Advanced Pump Maintenance

This five-day course is designed for plant personnel responsible for the maintenance and installation of positive displacement and centrifugal pumps. Hands-on exercises account for approximately 50% of this course, where concepts such as soft-foot, pipe strain, and alignment are emphasized. This course is ideal for maintenance personnel from apprentice level to journeyman.

I. Pump Design
   - Standards
   - Applications
   - Classifications

II. Pump Operation and Theory
   - Centrifugal Pumps
   - Design Aspects
   - Pump Laws
   - Positive Displacement Pumps
   - Pump Performance Comparisons
   - Special Purpose Pumps
   - Pump Characteristic Curves
   - Performance Testing

III. Rotary Pump Troubleshooting and Maintenance
   - Pump Performance
   - Pump Tests
   - Rotary Pump Problems
   - Maintenance

IV. Reciprocating Pump Troubleshooting & Maintenance
   - Steam Pumps
   - Power Pumps
   - Metering Pumps
   - Piston Pumps

V. Centrifugal Pump Troubleshooting and Maintenance
   - Centrifugal Pump Problems
   - Troubleshooting
   - Inspections

VI. Pump Alignment Methods
   - Visual Line-Up
   - Straight Edge and Feeler Gage
   - Rim and Face
   - Reverse Dial Indication
   - Cross Dialing
   - Laser Alignment

VII. Soft Foot Correction
   - Definition
   - Effects
   - Types
   - Measuring Soft Foot
   - Correcting Soft Foot
   - Tolerances

VIII. Alignment Calculation
   - Mathematical Formula
   - Graphical Solutions