



## P101 FUNDAMENTALS OF CENTRIFUGAL PUMPS

### COURSE DESCRIPTION

In this 2-day course, participants will review and learn about pump hydraulics, design, pump performance curves, system head curves and the relation between them. Participants will also be exposed to bearing selection criteria, requirement of proper shaft alignment, installation, and good operating procedure of centrifugal pumps.

#### COURSE OBJECTIVES

At the end of the course, participants will have a strong understanding of centrifugal pumps including a review of the basics of fluid sealing technology.

#### COURSE OUTLINE

- Understand the classification of centrifugal pumps, its basic working principle and types of impellers.
- Review basic hydraulic terms, concepts and parameters that determine the operating characteristics of a pump system.
- Review centrifugal pump performance characteristics.
- Discuss and review the different centrifugal pump types and design.
- Understand the construction of centrifugal sealless pumps.
- Review the ball bearings types, selection criteria, proper installation and lubrication.
- Review couplings types, its selection criteria, and over view of shaft alignment.
- Overview of packing and mechanical seals.
- Discuss on the requirement of centrifugal pump installation, operation and troubleshooting.
- Review and understand corrosion and erosion in centrifugal pumps.
- Discuss and review the various types of positive displacement pumps.

#### FOR WHOM

Process and maintenance technicians/technologists, maintenance supervisors, reliability and project technologists/specialists, and anyone responsible for selection, purchase, operations and maintenance of centrifugal pumps and related equipment.

#### PRE-REQUISITES

None.

#### COURSE LEADER

The course is conducted by experienced professional engineers with years of practical experience on rotating and fluid sealing equipment. The course leaders are all Flowserve approved certified trainers.

#### CERTIFICATE OF PARTICIPATION

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course.

### COURSE INFORMATION

Course Code	: CT1000
Day / Time	: (9.00 am to 5.00 pm)
Duration (hours)	: 16 hours
Venue	: Chemical Process Technology Centre 81 Jurong Island Highway Singapore 627837
Closing Date for Registration	: One week before course starts

### COURSE ADMINISTRATION

#### Registration

For registration, please complete and return the attached Registration Form together with the appropriate payment by cheque made payable to "Petrofac Training Pte Ltd".

#### Enquiries

Telephone: 6880 2000 Telefax: 6896 7151

Course Fee Subsidy/Payroll Subsidy  
Not Available Yet

