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ABSTRACT

Developed through a modified DACUM (Developing a Curriculum) process involving business, industry, labor, and community agency representatives in Ohio, this document is a comprehensive and verified employer competency profile for industrial maintenance occupations. The list contains units (with and without subunits), competencies, and competency builders that identify the skills needed to enter these occupations. The occupational, academic, and employability skills for this occupation or occupational area are included. Within the outline are three levels of items: core, advancing, and futuring. Core items identify the knowledge, skills, and attitudes essential for entry-level employment. These items are required to be taught and will be the basis for questions on the state vocational competency tests. Advancing items identify the knowledge, skills, and attitudes needed to advance in the occupation; futuring items identify the knowledge, skill, and attitudes needed to enter and remain in a given occupation 3 to 4 years from now. This profile contains 11 units: safety; equipment installation; maintain equipment and practice predictive maintenance; electricity; hydraulics and pneumatics; machine trades; welding; heating, ventilation, and air conditioning; carpentry; plumbing and pipefitting; and employability skills. (NLA)

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# O C A P

## OHIO'S COMPETENCY ANALYSIS PROFILE

ED 345 062

# INDUSTRIAL MAINTENANCE

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# What is OCAP?

"A comprehensive and verified employer competency list will be developed and kept current for each program." This is the second objective of Imperative 3 of the *Action Plan for Accelerating the Modernization of Vocational Education: Ohio's Future at Work*. Ohio's Competency Analysis Profile (OCAP) lists are the Division of Vocational and Career Education's response to that objective. OCAP lists evolve from a modified DACUM process involving business, industry, labor, and community agency representatives from throughout Ohio. The OCAP process is directed by the Vocational Instructional Materials Laboratory at The Ohio State University's Center on Education and Training for Employment.

## How is OCAP used?

Each OCAP contains units (with and without subunits), competencies, and competency builders that identify the occupational, academic\*, and employability skills needed to enter a given occupation or occupational area. Within that outline there are three levels of items: core, advancing, and futuring. Core items identify the knowledge, skills, and attitudes essential for entry-level employment. These items are required to be taught and will be the basis for questions on the state vocational competency tests (scheduled to begin in school year 1993-94). Advancing items (marked with one asterisk) identify the knowledge, skills, and attitudes needed to advance in a given occupation. Futuring items (marked with two asterisks) identify the knowledge, skills, and attitudes needed to enter and remain in a given occupation three to four years from now.

School districts may add as many units, subunits, competencies, and/or competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees should be actively involved in the identification and verification of additional items. Using OCAP lists instructors will be able to formulate their vocational courses of study and monitor competency gains via the new criterion-referenced competency testing program that will be directly tied to the competencies identified on the OCAP lists.

\*Academic competencies have not been identified for all OCAPs. At a later date math, communication, and science competencies will be released.

The **Employability Skills** portion of this list was verified by the following employer panel:

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## OHIO COMPETENCY ANALYSIS PROFILE

### INDUSTRIAL MAINTENANCE

#### UNIT 1: Safety

**COMPETENCY 1.0.1: Comply with local, state, and federal safety regulations and codes**

##### **COMPETENCY BUILDERS:**

- 1.0.1.1 Interpret building codes
- 1.0.1.2 Follow state fire marshal regulations
- 1.0.1.3 Follow Occupational Safety and Health Administration (OSHA) guidelines
- 1.0.1.4 Follow Environmental Protection Agency (EPA) guidelines
- 1.0.1.5 Identify emergency response procedures\*
- 1.0.1.6 Acquire cardiopulmonary resuscitation (CPR) certification\*

**COMPETENCY 1.0.2: Maintain safe work area**

##### **COMPETENCY BUILDERS:**

- 1.0.2.1 Perform and document routine safety inspections
- 1.0.2.2 Identify potentially hazardous materials
- 1.0.2.3 Locate and correct hazards
- 1.0.2.4 Document accidents
- 1.0.2.5 Document repairs
- 1.0.2.6 Demonstrate lockout procedures
- 1.0.2.7 Demonstrate basic first-aid techniques

#### UNIT 2: Equipment Installation

**COMPETENCY 2.0.1: Prepare for equipment installation**

##### **COMPETENCY BUILDERS:**

- 2.0.1.1 Identify equipment requirements
- 2.0.1.2 Identify symbols
- 2.0.1.3 Read drawings and schematics
- 2.0.1.4 Revise drawings and blueprints\*
- 2.0.1.5 Interpret blueprints
- 2.0.1.6 Prepare site
- 2.0.1.7 Use measuring devices

