

# Refinery Orientation

## Z240e – Web-based training (External version)

### Course duration

1.5 hours, depending on personnel knowledge

### Course type

This is a web-based training course. The course includes self-study material and self-assessment questions. The language of the course is English.

### Course goal

The goal of this course is to introduce students to the e-learning programs that will follow in Z241e – Z250e, enabling students to become familiar with:

- crude oil feeds
- refined products & quality specifications
- refining key performance indicators
- refining economics
- product storage & export facilities
- naming conventions
- technical terminology
- common items of refinery equipment
- key unit operations
- hydrocarbon chemistry

### Student profile

- Sales/Service engineers
- Product engineers and
- All interested employees inside ABB

### Course objectives

Upon completion of this course, students will be able to:

- Outline how crude oil physical properties, product quality control specifications and the product slate influence the refinery process unit configuration
- Describe how performance, safety and reliability are maximized in order to satisfy refinery critical success factors and key performance indicators
- Identify the primary function of each of the refinery process units, their feedstocks and their products

- Describe how refinery products are derived from crude oil feedstock
- State how refinery products are stored in preparation for export
- Identify their commercial uses
- Outline the key quality controls that ensure they are stable in storage and transportation systems and safe for use by consumers
- Describe the basic principles of distillation, absorption, adsorption and phase separation
- Explain the differences between hydrocarbon structures
- Identify the key chemical reactions that take place in the refinery process units

### Course modules

The course has 4 modules:

- Module 01 – Introduction
- Module 02 – Overall Refinery Processing Configuration
- Module 03 – Product Slate
- Module 04 – Unit Operations & Hydrocarbon Chemistry