

Hydrotreating Fundamentals

Consultant / Trainer

John Baric



The **Petrogenium. Hydrotreating Fundamentals** course will guide the participants to develop a solid understanding of feedstocks, reaction chemistry, routine unit performance & monitoring. The course covers the key fundamentals of Hydrotreating processes in a refinery, covering Naphtha, Distillates and VGO Hydrotreating. Each process will be reviewed including process upsets, potential fouling & corrosion, turnarounds & catalyst handling. Training and development give yourself and your employees the keys to success.



Participants

This **Petrogenium.** course can be adapted for aware/inexperienced people, for moderately or very experienced people. Additionally, the course can be customized for a specific refinery, plant or unit. It is also possible to benefit from an advice and assistance service after the training. Participants can be (new) engineers and experienced operational personnel. Depending on the profile of the participants, it is possible to adopt a more theoretical or more practical approach. If desired, the training can be structured with specific exercises during the different sessions.



Learning Objectives

Understanding of key hydrotreating processes in the refinery, enabling further optimisation and trouble shooting:

- Routine performance monitoring & optimisation
- Feedstock effects, reactions mechanisms & kinetics
- Catalyst selection, reactors & reactor loading/unloading
- Potential for fouling/corrosion, unit upset responses

Programme

DAY 1

Hydrotreating Basics

- Process configurations; NHT, HDS, CFH
- Feedstocks; SR, Coker, FCC
- Mechanisms of reactions
- Products; ULSD, Bio-diesel, SAF, FCC feed
- Dewaxing & aromatics saturation

Design Considerations

- Key process variables; LHSV, H₂pp, GOR,
- Heat integration,
- Major equipment design

DAY 3

Optimising Catalyst Performance

- Performance Monitoring
- Advanced Process Control
- Troubleshooting & process upsets
- Fouling/corrosion mechanisms

DAY 2

Reactors & Reactor Internals

- Reactor design parameters
- Reactor Internals; supports, V/L distribution, thermography, bed supports, quench

Turnarounds

- Planning
- Catalyst selection
- Catalyst loading, activation, start-up
- Shut-downs & catalyst unloading

Margin Improvements

- Cycle optimisation
- Energy/CO₂ reduction
- Yields & properties improvements
- Longer Cycles
- Increased feed, expansion

Why select Petrogenium.?

The above support will be provided by principal consultants with 30+ years world-class experience in the technology and hands-on know-how from operation of refinery units.

Contact Petrogenium.:

Email: training@petrogenium.com

Website: <https://www.petrogenium.com/training/>

Because Experience Matters