\*Advancing

\*\*Futuring

**Industrial Maintenance--8/91**

**COMPETENCY 2.0.2: Move equipment using jacks, bars, and crib blocks**

**COMPETENCY BUILDERS:**

- 2.0.2.1 Use safe rigging procedures
- 2.0.2.2 Use safe moving procedures
- 2.0.2.3 Use surveying equipment\*
- 2.0.2.4 Use laser technology\*\*

**COMPETENCY 2.0.3: Install bearings and seals and align equipment**

**COMPETENCY BUILDERS:**

- 2.0.3.1 Remove and replace bearings
- 2.0.3.2 Remove and replace seals
- 2.0.3.3 Use laser alignment\*
- 2.0.3.4 Shrink or expand bearings\*
- 2.0.3.5 Install bearings using thermal techniques\*

**COMPETENCY 2.0.4: Apply industrial lubricants**

**COMPETENCY BUILDERS:**

- 2.0.4.1 Interpret operator's manual
- 2.0.4.2 Identify basic principles of lubrication
- 2.0.4.3 Identify characteristics of additives, grease, lubricants, and oils
- 2.0.4.4 Identify common applications of oil, grease, and other lubricants
- 2.0.4.5 Identify lubrication systems

**COMPETENCY 2.0.5: Fabricate and install safety guards for equipment**

**COMPETENCY BUILDERS:**

- 2.0.5.1 Measure materials
- 2.0.5.2 Cut and form materials

\*Advancing  
\*\*Futuring

**UNIT 3: Maintain Equipment and Practice Predictive Maintenance**

**COMPETENCY 3.0.1: Inspect and troubleshoot machine systems**

**COMPETENCY BUILDERS:**

- 3.0.1.1 Apply predictive maintenance measures
- 3.0.1.2 Apply preventive maintenance measures
- 3.0.1.3 Use computer to log machine histories\*
- 3.0.1.4 Apply statistic process control technology\*
- 3.0.1.5 Inspect and troubleshoot linkages and lever mechanisms
- 3.0.1.6 Inspect and troubleshoot drive couplings
- 3.0.1.7 Inspect and troubleshoot clutches
- 3.0.1.8 Inspect and troubleshoot roller ball bearings

**COMPETENCY 3.0.2: Inspect and troubleshoot mechanical drive systems**

**COMPETENCY BUILDERS:**

- 3.0.2.1 Inspect and troubleshoot open gear and gear box drives
- 3.0.2.2 Inspect and troubleshoot belt and variable speed drives
- 3.0.2.3 Inspect and troubleshoot chain drives

**UNIT 4: Electricity**

**COMPETENCY 4.0.1: Install electrical service**

**COMPETENCY BUILDERS:**

- 4.0.1.1 Interpret National Electric Code (NEC) and state and local electrical codes
- 4.0.1.2 Interpret drawings and schematics
- 4.0.1.3 Install system
- 4.0.1.4 Determine power distribution (including high-voltage)\*
- 4.0.1.5 Use electrical test equipment
- 4.0.1.6 Remove and replace fuses, breakers, and fusible links

\*Advancing

\*\*Futuring



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### COMPETENCY 4.0.2: Install and rough-in wiring

#### COMPETENCY BUILDERS:

- 4.0.2.1 Interpret schematics
- 4.0.2.2 Locate and install electrical boxes
- 4.0.2.3 Use electrical test equipment
- 4.0.2.4 Install overhead service
- 4.0.2.5 Lay out conduit runs
- 4.0.2.6 Install conduit runs
- 4.0.2.7 Pull conductors
- 4.0.2.8 Install ground bonding systems
- 4.0.2.9 Finish and inspect rough installation

### COMPETENCY 4.0.3: Finish wiring

#### COMPETENCY BUILDERS:

- 4.0.3.1 Install plugs and switches
- 4.0.3.2 Install and connect fixtures
- 4.0.3.3 Install overcurrent protection
- 4.0.3.4 Test and label circuits
- 4.0.3.5 Update prints, schematics, and blueprints

### COMPETENCY 4.0.4: Demonstrate knowledge of motors and motor controls

#### COMPETENCY BUILDERS:

- 4.0.4.1 Check motor using diagnostic instruments
- 4.0.4.2 Install motor
- 4.0.4.3 Connect motor to motor controls
- 4.0.4.4 Reverse motor
- 4.0.4.5 Connect motor to load

### COMPETENCY 4.0.5: Demonstrate knowledge of programmable controllers

#### COMPETENCY BUILDERS:

- 4.0.5.1 Interface motor to controls
- 4.0.5.2 Program machine operations
- 4.0.5.3 Develop programmable ladder-logic program
- 4.0.5.4 Troubleshoot programmable controller ladder-logic program

