



An Intensive 2-Week Training Course

Petroleum Refining:

Production Planning, Scheduling and Yield Optimisation

06 - 17 Dec 2020, Dubai



This course is Designed, Developed, and will be Delivered under
ISO 29993 : 2017 & ISO9001 : 2015 Quality Standards



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WHY CHOOSE THIS TRAINING COURSE?

Petroleum Refining-Production Planning, Scheduling and Yield Optimization is combination of two modules specifically designed to run consecutively. Attendees are given a detailed overview of all major refining processes and are familiarized to the most commonly encountered production planning and scheduling issues in petroleum refineries, how to identify them and resolve them.

Additionally, the training course will present a detailed outline of refining process yields optimization, from the crude oil feed to the finished products. Issues of operations scheduling for petroleum refining are discussed in depth and enhanced with planning and scheduling and yield optimization examples.

This PetroKnowledge course is oriented toward the practical aspects of refinery operations as well as the terminology and economics of refining.

THE STRUCTURE

This comprehensive training course consists of two modules which can be booked as a 10 Day Training event, or as individual, 5 Day courses.

Module One: **Production Planning & Scheduling in Petroleum Refineries**

Module Two: **Refinery Process Yields Optimisation**

WHAT ARE THE GOALS?

The key objectives of this comprehensive training course are as follows:

- Gain an appreciation of production planning and scheduling tools that will be useful for planning of crude and product deliveries
- Differentiate and appreciate the similarities and differences between planning and scheduling
- Understand the principles of scheduling optimization and promote efficient refining operations, and yield optimization
- Learn the skills to crude selection and optimization that result in improved profitability
- Develop the skills necessary to apply blending techniques using excel
- To familiarize and understand the various refinery types and appreciate how refining complexity impacts refining optimization and refining margins
- Comprehend the importance quality giveaways and learn how use practical excel spreadsheets for blending calculations to reduce quality giveaways.
- Use hands on software that allows professionals in the industry to choose different crude diets to optimize refinery utilization efficiency and profitability.
- Act as a primer into the industry of Petroleum Refining and familiarize industry professionals with all processes associated with the processing of petroleum into finished products
- Equip new engineers into the industry, with the basic tools for understanding the complex nature of Refining and its operations



WHO IS THIS TRAINING COURSE FOR?

This PetroKnowledge Training course is intended for:

- Refining professionals working in the industry either as refining technologists or in refining operations and engineers
- All professionals involved in Production, Planning and Scheduling
- Process engineers and technologists engaged in planning and scheduling activities and who are required to understand and discuss issues related to their industry
- Operations personnel including shift supervisors
- Marketers and refinery planners
- Blending professionals
- Refining Technologists
- Other engineers who would like a further understanding of the complex refining processes
- Accountants, marketers and other professions who would like understand the complexities and terminology of Production Planning & Scheduling in Petroleum Refineries
- Anyone who wishes to update themselves on the methods used in this important field and learn how to implement error free methods for the benefit of their organizations

HOW WILL THIS TRAINING COURSE BE PRESENTED?

Petroleum Refining-Production Planning, Scheduling and Yield Optimization is a hands-on, stimulating learning experience. The training course will be highly interactive, with opportunities to advance your opinions and ideas. Participation is encouraged in a supportive environment.

To ensure the concepts introduced during the course are understood, they will be reinforced through a mix of learning methods, including lecture style presentations, open discussions, case studies, and short videos. Hands on computer software and simulations will be provided to illustrate the application of planning and scheduling. The case studies provided for group work will be re-enforced with practical exercises and ample opportunities for deliberation and sharing of experiences.

Attendees will have the opportunity to develop personal competencies and build up expert knowledge of crude oil production planning, scheduling and yield optimization in a range of equipment.



**QUALITY
CERTIFICATION**











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DAILY AGENDA

MODULE ONE: PRODUCTION PLANNING & SCHEDULING IN PETROLEUM REFINERIES

Day One: Application of Planning and Scheduling

- Overview of planning and scheduling in oil refineries
- Refinery Complexity
- Refinery Configuration
- Integrated Refineries
- Choice of Crude
- Crude oil scheduling
- Capacity utilization of Crudes & Operational Efficiency
- Workshop - Cut-point Optimization

Day Two: Improving Product Movements and Releasing Tankages

- Crude Assay
- Intermediate Feed Characteristics
- Yields and Properties
- Different Process Units
- Storage Tanks
- Custody Transfer/Measurements
- Class Exercises: Using Excel - Yield Optimization

Day Three: Product Blending Rules

- Product Specifications
- New Trends in fuel production
- Environmental Issues
- Crude oil pricing regimes
- Product Netback
- Class Workshop: Blending exercises

Day Four: Refinery Flow Sheets

- Refinery Flow-sheets
- Simplified Material Balance
- Product Inventory Control
- Product Quality Control
- Fixed Composition Blend
- Capacity Control/ Constraints
- Availability of Feedstock/ Control
- Case study: Gasoline Blending and Its Impact on Operations

