TEM

Courses

TEM 105 Installation of Solar Thermal Systems
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course for individuals seeking to become installers of solar thermal systems. Topics include: fundamental concepts of solar thermal systems; and design, installation, troubleshooting, and commissioning of systems.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=105subject_code=TEM)

TEM 107 Install Photovoltaic Sys
3 Credits. 3 Lecture Hours. 0 Lab Hour.
A course on fundamental concepts and techniques for installing solar photovoltaic (PV) systems. Topics include: designing PV systems and safely installing solar-electric systems. This course prepares students for the NABCEP PV Entry Level Certificate of Knowledge exam.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=107subject_code=TEM)

TEM 110 Electrical Systems
1 Credit. 1 Lecture Hour. 0 Lab Hour.
An course on electrical systems found in a manufacturing facility. Topics include: motors and motor control, meters and testing devices, power distribution, and electrical systems.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=110subject_code=TEM)

TEM 115 Electrical Safety
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course on electrical safety issues based on NFPA 70E. Topics include: electrical hazards, comparison of qualified and non-qualfied workers, lockout/tagout, safe electrical work practices, and PPE.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=115subject_code=TEM)

TEM 120 Industrial Electricity for AC and DC Circuits
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course on fundamental concepts and safe maintenance techniques used when working with electrical devices and applications.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=120subject_code=TEM)

TEM 125 Industrial Electronic Devices
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course on theory, operation, application, and troubleshooting of solid-state devices used in industrial equipment and controls. Topics include: semi-conductors; transistors as switches; and amplifiers, SCRs, LEDs, and integrated circuits.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=125subject_code=TEM)

TEM 130 Electrical Control System Devices
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course on the devices typically found in an industrial control panel, including relays, timers, contactors, terminal blocks, and control transformers.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=130subject_code=TEM)

TEM 140 Electrical Ladder Diagrams and Print Reading
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course on concepts and skills needed to interpret electrical prints and construct electrical ladder diagrams.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=140subject_code=TEM)

TEM 150 Industrial Power Systems
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course on concepts and skills for working with modern power distribution systems. Topics include: transformers, circuit protection, 1-line diagrams, grounding, switch gears, and electrical safety.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=150subject_code=TEM)

TEM 160 Motors, Motor Controls, and Drives
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course for maintenance personnel involved in selection, installation, and troubleshooting of industrial 480 three-phase motors, controls and frequency drives. Topics include: control circuits, overload protection, and auxiliary control devices.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=160subject_code=TEM)

TEM 165 Motion Control Devices and Systems
1.5 Credit. 1 Lecture Hour. 1 Lab Hour.
A course for the industrial electrician or electrical maintenance technician responsible for installing or troubleshooting motion control devices. Topics include: types and applications of motion control devices used in industry.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=165subject_code=TEM)

TEM 170 Sensors for Industrial Control Systems
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course for maintenance personnel covering selection, installation, and troubleshooting of discrete and analog sensors commonly found in manufacturing operations. Topics include: limit switches, pressure switches, proximity switches, photo eye sensors, process sensors with analog outputs, and motion sensors.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=170subject_code=TEM)

TEM 175 Variable Frequency Drives
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course on application, selection, installation, programming, and troubleshooting of Variable Frequency Drives (VFDs) used in industry. Topics include: test equipment and motor controls; hardware identification; and determining parameter values for load, torque, and speed.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=175subject_code=TEM)

TEM 180 Programmable Logic Controllers 1
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course on operation, installation, basic programming, and troubleshooting of programmable logic controllers (PLCs) using Allen Bradley SLC-500 and CompactLogix PLCs.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=180subject_code=TEM)

TEM 185 Programmable Logic Controllers 2
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A continuation of TEM 180, emphasizing techniques used by electricians or instrument technicians who install and troubleshoot advanced PLCs. Topics include: advanced and special program instruction, Human-Machine Interface (HMIs), and communication networks.
Prerequisites: TEM 180

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=185subject_code=TEM)

TEM 190 Troubleshooting Industrial Electrical Equipment
2.5 Credits. 2 Lecture Hours. 1 Lab Hour.
A course on systematic approaches for troubleshooting electrical equipment used in industry.
Prerequisites: None

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=190subject_code=TEM)

TEM 198 Special Topics in Industrial Maintenance
0.5-7 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Industrial Maintenance that gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Vary by section

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=TEM)

TEM 199 Special Projects in Industrial Maintenance
0.5-7 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Industrial Maintenance that gives students opportunities to study information not currently covered in other courses. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Vary by section

View Sections (http://webapps.cincinnatistate.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=TEM)