\*Advancing  
\*\*Futuring

**COMPETENCY 4.0.6: Maintain electrical systems**

**COMPETENCY BUILDERS:**

- 4.0.6.1 Replace electrical cords
- 4.0.6.2 Replace batteries
- 4.0.6.3 Replace fuse
- 4.0.6.4 Replace switches
- 4.0.6.5 Replace plugs and sockets

**UNIT 5: Hydraulics and Pneumatics**

**COMPETENCY 5.0.1: Set up hydraulic system**

**COMPETENCY BUILDERS:**

- 5.0.1.1 Interpret hydraulic and pneumatic diagrams
- 5.0.1.2 Determine flow rate and pressure
- 5.0.1.3 Determine measurements
- 5.0.1.4 Install pressure gauges
- 5.0.1.5 Install filters
- 5.0.1.6 Install direct control pressure-relief valve
- 5.0.1.7 Install directional-control valve
- 5.0.1.8 Install check valve
- 5.0.1.9 Install single-acting cylinder
- 5.0.1.10 Install double-acting cylinder
- 5.0.1.11 Install pilot-controlled check valve
- 5.0.1.12 Install flow control valve
- 5.0.1.13 Install two-way control valve
- 5.0.1.14 Install variable return orifice check valve
- 5.0.1.15 Check flow resistance
- 5.0.1.16 Set up 4-way, three directional control valve
- 5.0.1.17 Set up differential bypass control
- 5.0.1.18 Set up pilot-controlled pressure-relief valve
- 5.0.1.19 Set up sequence valve
- 5.0.1.20 Set up regenerative feed control
- 5.0.1.21 Set up hydraulic motor
- 5.0.1.22 Install hydraulic lines
- 5.0.1.23 Install gear pumps
- 5.0.1.24 Install and charge accumulator
- 5.0.1.25 Install heat exchanger
- 5.0.1.26 Use air-logic controllers\*
- 5.0.1.27 Acquire National Fluid Power Association certification\*\*

\*Advancing

\*\*Futuring



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### COMPETENCY 5.0.2: Set up air system

#### COMPETENCY BUILDERS:

- 5.0.2.1 Determine air-system needs
- 5.0.2.2 Determine load
- 5.0.2.3 Determine cubic feet per minute (CFM)
- 5.0.2.4 Install filter and dryer
- 5.0.2.5 Install relief valve
- 5.0.2.6 Set up single-acting cylinder with return spring
- 5.0.2.7 Install control valve
- 5.0.2.8 Install variable flow control
- 5.0.2.9 Install quick exhaust valve
- 5.0.2.10 Install shuttle valve
- 5.0.2.11 Install two-pressure valve
- 5.0.2.12 Install double-acting cylinder
- 5.0.2.13 Install air-throttling valve
- 5.0.2.14 Install time-delay valve
- 5.0.2.15 Maintain proportioning and servo valves\*

### UNIT 6: Machine Trades

#### COMPETENCY 6.0.1: Maintain machinery

##### COMPETENCY BUILDERS:

- 6.0.1.1 Interpret operator's and manufacturer's manuals
- 6.0.1.2 Demonstrate knowledge of individual machines
- 6.0.1.3 Develop operation standards sheet
- 6.0.1.4 Troubleshoot and diagnose malfunctions
- 6.0.1.5 Perform lockout/tagout procedure
- 6.0.1.6 Disassemble defective section
- 6.0.1.7 Prepare and clean equipment for reassembly
- 6.0.1.8 Repair or replace defective parts
- 6.0.1.9 Test machine for performance

#### COMPETENCY 6.0.2: Measure materials

##### COMPETENCY BUILDERS:

- 6.0.2.1 Use scale, calipers, protractor, combination set, micrometer, vernier calipers, and other measuring instruments
- 6.0.2.2 Use metric system\*
- 6.0.2.3 Check hole diameter
- 6.0.2.4 Check with dial indicator

\*Advancing  
\*\*Futuring

**COMPETENCY 6.0.3: Perform bench operations**

**COMPETENCY BUILDERS:**

- 6.0.3.1 Use measuring instruments and hand tools
- 6.0.3.2 Deburr workpiece
- 6.0.3.3 Lay out workpiece
- 6.0.3.4 Drill hole
- 6.0.3.5 Hand tap hole
- 6.0.3.6 Cut threads with die

