This deliverable contains East Mississippi Community Colleges Electro-Mechanical Technician Career and Technical Education program which facilitates a stackable credential career pathway model that embeds NAM and local industry endorsed credentials, adds contextualized learning, and better utilizes technology in all programs. The Electro-Mechanical Technician program was developed through the Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Program Round 3 Grant Golden Triangle Modern Manufacturing Project TC-25149-13-60-A-28.

This document contains deliverable #6: Electro-Mechanical Technician program.

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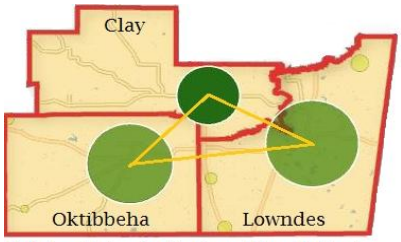
East Mississippi Community College
Golden Triangle Modern Manufacturing Project



Golden Triangle Modern Manufacturing

Technician Programs- Strategy 1: Build programs that meet industry needs. **Action 1.2:** Develop new 30-hour certificate and 60-hour certificate/AAS degree programs tied to NAM-endorsed certificates for Electro-Mechanical craft technicians, Mechatronics technicians, and Welder/Fabricator technicians.
Related Deliverable – Electro-Mechanical Technician Program Curriculum

Electro-Mechanical Technician

The Electro-Mechanical Technician Career and Technical Education program was developed to embed National Association of Manufacturers (NAM) endorsed and industry recognized credentials; to contextualize safety, lean, measurement and blueprint reading into each program; and to utilize online and technology-enabled systems as instructional tools.

The Electro-Mechanical Associate of Applied Science degree is a higher level option within EMCC's Industrial Maintenance program. The program prepares graduates to enter the job market in many different areas or continue their education at a 4-year institution. The Electro-Mechanical Technician program offers a one-year vocational certificate option, a technical certificate (see Advisor or Navigator for requirements), and a two-year Associate of Applied Science degree option (includes higher level academics). Electro-Mechanical technicians are responsible for assembling, installing, and maintaining/repairing machinery used in the manufacturing or industrial environment as well as troubleshooting of electrical and mechanical systems. Students receive basic instruction in a wide variety of areas including safety, machinery maintenance and troubleshooting/service, blueprint reading, basic machining, fundamentals of industrial electricity, CAD, fluid power, Industrial Controls and PLC programming. The Electro-Mechanical curriculum embeds opportunities to acquire multiple credentials through the National Center for Construction Education and Research (NCCER).

This program requires an ACT Score of 21 in the Composite and Math areas as well as a Silver Certificate on the Workkeys exam. A passing score of 55% on the BMCT (Bennett Mechanical Comprehension Test) is also required. The Electro-Mechanical Technician curriculum is located on p.99 in the EMCC Catalog and can be found by following the link: http://www.eastms.edu/students/Documents/catalog,2016-17v1-2,5-19-16.pdf.

The NCCER Industrial Maintenance Electrical and Instrumentation Level 1 and 2 Certifications and NCCER Mechanical Level III Certification have been identified as the technical exit assessment for the Electro-Mechanical Technician program. The assessments validate technical skills learned during the program. See below for detailed information regarding the NCCER Certifications.

Course Number	Course Name	Credentials	Technology	Notes

IMM 1935 5 hours	Manufacturing Skills Basic	OSHA 10-Hour CPR	Online technical content with assessment	1,2,3,4
IMM 1113 3 hours	Industrial Maintenance Core and Safety	NCCER Core*	NCCER-CONNECT	1,2
IMM 1214 4 hours	Introduction to Industrial Maintenance	NCCER E&I Technician Level I	NCCER-CONNECT, Digital Multimeters	1,2,3,4
IMM 1154 4 hours	Electrical Industrial Maintenance I	NCCER E&I Technician Level II	NCCER-CONNECT	1,2,3
IMM 1164 4 hours	Electrical Industrial Maintenance II	NCCER E&I Technician Level II		1,2,3
IMM 1242 2 hours	Mechanical Industrial Maintenance I	NCCER Mechanical Level III	Digital Multimeters	1,2,3
IMM 1252 2 hours	Mechanical Industrial Maintenance II	NCCER Mechanical Level III	NCCER-CONNECT, Digital Multimeters	1,2,3
IMM 1484 4 hours	Industrial Control Systems			1,3
IMM 1313 3 hours	Principles of Hydraulics and Pneumatics			1,3
Total hours 31	**1-Year exit**	**Industrial Maintenance Vocational Certificate Option**		
IMM 2214 4 hours	Advanced Electrical Industrial Maintenance	NCCER E&I Technician Level III		1,2,3,4
IMM 2224 4 hours	Advanced Mechanical Industrial Maintenance	NCCER E&I Technician Level III		
IMM 2513 3 hours	Programmable Logic Controller- Multi-Platform		Digital Multimeters, Multiple platforms PLC Software and communication	
IMM 2433 3 hours	Electronic Motion Control		Digital Multimeters	
DDT 1313 3 hours	Principles of CAD			
3 hours	Humanities/Fine Arts Electives			
3 Hours	Social Behavioral Science Elective			1,2,3,4
SPT 1113 3 hours	Public Speaking I			1,2,3,4
MAT 1323 3 hours	Trigonometry			

ENG 1113 3 hours	English Composition I			
PHY 2414 4 hours	General Physics			
Total hours 67	**2-Year exit**	**Electro-Mechanical Technician AAS degree**		

*NCCER- The National Center for Construction Education and Research was developed with the support of more than 125 construction CEOs and various association and academic leaders who united to revolutionize training for the construction industry. NCCER develops standardized construction and maintenance curriculum and assessments with portable credentials. These credentials are tracked through NCCER's registry that allows organizations and companies to track the qualifications of their craft professionals and/or check the qualifications of possible new hires. NCCER's registry also assists craft professionals by maintaining their records in a secure database.

Note 1 - Contextualized Safety: Instructors contextualized safety in ELM classes by relating OSHA safety to the maintenance technician workplace.

Note 2 - Contextualized Measurement: Instructors contextualized measurement in ELM classes by relating National Electric Code installation measurements, electrical measurement, and part placement measurements to the maintenance technician workplace.

Note 3 - Contextualized Print Reading: Instructors contextualized print reading in ELM classes by relating part placement, structure tolerances, electrical measurement tolerances, and use of prints for troubleshooting and installing the maintenance technician systems.

Note 4- Contextualized Lean Concepts: Instructors contextualized lean concepts in ELM classes by relating organization, maintaining of tools, maintaining work place and maintaining materials/supplies/waste products to the maintenance workplace.