

## Refining & Petrochemicals Synergies

**2 days**  
**Overview**

**EAV/SRP**

### LEVEL

Proficiency

### PURPOSE

This course provides a complete review of the main refining and petrochemicals specificities, as well as the identification of the possible synergies. It highlights the economic gains achievable from refining-petrochemicals integration.

### LEARNING OBJECTIVES

Upon completion of the course, the participants will be able to:  
describe the main specificities of the refining and petrochemicals sectors,  
identify the possible synergies between refining and petrochemicals,  
explain the economic challenges and the main factors of these sectors' profitability,  
analyze the effects of these synergies.

### WAYS AND MEANS

Quiz, examples.  
Case studies and exercises in team work.

### LEARNING ASSESSMENT

Participants will be evaluated during the training through exercises and case studies.

### PREREQUISITES

Basic knowledge of refining and petrochemicals unit operations.  
Basic notions of Microsoft Excel.

## Agenda

### TECHNICAL REVIEW OF REFINING & PETROCHEMICALS

**0.5 d**

Main petroleum and petrochemicals products: key product specifications review.  
Refining and petrochemicals schemes.  
HSE specifications: refining (H<sub>2</sub>S, etc.), petrochemicals (product instability, etc.).

### SYNERGIES BETWEEN REFINING & PETROCHEMICALS

**1 d**

Utility exchanges: H<sub>2</sub>, gas, fuel.  
Supply: ethane, LPG, naphtha, atmospheric gasoil, vacuum distillate.  
Product exchanges: pyrolysis gasoline, olefins.  
Common treatment of the C4 cuts: BTX (Benzene-Toluene-Xylene) extraction.  
Pooling services.

### REFINING & PETROCHEMICALS ECONOMICS

**0.5 d**

Refining and petrochemical margins and costs.  
Location and unit severities effects.

Gains due to synergies.

Case study: economics of a refinery, of a steam cracker and of the integration of both (with some synergies).