JOHN CRANE ACADEMY COURSE DESCRIPTIONS

The **Seal Basics Course** will increase your knowledge of the operating principals behind mechanical seals. The course includes an examination of the five elements common to all mechanical seals.

The **Arrangement Factors Course** will enhance your understanding of single and dual seal arrangement factors. The information provided can be applied to seal selection, operation and troubleshooting problems.

The **Seal Design Course** will increase your knowledge of the basic seal design categories including: Pusher/Non-Pusher, Un-Balanced/Balanced, Rotating Seal Head/Rotating Mating Ring and Single Spring/Multiple Spring.

The **Seal Face Lubrication Course** will enhance your understanding of the importance of seal face flatness, proper face lubrication and the effects of pressure and heat on seal faces.

The **Single Seal Course** will improve your knowledge of the design and arrangement classifications of mechanical seals. It includes topics on: Seal balance ratios and the differences between cartridge and component seals.

The **Single Seal API Plans Course** will enhance your understanding of the basic fluid flow paths for each of the single seal API Plans. This course includes an operational and functional review of heat exchangers and cyclone separators.

The **Single Seal Throttle Bushings Course** will increase your knowledge of the purpose and function of throttle bushings. Includes an examination of the relative strengths and weaknesses of the three most common types of bushings

The **Dual Un-Pressurized- Secondary Containment Course** will enhance your understanding of the fluid circuits and instrumentation associated with API Plan 52. Additional information covered includes, wet and dry secondary containment options.

The **Dual Pressurized Seal Course** will enhance your knowledge of applications requiring dual pressurized seals.

The **Pre-System Checks for Operators Course** will further your understanding of the importance of adhering to sound maintenance and operating procedures. The course includes an examination of upset conditions that can occur during, pump installation, start-up and shut-down.