**COMPETENCY 6.0.4: Operate metal cutting saw**

**COMPETENCY BUILDERS:**

- 6.0.4.1 Transfer dimensions from blueprint
- 6.0.4.2 Clean and lubricate metal cutting saw
- 6.0.4.3 Install and adjust guides
- 6.0.4.4 Weld saw blade
- 6.0.4.5 Install saw blade
- 6.0.4.6 Cut metal
- 6.0.4.7 Apply basic metallurgy technology\*

**COMPETENCY 6.0.5: Operate drill press**

**COMPETENCY BUILDERS:**

- 6.0.5.1 Clean and lubricate drill press
- 6.0.5.2 Mount part
- 6.0.5.3 Select proper bit and speed
- 6.0.5.4 Drill part
- 6.0.5.5 Countersink

**COMPETENCY 6.0.6: Operate pedestal grinder**

**COMPETENCY BUILDERS:**

- 6.0.6.1 Clean and lubricate pedestal grinder
- 6.0.6.2 Check wheel for defects and speed verification
- 6.0.6.3 Mount wheel
- 6.0.6.4 Position guard and rest
- 6.0.6.5 Dress wheel
- 6.0.6.6 Sharpen drill bit

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## Industrial Maintenance--8/91

### COMPETENCY 6.0.7: Operate lathe

#### COMPETENCY BUILDERS:

- 6.0.7.1 Clean and lubricate lathe
- 6.0.7.2 Sharpen tools
- 6.0.7.3 Mount workpiece
- 6.0.7.4 Use dial indicator
- 6.0.7.5 Position guards
- 6.0.7.6 Select feed(s) and speed(s)
- 6.0.7.7 Face workpiece
- 6.0.7.8 Turn shaft
- 6.0.7.9 Turn taper
- 6.0.7.10 Knurl workpiece
- 6.0.7.11 Cut off workpiece
- 6.0.7.12 Center drill hole
- 6.0.7.13 Cut threads
- 6.0.7.14 Turn inside bore

### COMPETENCY 6.0.8: Operate milling machine

#### COMPETENCY BUILDERS:

- 6.0.8.1 Clean and lubricate milling machine
- 6.0.8.2 Mount workpiece
- 6.0.8.3 Mount tool
- 6.0.8.4 Mill surface
- 6.0.8.5 Mill keyway
- 6.0.8.6 Drill workpiece
- 6.0.8.7 Bore with milling machine
- 6.0.8.8 Mill an angle

### COMPETENCY 6.0.9: Operate surface grinder

#### COMPETENCY BUILDERS:

- 6.0.9.1 Clean and lubricate surface grinder
- 6.0.9.2 Check wheel for defects and speed verification
- 6.0.9.3 Mount wheel and position guard
- 6.0.9.4 Dress wheel
- 6.0.9.5 Mount workpiece
- 6.0.9.6 Set surface grinder

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**COMPETENCY 6.0.10: Perform flame cutting**

**COMPETENCY BUILDERS:**

- 6.0.10.1 Wear safety goggles and proper clothing
- 6.0.10.2 Set up equipment
- 6.0.10.3 Preheat equipment
- 6.0.10.4 Make cut
- 6.0.10.5 Torchcut shapes
- 6.0.10.6 Shut down equipment and bleed lines

**COMPETENCY 6.0.11: Perform oxyacetylene welding**

**COMPETENCY BUILDERS:**

- 6.0.11.1 Wear safety goggles and proper clothing
- 6.0.11.2 Set up tanks and regulators
- 6.0.11.3 Adjust regulator and torch
- 6.0.11.4 Determine joint design
- 6.0.11.5 Select filler rod
- 6.0.11.6 Push puddle
- 6.0.11.7 Fuse weld joints
- 6.0.11.8 Weld mild steel
- 6.0.11.9 Weld cast iron
- 6.0.11.10 Braze mild steel
- 6.0.11.11 Braze cast iron
- 6.0.11.12 Replace oxyacetylene tanks

**UNIT 7: Welding**

**COMPETENCY 7.0.1: Perform arc welding**

**COMPETENCY BUILDERS:**

- 7.0.1.1 Wear welding hood and proper clothing
- 7.0.1.2 Identify welding symbols and interpret drawings
- 7.0.1.3 Set up arc welding equipment
- 7.0.1.4 Determine joint
- 7.0.1.5 Select electrode and adjust welder
- 7.0.1.6 Weld in all positions
- 7.0.1.7 Clean weld
- 7.0.1.8 Perform welds on alloy metals\*
- 7.0.1.9 Perform plasma arc welding\*
- 7.0.1.10 Perform plasma arc cutting\*
- 7.0.1.11 Acquire American Welding Society certification\*

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**COMPETENCY 7.0.2: Perform gas tungsten arc welding (GTAW)**

