Select one of the following series:		
MAT 125 & MAT 126	Algebra and Trigonometry and Functions and Calculus	8
Or		
MAT 251 & MAT 252	Calculus 1 and Calculus 2	8

English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 104	English Composition 2: Technical Communication	3

Physics Elective

PHY 151	Physics 1: Algebra and Trigonometry-Based	4
PHY 201	Physics 1: Calculus-Based	5

Arts/Humanities or Social/Behavioral Science Elective

Any ECO, GEO, HST, LBR, LIT, PHI

Cooperative Education or Transfer Electives *

EMET 291	Full-Time Cooperative Education 1: Electro- Mechanical Engineering Technology	2
EMET 292	Full-Time Cooperative Education 2: Electro- Mechanical Engineering Technology	2
EET 121	Digital Systems 1	3
ESET 251	Electronics	4
MET 140	Engineering Materials	3

* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

Electro-Mechanical Engineering Technology - Laser Certificate (EMETLC)

Semester 1		Lec	Lab Credits	
EMET 245	Laser 1	2	3	3
CIT 105	OSHA 10 General Industry Safety	1	0	1
Semester 2				
EMET 246	Laser 2	3	3	4
Total Credits:		6	6	8

Faculty

Program Chair/Advisor

Professor Lawrence (Larry) Feist, BS
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Co-op Coordinator

Professor Sue Dolan, M.Ed.
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