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Module Descriptions

AMT 100: Computer Literacy
- Introduces participants to the typical computer systems and basics of using operating systems related to advanced manufacturing industry
- Covers how to use application program software such as Microsoft Office
- Provides students with basic skills in using Internet and Intranet to search for manuals, software, drivers, etc.

AMT 101: Fluid Power and Electrohydraulics/Pneumatics
- Covers principals of fluid power, calculations of physical properties of fluids, troubleshooting fluid power components and systems with an emphasis on safety
- Explains how to use control valves, pumps, actuators, accumulators, reservoirs, fluids, filters, hose, piping, tubing, and preventive and predictive maintenance techniques

AMT 103s: PLC (Siemens)
- Overview of Siemens PLC system architectures, networks and software options.
- Addresses industrial communications, how to start a new project, wiring and configuration, understanding the programming

AMT 103ab: PLC (Allen-Bradley)
- Overview of Allen-Bradley PLCs system architectures, basic numbering systems, computer terminology, industrial communications
- Learn about wiring and configurations of I/O modules, ladder logic programming, function block programming, etc.

AMT 104: Blueprint Reading/Schematics
- Read, manipulate, and understand a mechanical part print
- Recognize, identify, describe, and relate the components used in schematics and symbols

AMT 105: Robotics
- Introduces basic components, types of robots, safety, programming, and integrating PLC with robot applications
- Covers robot maintenance, preventative maintenance, and troubleshooting robots using error codes

AMT 102: General PM and Predictive Maintenance
- activities include how to check for wear and tear, replacing components to avoid breakdown, lubricating, cleaning, and testing to keep equipment optimized for efficiency and accuracy
AMT 106: Controls & Instrumentations
- Teaches how to troubleshoot/replace/install circuit boards, sensors, and photoeyes
- Shows how loop tuning will assure quality standards, what different modes of control have on maintaining process quality
- Become proficient in troubleshooting motors and variable speed drives, interpreting relay logic, interpreting relay logic and sizing of components for various applications

AMT 107: Basic Electricity & Electronics
- Introduces various elements of basic electricity such as the identification of electrical symbols as well as interpretation of schematics, cross referencing prints, tracing circuits, interpreting charts
- Explains different electrical measurement instruments with safe measuring techniques emphasized. Various circuits as well as combinational and sequential ladder logic designs are examined.

AMT 108: Mechanical Systems/Mechanical Drives/Power Transmissions
- A mechanical system consists of a combination of components that function together to perform work and motion. Mechanical drive systems may also change the size, direction, and speed of the applied force
- Covers power transmission, calculation of speed and force, mechanical drawing, safe work practices, common hand tools
- Learn about flexible chain drives, how to install, align, and maintain shaft couplings
- Introduces the various components of the mechanical systems such as bearing, shafts, seals, brakes, clutches, gears, and cams

AMT 109: Safety
- OSHA regulations, safety rules related to the use of cranes, hoists, and rigging equipment
- American Red Cross First Aid/CPR/AED program is available for additional fee

AMT 110: Welding & Fabrication
- Covers shielded metal arc welding, gas metal arc welding, oxy-fuel welding cutting
- Various techniques, equipment, filler metals, and safety

AMT 120: Machine Tool Operations
- Emphasis on safe applications of machining procedures and machines used by multi-skilled industrial maintenance technicians
- Various types of each tools are explored