The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

**Introduction to the Millwright Craft (5 Hours)**
(Module ID 15101) Presents the history of the trade and discusses career paths for millwrights. Describes environments and types of work associated with the millwright trade.

**Millwright Hand Tools (17.5 Hours)**
(Module ID 15102) Introduces hand tools used by millwrights. Explains hand tool safety and covers the methods for selecting, inspecting, using, and maintaining these tools.

**O-Rings and Non-Mechanical Seals (7.5 Hours)**
(Module ID 15304) Enhanced coverage of dynamic and static seals, including their applications, tools used, installation procedures, and removal. Also covers lip, cup, oil, and labyrinth seals.

**Plasma Arc Cutting (7.5 Hours)**
(Module ID 29103) Introduces plasma arc cutting equipment and safe work area preparation. Identifies correct amperage, gas pressures, and flow rates. Covers plasma-arc cutting methods for piercing, shifting, squaring, and beveling metals. Explains how to store equipment and clean the work area.

**Removing and Installing Bearings (22.5 Hours)**
(Module ID 15209) Explains how to remove, troubleshoot, and install tapered, thrust, spherical roller, pillow block, and angular contact ball bearings.

**Craft-Related Algebra and Trigonometry (30 Hours)**
(Module ID 15301) Explains right-triangle trigonometry and its use in the trade. Also covers interpolation, equilateral, isosceles triangles, and the laws of acute triangles.

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L3 MILLWRIGHT

Curriculum Notes
• 175 Hours (required); 37.5 Hours (elective)
• Revised: 2022, Fourth Edition
• Downloadable instructor resources are available.

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MODULES
The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Basic Pneumatic Systems (7.5 Hours)
(Module ID 15407) Explains pneumatic system components and compressed-air treatment. Introduces equipment auxiliary and special-application equipment used with compressors and with tools.

Compressors and Compressor Maintenance (20 Hours)
(Module ID 15406) Introduces compressors and the troubleshooting and maintenance procedures associated with compressors.

L4 MILLWRIGHT

Curriculum Notes
• 160 Hours (required); 47.5 Hours (elective)
• Revised: 2023, Fourth Edition
• Downloadable instructor resources are available.

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MODULES
The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

Basic Hydraulic Systems (15 Hours)
(Module ID 15409) Describes principles and types of hydraulic equipment and related safety procedures. Describes applications of hydraulic equipment.

Troubleshooting and Repairing Hydraulic Equipment (12.5 Hours)
(Module ID 15410) Explains inspecting hydraulic systems, diagnosing problems, and repairing these systems. Shows how to read hydraulic schematic symbols.

Installing Belt and Chain Drives (15 Hours)
(Module ID 15311) Covers the sizes, uses, and installation procedures of six types of drive belts and two types of chain drives.

Introduction to Conveyors (10 Hours)
(Module ID 15407) Describes conveyor systems and their principles of operation. Introduces several approaches to belt conveyor drive options. Introduces drum motors and servomotors for belt and roller conveyor systems.

Troubleshooting and Repairing Conveyors (12.5 Hours)
(Module ID 15402) Describes maintenance and repairing belt, roller, chain, screw, and pneumatic conveyors. Covers conveyor belt tracking problems and correction methods.

Laser Alignment (25 Hours)

Troubleshooting and Repairing Gearboxes (15 Hours)
(Module ID 15411) Explains how to troubleshoot, remove, and disassemble gearboxes; how to identify gear wear patterns; and how to install and maintain gearboxes.

Troubleshooting and Repairing Turbines (10 Hours)
(Module ID 15505) Describes types of turbines and their components. Describes the operation and common applications of particular types, including gas, steam, and water turbines.

Preventive and Predictive Maintenance (10 Hours)
(Module ID 15508) Prepares students to perform preventive and predictive maintenance programs. Provides information on nondestructive testing and introduces the basic techniques for nondestructive evaluation. Discusses lubricant analysis, and acoustic, infrared, and vibration testing.

Continued on following page
Maintaining and Repairing Turbine Components
(12.5 Elective Hours)
(Module ID 15506) Describes the process of inspecting and repairing key components of turbines. Explains the guidelines for maintaining large steam turbines.

Crane Safety and Emergency Procedures
(25 Elective Hours)
(Module ID 53101) Describes the communication process between the signal person and the crane operator. Covers electronic communications as well as the standard hand signals in 29 CFR 1926.

Crane Communications (10 Elective Hours)
(Module ID 21106) Covers safety standards and best safety practices relevant to the operation of cranes. Describes safety considerations related to power lines, weather conditions, and specific crane functions.