**COMPETENCY BUILDERS:**

- 7.0.2.1 Set up equipment for GTAW
- 7.0.2.2 GTAW stainless steel
- 7.0.2.3 GTAW mild steel
- 7.0.2.4 GTAW aluminum

**COMPETENCY 7.0.3: Perform gas metal arc welding (GMAW)**

**COMPETENCY BUILDERS:**

- 7.0.3.1 Set up equipment for GMAW
- 7.0.3.2 GMAW stainless steel
- 7.0.3.3 GMAW mild steel
- 7.0.3.4 GMAW aluminum

**COMPETENCY 7.0.4: Fabricate components**

**COMPETENCY BUILDERS:**

- 7.0.4.1 Lay out design
- 7.0.4.2 Measure materials
- 7.0.4.3 Make pattern and/or prototype
- 7.0.4.4 Use hand tools
- 7.0.4.5 Cut materials
- 7.0.4.6 Form materials
- 7.0.4.7 Spot weld and use fasteners

**UNIT 8: Heating, Ventilation, and Air Conditioning**

**COMPETENCY 8.0.1: Repair refrigeration unit**

**COMPETENCY BUILDERS:**

- 8.0.1.1 Interpret operator's manual
- 8.0.1.2 Use gauges to check head and suction pressure
- 8.0.1.3 Troubleshoot refrigeration unit
- 8.0.1.4 Test for leaks
- 8.0.1.5 Replace compressor
- 8.0.1.6 Install tube connections
- 8.0.1.7 Install expansion valve
- 8.0.1.8 Install temperature valve
- 8.0.1.9 Install pressure valve
- 8.0.1.10 Evacuate system
- 8.0.1.11 Charge system
- 8.0.1.12 Reclaim refrigerant\*
- 8.0.1.13 Acquire local license\*

\*Advancing  
\*\*Futuring

**COMPETENCY 8.0.2: Maintain forced-air heating and ventilation systems**

**COMPETENCY BUILDERS:**

- 8.0.2.1 Interpret operator's manual
- 8.0.2.2 Perform preventive maintenance
- 8.0.2.3 Troubleshoot forced-air control systems
- 8.0.2.4 Troubleshoot gas system components

**UNIT 9: Carpentry**

**COMPETENCY 9.0.1: Perform carpentry operations**

**COMPETENCY BUILDERS:**

- 9.0.1.1 Interpret drawings
- 9.0.1.2 Measure materials
- 9.0.1.3 Use metric system\*
- 9.0.1.4 Use hand tools
- 9.0.1.5 Use power tools

**COMPETENCY 9.0.2: Perform carpentry procedures**

**COMPETENCY BUILDERS:**

- 9.0.2.1 Cut materials
- 9.0.2.2 Construct forms
- 9.0.2.3 Erect scaffolds
- 9.0.2.4 Construct pallets
- 9.0.2.5 Repair overhead doors
- 9.0.2.6 Install lock set, hinges, and door closures
- 9.0.2.7 Install metal studs\*

\*Advancing  
\*\*Futuring



**Industrial Maintenance--8/91**

**UNIT 10: Plumbing and Pipefitting**

**COMPETENCY 10.0.1: Maintain and repair plumbing**

**COMPETENCY BUILDERS:**

- 10.0.1.1 Interpret drawings
- 10.0.1.2 Maintain faucets and valves
- 10.0.1.3 Install water closets
- 10.0.1.4 Install and maintain traps and drains
- 10.0.1.5 Install and maintain water pumps
- 10.0.1.6 Install gas and electric water heaters
- 10.0.1.7 Install gas lines
- 10.0.1.8 Perform leak tests
- 10.0.1.9 Insulate pipes
- 10.0.1.10 Perform back-flow test procedures\*

**COMPETENCY 10.0.2: Prepare and install piping systems**

**COMPETENCY BUILDERS:**

- 10.0.2.1 Interpret drawings
- 10.0.2.2 Measure and cut stock
- 10.0.2.3 Cut, ream, and thread pipe
- 10.0.2.4 Sweat copper pipe
- 10.0.2.5 Weld pipe
- 10.0.2.6 Install process piping
- 10.0.2.7 Acquire high-pressure welding certification\*

**COMPETENCY 10.0.3: Maintain boilers**

**COMPETENCY BUILDERS:**

- 10.0.3.1 Interpret operator's manual
- 10.0.3.2 Prepare boiler for annual inspection
- 10.0.3.3 Replace or install pipe insulation
- 10.0.3.4 Install pressure-relief valve
- 10.0.3.5 Replace or install cleanout plugs
- 10.0.3.6 Prepare surfaces for seals and gaskets
- 10.0.3.7 Install filters
- 10.0.3.8 Install pipes, tubes, and fittings
- 10.0.3.9 Install and repair steam traps
- 10.0.3.10 Perform water test
- 10.0.3.11 Verify ignition system