Day Five: Refinery Planning and Scheduling

- Petroleum Product Movement and Product Exchange
- Marginal Depot Supply and movements
- Crude Selection Strategies
- Linear Programming and Fundamentals of Supply Chain Management for Refining
- Refinery Planning and Scheduling
- Discussion and Summary



MODULE TWO: REFINERY PROCESS YIELDS OPTIMISATION

Day Six: Crude Oil Yields Refinery Technology

- Introduction to Crude Oil Origins & Characteristics
- Crude oil Assay and properties
- Crude oil products & Product specifications
 - LPG
 - Gasoline
 - Kerosene/ Jet Fuel
 - AGO / Diesel Fuel Oil
 - Petrochemical Feedstocks
- Overall refinery flow: Interrelationship of processes

Day Seven: Petroleum Refinery Processes

- Crude Processing
- Desalting
- Atmospheric distillation
- Vacuum distillation
- Heavy Oils Processing / Bottom of the barrel upgrading
 - Coking and Thermal Processes
 - Delayed Coking
 - Fluid Coking
 - Flexicoking
 - Visbreaking
- Case study – example

Day Eight: Process for Motor Fuel Production

- Fluid catalytic cracking
- Hydrocracking
- Cat Cracking
- Isomerization
- Alkylation
- Hydrotreating
- Catalytic Reforming
- Case study – example

Day Nine: Supporting Operations

- Blending for Product Specifications
- Hydrogen production
- Refinery Gas Plants
- Acid Gas Treating
- Sulfur Recovery Plants
- Utilities
- Case study – example

Day Ten: Refinery Economics

- Residue Reduction
- Asphalt and Residual Fuel
- Refinery Complexity and Netback
- Economic Evaluation
- Cost Estimation
- Case Studies
- Group Discussions
- Program Evaluation & Summary

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✓	DATE	VENUE	FEE(\$)
	06 - 17 Dec 2020	Dubai - UAE	9,900

This fee is inclusive of Documentation, Lunch and Refreshments

Please use BLOCK CAPITALS to fill in this form. It is important that you read carefully through all information before starting to complete the form.

REGISTRATION DETAILS

Family Name: _____ First Name (Mr./Ms.): _____
Position: _____ Company: _____
Mailing Address: _____
Telephone: _____ Mobile: _____ Fax: _____ Email: _____

AUTHORISATION

Authorisation By: _____
Position: _____ Company: _____
Mailing Address: _____
Telephone: _____ Mobile: _____ Fax: _____ Email: _____

BOOKING TERMS & CONDITIONS

Booking

- Bookings for courses can be made via our website (petroknowledge.com) or by contacting our Registration Desk on +971 2 5577389 or at reg@petroknowledge.com
- For on-line bookings, please select the course that you require and click on the "Register Now" button, following the instructions step by step
- Upon receipt of booking in order, enrolment on the respective training course will be confirmed by Registration Team with all necessary documentation

Invoicing and Payment

- Our fees include course presentation, relevant materials, physical & digital documentation, lunch and refreshments served during entire training. Accommodation charges are not included in the course fees
- Course fees are payable upon booking unless a valid, authorized Purchase Order is provided and accepted
- Invoices will be sent via email/courier to the ID/name and address provided
- We prefer to have the fees payment in our account before the start of training course. However, if your company has a different payment policy, the same should inform us in advance
- The currency of fees is in US Dollars (USD). Payments can be made in USD or UAE local currency AED (Arab Emirates Dirhams) either by Bank Transfer or by Credit Card. Our Bank Account details will be provided on the Invoice
- Please note that we do accept payment by cash, in USD or AED, only for the last minute bookings

Cancellation of Courses

- It may be necessary for PetroKnowledge to amend or cancel any course, course times, instructors, dates or published fees due to unforeseen circumstances and we reserve the right for such changes
- Any amendments will be advised before the course start date and any bookings already paid in full will not be subject to increased fees

Cancellation by Client

- Once you have completed your booking, received your confirmation of enrolment and a dated payment Invoice, you are deemed to have a contract with PetroKnowledge. You reserve the right to cancel this contract given the below terms
- All cancellations must be received in writing at reg@petroknowledge.com and info@petroknowledge.com at least 21 days prior to the training
- After the cancellation period has expired, consideration may be given, on a case to case basis, if a registered delegate nominates a substitute on the same course, shifts to next session of the course or moves to a new course
- For a cancellation request made on or before the statutory 21 day cancellation period, a credit note issued which can be used against future course fees
- A 25% administration fee (of the total course fee at the time of booking) will be charged for any cancellations made outside of the statutory cancellation period

Attendance Certificate

- The daily course schedule should be accurately followed to ensure undeterred implementation of our training
- All delegates, who participated in their course throughout, will receive the Certificate of Completion on the last day
- Please report any foreseeable absences to a PetroKnowledge representative or to your sponsors directly
- An absence of three (3) or more sessions of the course will invalidate your eligibility for the Certificate of Completion

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