

Industrial Maintenance Technician Sponsorship Program

Overview

The College Alliance for Advanced Manufacturing (CAAM) is charged with the mission to champion innovative training programs at partner colleges that will lead to a stronger economy by keeping the manufacturing workforce current and viable in a demanding era of change. CAAM provides curriculum, training, and certification resources to foster the development and sustainability of Florida's growing manufacturing production workforce. To achieve this, CAAM works with stakeholders from academia, industry, and government.

Polk State College has partnered with CAAM to create an employer sponsored technical training program to develop formally educated and credentialed Industrial Maintenance Technicians. The program consists of over 350 hours of On the Job Training (OJT) and five nationally recognized certifications that act as a verification of competencies retained from the program of study. The program is broken into four (4) sections:

Section 1 - MSSC Certified Production Technician Certification* & OSHA 30 (General Industry)

150 Hours

Unit 1: Safety Awareness

Provides baseline knowledge and skills needed to maintain a safe and productive work environment and ensure the safe use of equipment in the workplace. (*OSHA 30*)

Unit 2: Production and Processes

Develops existing knowledge and skills needed for the production of products to meet customer needs while ensuring the manufacturing process meets business requirements.

Unit 3: Maintenance Awareness

Provides the core knowledge of preventive maintenance and enhances existing skills in the identification and performance of equipment maintenance used in the production process.

Unit 4: Quality Assurance

Enhances existing knowledge and skills needed to maintain quality and implement continuous improvement processes, and ensure that product and process variances meet quality standards.

Section 2 – Packaging Machinery Manufacturers Institute: Mechanical Components 1

160 Hours

Unit 1: Introduction to Mechanical Drives and Safety

Unit 2: Key Fasteners

Unit 3: Power Transmission and Shafts

Unit 4: V-Belt Drives

Unit 5: Chain Drives

Unit 5: Gear Drives

Unit 6: Synchronous Belt Drives

Unit 7: Lubrication

Unit 8: Couplings

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Section 3 - Packaging Machinery Manufacturers Institute: Industrial Electricity 1

160 Hours

Unit 1: Electricity and Electrical Circuits

Unit 2: Measuring Voltage, Current & Resistance

Unit 3: Power and Circuit Protection
in Series and Parallel Circuits

Unit 4: Electromagnetism, Inductance &
Capacitance and their Application

Unit 5: Combination Circuits

Unit 6: Basic Circuits and Troubleshooting

Unit 7: Transformers

Unit 8: Introduction to 3-phase motors

Unit 9: Manual Motor Control and Protection

Unit 10: Electrical Control Ladder Logic

Unit 11: Basic Electrical Wiring and Construction

Unit 12: Control Relays and Pilot Devices

Unit 13: Introduction to Process Control Troubleshooting

Unit 14: NFPA 70E Safety

Section 4 - Packaging Machinery Manufacturers Institute: Programmable Logic Controllers 1

128 Hours

Unit 1: Operation of a PLC

Unit 2: Memory Organization and Addressing

Unit 3: Discrete I/O Interfacing

Unit 4: Function and Use of Monitoring Devices

Unit 5: Basic PLC Logic Instructions

Unit 6: PLC Timer and Counter Instructions

Unit 7: Basic PLC Motor control applications

Unit 8: Basic PLC Sequencing Applications

Unit 9: Basic PLC Machine Application

Unit 10: Troubleshooting PLC Based Systems

Unit 11: Troubleshooting PLC Hardware and Software

PROGRAM TO SUPPORT SOC CODE(S): 49-1011, 49-9041, 49-9071, 51-1011

49-1011.00 - First-Line Supervisors of Mechanics, Installers, and Repairers

Directly supervise and coordinate the activities of mechanics, installers, and repairers.

49-9041.00 - Industrial Machinery Mechanics

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.

49-9071.00 - Maintenance and Repair Workers, General

Duties include pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.

51-1011.00 - First-Line Supervisors of Production and Operating Workers

Directly supervise and coordinate the activities of production and operating workers, inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant / system operators.

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Participants

Program applicants will be vetted thoroughly through Spherion Staffing, to include but not limited to, criminal background checks and employment readiness urinalysis. No more than 25 applicants will begin the Industrial Maintenance Technician Program during any cohort. The sponsoring employers will select no less than 12 students to advance to Sections 2-4, based on performance during Section 1. The participants selected to advance will be matched with an employer sponsor that will help facilitate the OJT requirement of the program. The participants that advance will be paid \$10.00 per hour during OJT activities only. Participants will not be compensated during classroom and hands-on instruction.

Throughout the program, both instructional time and during OJT within an employer's facility, program participants are expected to adhere to the program Code of Conduct, as seen below:

Participant Code of Conduct

- **Appropriate Attire** - Close toed shoes, long pants/ jeans, collared shirt.
- **Attendance** - Seat time is a requirement for the OSHA section of this program. Absences will not be tolerated without reasonable explanation. An excess of 4 absences throughout the duration of any cohort may result in dismissal from the program. Participants are required to provide their own means of transportation for the OJT portion of the program.
- **Drug Free Policy** - Illegal use of drugs or alcohol is not tolerated on any Polk State College campus or at any College-sponsored event off campus as indicated by DBOT Rules 4.01 and 2.25. Students who illegally use drugs or alcohol, or who sell or manufacture legal or illegal drugs on any of the College's campuses or centers or at a College-sponsored event off campus are subject to disciplinary actions, which could include dismissal from the program.
- **Academic Honesty** - Polk State College considers academic dishonesty an assault upon the basic integrity and value of a college education. Cheating, plagiarism, and collusion in dishonest activities are serious acts that erode the College's educational role and tarnish the learning experience, not only for the perpetrators but for the entire community. Any participant found guilty of academic dishonesty will be dismissed from the program.
- **Sexual Misconduct** - Polk State College is particularly sensitive to sexual misconduct as an important part of the Student Conduct, Discipline, and Due Process Rule. PSC Procedure 5027 addresses sexual misconduct. Sexual misconduct includes, but is not limited to, the following:
 - Sexual Harassment: Unwelcome sexual advances, request for sexual favors, and other verbal or physical conduct of a sexual nature from any person when such conduct has the purpose or effect of unreasonably interfering with an individual's work performance, study habits, and/or educational experiences, or creating an intimidating, hostile, or offensive work or study environment.
 - Sexual Assault: Any act, or attempted act, as defined in Florida statutes.
 - Public Indecency: Exposing one's body in such a manner that another party reasonably could be offended, or sexual conduct where another party reasonably could be offended.

Polk State College reserves the right to remove any student from the program without notice. All program sponsors reserve the right to remove program participants from their facility during OJT without notice.

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Available Credit Articulation

***Section 1 - MSSC Certified Production Technician Certification**

The Production Technician course provides the student the foundational, portable production knowledge-set applicable to entry-level production technician jobs in the manufacturing industry and prepares the student to sit for the four Manufacturing Skills Standards Council [MSSC] Production Technician certification assessments; Safety Awareness, Production & Processes, Maintenance Awareness, and Quality Assurance. Additionally, this course covers Employability Skills as a non-assessed portion of the training.

Articulation: ETM 1010C Mechanical Measurement and Instrumentation, ETI 1420C Manufacturing Processes and Materials, ETI 1110C Introduction to Quality, ETI 1701C Industrial Safety, ETI 1402C Intro. To Advanced Manufacturing

TRAINEE (Attestation):

I certify, by my signature, that I have read and understand the information on this form and will comply with the above requests.

Signature: _____

Date: _____