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**UNIT 11: Employability Skills**

**SUBUNIT 11.1: Career Development**

**COMPETENCY 11.1.1: Investigate career options**

**COMPETENCY BUILDERS:**

- 11.1.1.1 Determine interests and aptitudes
- 11.1.1.2 Identify career options
- 11.1.1.3 Research occupations matching interests and aptitudes
- 11.1.1.4 Select career(s) that best match(es) interests and aptitudes
- 11.1.1.5 Identify advantages and disadvantages of career options, including nontraditional careers
- 11.1.1.6 Assess differences in wages, annual incomes, and job opportunities based on geographic location
- 11.1.1.7 Develop a career plan

**COMPETENCY 11.1.2: Analyze potential barriers to employment**

**COMPETENCY BUILDERS:**

- 11.1.2.1 Identify common barriers to employment
- 11.1.2.2 Develop strategies to overcome employment barriers

**UNIT 11: Employability Skills**

**SUBUNIT 11.2: Decision Making and Problem Solving**

**COMPETENCY 11.2.1: Apply decision-making techniques in the workplace**

**COMPETENCY BUILDERS:**

- 11.2.1.1 Identify the decision to be made
- 11.2.1.2 Compare alternatives
- 11.2.1.3 Determine consequences of each alternative
- 11.2.1.4 Make decisions based on values and goals
- 11.2.1.5 Evaluate the decision made

\*Advancing  
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## Industrial Maintenance--8/91

**COMPETENCY 11.2.2: Apply problem-solving techniques in the workplace**

### **COMPETENCY BUILDERS:**

- 11.2.2.1 Diagnose the problem and its causes
- 11.2.2.2 Identify alternatives and their consequences in relation to the problem
- 11.2.2.3 Examine multicultural and nonsexist dimensions of problem solving
- 11.2.2.4 Utilize resources to explore possible solutions to the problem
- 11.2.2.5 Compare and contrast the advantages and disadvantages of each solution
- 11.2.2.6 Determine appropriate action
- 11.2.2.7 Evaluate results

## UNIT 11: Employability Skills

### SUBUNIT 11.3: Work Ethic

**COMPETENCY 11.3.1: Evaluate the relationship of self-esteem to work ethic**

#### **COMPETENCY BUILDERS:**

- 11.3.1.1 Identify special characteristics and abilities in self and others
- 11.3.1.2 Identify internal and external factors that affect self-esteem

**COMPETENCY 11.3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace**

#### **COMPETENCY BUILDERS:**

- 11.3.2.1 Distinguish between values and goals
- 11.3.2.2 Determine the importance of values and goals
- 11.3.2.3 Evaluate how values affect goals
- 11.3.2.4 Identify short-term and long-term goals
- 11.3.2.5 Prioritize personal goals
- 11.3.2.6 Describe how personal values are reflected in work ethic
- 11.3.2.7 Describe how interactions in the workplace affect personal work ethic
- 11.3.2.8 Examine how life changes affect personal work ethic

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**COMPETENCY 11.3.3: Demonstrate work ethic**

**COMPETENCY BUILDERS:**

- 11.3.3.1 Examine factors that influence work ethic
- 11.3.3.2 Exhibit characteristics that reflect an appropriate work ethic

**UNIT 11: Employability Skills**

**SUBUNIT 11.4: Job-Seeking Skills**

**COMPETENCY 11.4.1: Prepare for employment**

**COMPETENCY BUILDERS:**

- 11.4.1.1 Identify traditional and nontraditional employment sources
- 11.4.1.2 Utilize employment sources
- 11.4.1.3 Research job opportunities, including nontraditional careers
- 11.4.1.4 Interpret equal employment opportunity laws
- 11.4.1.5 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
- 11.4.1.6 Prepare for generic employment tests and those specific to an occupation/organization

**COMPETENCY 11.4.2: Design a résumé**

**COMPETENCY BUILDERS:**

- 11.4.2.1 Identify personal strengths and weaknesses
- 11.4.2.2 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
- 11.4.2.3 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
- 11.4.2.4 Complete résumé using various formats
- 11.4.2.5 Secure references

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### **COMPETENCY 11.4.3: Complete and process job application forms**

