

## Industrial Mechanical Skills

Industrial Mechanical Skills is a two-week course designed to teach the basic concepts mechanical equipment. All maintenance personnel from apprentice level to journeyman are encouraged to attend this course as it will provide them with the terminology and understanding of mechanical equipment basics and equipment interaction.

### I. Piping Systems

- Terminology
- Safety
- Piping Identification
- Symbolology

### II. Piping Tools

- Basic Tools
- Pipe Bending

### III. Piping and Tubing

- Metal Piping
- Forged Pipe
- Welded Pipe
- Non-metallic Piping
- Tubing

### IV. Fittings

- Welded Connections
- Flanged Connections
- Threaded Connections
- Joint Preparation

### V. Valves

- Valve Characteristics
- Valve Types
- Valve Operators
- Valve Actuator Terms
- Steam Traps

### VI. Pumps

- Terminology
- Centrifugal
- Positive Displacement

### VII. Components

- Expansion Joints
- Moisture Separators
- Lubricators
- Temperature Measuring
- Flow Measuring
- Pressure Measuring

### VIII. Brazing and Welding

- ASME Section IX
- Welding Processes
- Welding Equipment
- Brazing and Cutting

### IX. Pipe Supports

- Design
- Hanger Types
- Snubbers

### X. Insulation

- Principles of Insulation
- Types of Insulation
- Installation

## **XI. Alignment Fundamentals**

- Types of Misalignment
- Causes of Misalignment
- Effects of Misalignment
- Misalignment Indications
- Alignment Tools