

INDUSTRIAL TECHNOLOGY PROGRAM

COURSE 1: MECHANICAL, ELECTRICAL AND TECHNOLOGY FOUNDATIONS

The MET Foundations course is designed to be the foundational course for the ECC Industrial Technology program.

PROGRAM DETAILS - ONE SEMESTER ~ 70 HOURS

BASIC ELECTRICAL 30 HOURS

1. Voltage, current & resistance
2. Ohm's Law & power formulas
3. Resistors, capacitors, switches & fuses
4. Measurement of voltage, current & resistance
5. Circuits
6. Wiring diagrams
7. Conductors, terminals and connectors
8. Troubleshooting circuit faults
9. Circuits in industrial automation
10. SACA Electrical I credential

MECHANICAL POWER SYSTEMS 30 HOURS

1. Power transmission types
2. Power transmission safety
3. Precision measurement tools
4. Mounting motors, keys, hubs, bearings, and drive systems
5. Alignment of mechanical drive systems
6. Calculate mechanical transmission efficiency
7. Lubrication and maintenance procedures
8. Systematic diagnostic techniques
9. SACA Mechanical Power Systems credential

OSHA-10 TRAINING 10 HOURS

1. Intro to OSHA - 1 Hour
2. Walking and Working Surfaces - Fall Protection - 1 hour
3. Exit Routes, Emergency Action Plans & Fire Prevention - 1 hour
4. Electrical Safety - 1 hour
5. Hazard Communication - 1 hour
6. Personal Protective Equipment - 1 hour
7. Operator Training - 1.5 hours
8. Ergonomics - .5 Hour
9. Machine Guarding - .5 hour
10. Hand & Power Tools - .5 hour
11. Natural Disasters - 1 hour

DURING A TYPICAL WEEK:

200-240 MINUTES OF INSTRUCTION & HANDS ON WORK
80 MINUTES OF INDEPENDENT WORK

814-834-7800 
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