#### **COMPETENCY BUILDERS:**

- 11.4.3.1 Explain the importance of an application form
- 11.4.3.2 Identify ways to obtain job application forms
- 11.4.3.3 Describe methods for handling illegal questions on job application forms
- 11.4.3.4 Demonstrate legible written communications skills using correct grammar, spelling, and concise wording
- 11.4.3.5 Return application to proper person, request interview, and follow up

### **COMPETENCY 11.4.4: Demonstrate interviewing skills**

#### **COMPETENCY BUILDERS**

- 11.4.4.1 Investigate interview environment and procedures
- 11.4.4.2 Explain the critical importance of personal appearance, hygiene, and demeanor
- 11.4.4.3 Demonstrate question and answer techniques
- 11.4.4.4 Demonstrate methods for handling difficult and/or illegal interview questions

### **COMPETENCY 11.4.5: Secure employment**

#### **COMPETENCY BUILDERS:**

- 11.4.5.1 Identify present and future employment opportunities within an occupation/organization
- 11.4.5.2 Research the organization/company
- 11.4.5.3 Use follow-up techniques to enhance employment potential
- 11.4.5.4 Compare and evaluate job offers

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UNIT 11: Employability Skills

SUBUNIT 11.5: Job Retention Skills

**COMPETENCY 11.5.1: Analyze the organizational structure of the workplace**

**COMPETENCY BUILDERS:**

- 11.5.1.1 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- 11.5.1.2 Be aware of and obey all company policies and procedures
- 11.5.1.3 Examine the role/relationship between employee and employer
- 11.5.1.4 Recognize opportunities for advancement and reasons for termination

**COMPETENCY 11.5.2: Maintain positive relations with others**

**COMPETENCY BUILDERS:**

- 11.5.2.1 Exhibit appropriate work habits and attitude
- 11.5.2.2 Identify behaviors to establish successful working relationships
- 11.5.2.3 Cooperate and compromise through teamwork and group participation
- 11.5.2.4 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age

UNIT 11: Employability Skills

SUBUNIT 11.6: Job Advancement

**COMPETENCY 11.6.1: Analyze opportunities for personal and career growth**

**COMPETENCY BUILDERS:**

- 11.6.1.1 Determine opportunities within an occupation/organization
- 11.6.1.2 Compare and contrast other opportunities
- 11.6.1.3 List benefits of job advancement
- 11.6.1.4 Evaluate factors involved when assuming a new position within or outside an occupation/organization

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**COMPETENCY 11.6.2: Exhibit characteristics needed for advancement**

### **COMPETENCY BUILDERS:**

- 11.6.2.1 Display a positive attitude
- 11.6.2.2 Demonstrate knowledge of a position
- 11.6.2.3 Perform quality work
- 11.6.2.4 Adapt to changing situations and technology
- 11.6.2.5 Demonstrate capability for different positions
- 11.6.2.6 Participate in continuing education/training programs
- 11.6.2.7 Respect, accept, and work with ALL individuals in the workplace

## UNIT 11: Employability Skills

### SUBUNIT 11.7: Technology in the Workplace

**COMPETENCY 11.7.1: Assess the impact of technology in the workplace**

#### **COMPETENCY BUILDERS:**

- 11.7.1.1 Cite how past business/industry practices have influenced present business/industry processes
- 11.7.1.2 Investigate the use of technology in the workplace
- 11.7.1.3 Analyze how present skills can be applied to learning new technologies

**COMPETENCY 11.7.2: Use a variety of technological applications**

#### **COMPETENCY BUILDERS:**

- 11.7.2.1 Explore basic mathematical, scientific, computer, and technological principles
- 11.7.2.2 Use technology to accomplish assigned tasks
- 11.7.2.3 Create solutions to problems using technical means

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UNIT 11: Employability Skills

SUBUNIT 11.8: Lifelong Learning

COMPETENCY 11.8.1: Apply lifelong learning to individual situations

COMPETENCY BUILDERS:

- 11.8.1.1 Define lifelong learning
- 11.8.1.2 Identify factors that cause the need for lifelong learning

COMPETENCY 11.8.2: Adapt to change

COMPETENCY BUILDERS:

- 11.8.2.1 Analyze the effects of change
- 11.8.2.2 Identify reasons why goals change
- 11.8.2.3 Describe the importance of flexibility when reevaluating goals
- 11.8.2.4 Evaluate the need for continuing education/training

UNIT 11: Employability Skills

SUBUNIT 11.9: Economic Education

COMPETENCY 11.9.1: Analyze global enterprise systems

COMPETENCY BUILDERS:

- 11.9.1.1 Identify characteristics of various enterprise systems
- 11.9.1.2 Examine the relationship between competition, risk, and profit
- 11.9.1.3 Illustrate how supply and demand influence price

