



THE CHEMICAL ENGINEERING MAJOR

Production Planning Scheduling in Petroleum Refineries

Website: www.btsconsultant.com

Email: info@btsconsultant.com

Telephone: 00971-2-6452630



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Introduction:

This Production Planning & Scheduling in Petroleum Refineries training course is specifically designed to identify and resolve issues of production planning and scheduling in petroleum refineries that are most commonly encountered by refinery personnel working in this area. Issues of operations scheduling for petroleum refining are discussed in depth. The training course will be enhanced with practical planning and scheduling examples using both excel and proprietary planning and scheduling software. In addition, it will provide relevant background information of the subject.

- Learn how improved planning and scheduling operations result in improved profitability
- Act as a primer into the industry of Petroleum Refining to maximize process fluid yields
- 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?

- 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

What are the Goals?

- Gain an appreciation of 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
- Learn the skills to crude selection and optimization that result in improved profitability
- Develop the skills necessary to apply blending techniques using excel

Course Outline:

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