

PRECISION MAINTENANCE **SKILLS 3**

Pumps, Pumping Systems, Fluid Dynamics, & Mechanical Seals

COURSE DESCRIPTION

Pumps are the heart of global industrial manufacturing and like many aspects of industrial manufacturing we continue to overlook the proper execution of fundamentals for selection, installation, operation, and maintenance of our most critical assets. Simply put, our technicians don't know what they don't know and it's up to us as maintenance and reliability leaders to teach them how to **Do It Once, Do It Right**. That is why we at Hendrix Precision Maintenance Services are pleased to announce the release of our new and improved hands-on **Precision Skills 3 Pumps, Pumping Systems, Mechanical Seals, and Fluid Dynamics** course!

This course is aided greatly using our demonstration units, hands-on exercises built around the Goulds 3196 pump platform, and real-world failed components. This course opens by introducing attendees to the fundamentals of pumps, pumping systems, and pump curves. Attendees will work through a complete pump teardown, detailed component inspection and failure analysis, precision rebuild of the pump, and installation exercises for mechanical packing and seals. Through numerous hands-on exercises and instructor demonstrations, students will "see" the effects of improper pump operation and learn how to avoid inducing defects back into the system only to cause increased downtime and rework.

In our years of applying precision maintenance techniques, we have learned to EXPECT pumps and seals to run trouble free without the replacement of expensive mechanical seals or bearings for 100,000 plus hours, not the 10,000 to 30,000 hours we typically see. By demystifying pump curves and system operation our world-renowned instructors will instill that same expectation in your technicians and provide them with the working knowledge and confidence to return to your plant and apply and share that knowledge to save your company from unnecessary process, operating, and equipment related failures. A single demonstration from this class may save your company tens of thousands of dollars annually on mechanical seal failures or process capacity losses.

RECOMMENDED AUDIENCE

Maintenance and Construction Craftspeople, Front-line Supervisors, Maintenance Managers and Superintendents, Reliability and Maintenance Engineers, responsible for the daily operation and maintenance of pumps and pumping systems.

COURSE OBJECTIVES

- ✚ Troubleshooting & corrections to operate pumps on their unique pump curve
- ✚ Demystifying Pump Curves so the average mechanic can understand & utilize
- ✚ Proper starting and stopping procedures with proper flows
- ✚ Troubleshoot and correct common pump & pumping system field problems
- ✚ Packing, sealing, and gland water issues corrected
- ✚ Vibration issues explained, understood, and resolved
- ✚ Water hammer explained, understood, and resolved
- ✚ Disassembly, inspection, and precision rebuild of working Goulds 3196 pump
- ✚ Mechanical seal and packing, removal, inspection, & installation

27 Hours (3 Days)
*No Prerequisites