COMPETENCY 11.9.2: Evaluate personal money management

COMPETENCY BUILDERS:

- 11.9.2.1 Describe the need for personal management records
- 11.9.2.2 Identify methods of taxation
- 11.9.2.3 Analyze how credit affects financial security
- 11.9.2.4 Compare types and methods of investments
- 11.9.2.5 Prepare a personal budget
- 11.9.2.6 Be an informed and responsible consumer
- 11.9.2.7 Analyze the effects of advertising on the consumer

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**UNIT 11: Employability Skills**

**SUBUNIT 11.10: Balancing Work and Family**

**COMPETENCY 11.10.1: Analyze the effects of family on work**

**COMPETENCY BUILDERS:**

- 11.10.1.1 Recognize how family values, goals, and priorities are reflected in the workplace
- 11.10.1.2 Identify present and future family structures and responsibilities
- 11.10.1.3 Describe personal and family roles
- 11.10.1.4 Analyze concerns of working parent(s)
- 11.10.1.5 Examine how family responsibilities can conflict with work
- 11.10.1.6 Resolve family-related conflicts
- 11.10.1.7 Explain how to use support systems/community resources to help resolve family-related conflicts

**COMPETENCY 11.10.2: Analyze the effects of work on family**

**COMPETENCY BUILDERS:**

- 11.10.2.1 Identify responsibilities associated with paid and nonpaid work
- 11.10.2.2 Compare the advantages and disadvantages of multiple incomes
- 11.10.2.3 Examine how work can conflict with family responsibilities
- 11.10.2.4 Describe how work-related stress can affect families
- 11.10.2.5 Identify family support systems and resources

**UNIT 11: Employability Skills**

**SUBUNIT 11.11: Citizenship in the Workplace**

**COMPETENCY 11.11.1: Exercise the rights and responsibilities of citizenship in the workplace**

**COMPETENCY BUILDERS:**

- 11.11.1.1 Identify the basic rights and responsibilities of citizenship
- 11.11.1.2 Examine the history and contributions of all racial, ethnic, and cultural groups

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**COMPETENCY 11.11.2: Cooperate with others in the workplace**

**COMPETENCY BUILDERS:**

- 11.11.2.1 Identify situations in which compromise is necessary
- 11.11.2.2 Examine how individuals from various backgrounds contribute to work-related situations
- 11.11.2.3 Demonstrate initiative to facilitate cooperation
- 11.11.2.4 Give and receive constructive criticism to enhance cooperation

**UNIT 11: Employability Skills**

**SUBUNIT 11.12: Leadership**

**COMPETENCY 11.12.1: Evaluate leadership styles appropriate for the workplace**

**COMPETENCY BUILDERS:**

- 11.12.1.1 Identify characteristics of effective leaders
- 11.12.1.2 Compare leadership styles
- 11.12.1.3 Demonstrate effective delegation skills
- 11.12.1.4 Identify opportunities to lead in the workplace

**COMPETENCY 11.12.2: Demonstrate effective teamwork skills**

**COMPETENCY BUILDERS:**

- 11.12.2.1 Identify the responsibilities of a valuable group member
- 11.12.2.2 Exhibit open-mindedness
- 11.12.2.3 Identify methods of involving each member of a team
- 11.12.2.4 Contribute to the efficiency and success of a group
- 11.12.2.5 Determine ways to motivate others

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**COMPETENCY 11.12.3: Utilize effective communication skills**

### **COMPETENCY BUILDERS:**

- 11.12.3.1 Demonstrate the importance of listening
- 11.12.3.2 Demonstrate assertive communication
- 11.12.3.3 Recognize the importance of verbal and nonverbal cues and messages
- 11.12.3.4 Analyze written material
- 11.12.3.5 Prepare written material
- 11.12.3.6 Give and receive feedback
- 11.12.3.7 Articulate thoughts
- 11.12.3.8 Use appropriate language

## **UNIT 11: Employability Skills**

### **SUBUNIT 11.13: Entrepreneurship**

**COMPETENCY 11.13.1: Evaluate the role of small business in the economy**

#### **COMPETENCY BUILDERS:**

- 11.13.1.1 Identify the benefits of small business to a community
- 11.13.1.2 Analyze opportunities for small business in a community

**COMPETENCY 11.13.2: Examine considerations of starting a business**

#### **COMPETENCY BUILDERS:**

- 11.13.2.1 Research a business idea
- 11.13.2.2 Compare various ways to become a small business owner
- 11.13.2.3 Investigate factors to consider in financing a new business
- 11.13.2.4 Evaluate entrepreneurship as a career option

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