COURSE OVERVIEW TM0243
Production Planning & Scheduling in Petroleum Refineries

Course Title
Production Planning & Scheduling in Petroleum Refineries

Course Reference
TM0243

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	May 12-16, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	July 20-24, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
3	September 29-October 03, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	November 16-20, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of production planning and scheduling in petroleum refineries. It covers the refinery complexity, refinery configuration, integrated refineries and choice of crude; the crude oil scheduling, capacity utilization of crudes and operational efficiency; improving product movements and releasing tankages; the crude assay, intermediate feed characteristics, yields and properties; the different process units, storage tanks and custody transfer/measurements; and the product blending rules, product specifications, new trends in fuel production and environmental issues.

During this interactive course, participants will learn the crude oil pricing regimes, product netback, refinery flow sheets and simplified material balance; the product inventory control, product quality control, fixed composition blend and capacity control/constraints; the availability of feedstock/control; refinery planning and scheduling; the petroleum product movement, product exchange and marginal depot supply and movements; the crude selection strategies, linear programming and fundamentals of supply chain management for refining; and refinery planning and scheduling.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on production planning and scheduling in petroleum refineries
- Discuss refinery complexity, refinery configuration, integrated refineries and choice of crude
- Carryout crude oil scheduling and recognize the capacity utilization of crudes and operational efficiency
- Improve product movements and release tankages as well as discuss crude assay, intermediate feed characteristics, yields and properties
- Identify the different process units, storage tanks and custody transfer/measurements
- Apply product blending rules and review product specifications, new trends in fuel production and environmental issues
- Discuss crude oil pricing regimes, product netback, refinery flow sheets and simplified material balance
- Employ product inventory control and product quality control as well as identify fixed composition blend and capacity control/constraints
- Identify the availability of feedstock/control and apply refinery planning and scheduling
- Discuss petroleum product movement, product exchange and marginal depot supply and movements
- Carryout crude selection strategies, linear programming and fundamentals of supply chain management for refining including refinery planning and scheduling

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of production planning and scheduling in petroleum refineries for process engineers, technologists, shift supervisors, marketers and refinery planners, refining technologists, operations personnel, blending professionals, accountants, marketers and those who are involved in production, planning and scheduling.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Konstantin Zorbalas, MSc, BSc, is a **Senior Petroleum Engineer & Well Completions Specialist** with **35 years** of **offshore** and **onshore** experience in the **Oil** & **Gas**, **Refinery** & **Petroleum** industries. His wide expertise includes **OIP Estimation & Range** of **Uncertainty**, **Waterflood** Management, **Water Flooding**, **Water Flooding & Reservoir** Sourcing Issues, **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Well & Reservoir Management** and Monitoring, **Fishing Operations**, **Drilling & Work-Over Operations**, **Workover Best Practices**, Well Testing, Completion Design & Operation, Well Stimulation and **Workover**, **Well Stimulation & Workover** Planning, **Well Completion**, **Servicing & Work-Over** Operations, **Completions & Workover**, HSE in **Work-Over & Drilling** Operations, **Well Testing Completion & Workover**, Basic **Drilling**, **Completion & Workover** Operations, Advanced **Drilling**, **Completion & Workovers Fluids**, **Cementing** Integrity Evaluation, **Cementing** Design, **Cement** Integrity Assurance & Evaluation, Basic **Cementing** (Operations) & Basic Acidizing, **Advanced** Cementing Technology, **Casing & Cementing, Advanced** Cementing & Stimulation, **Artificial Lift** Systems, New Technology in **Artificial Lift Systems**, **Artificial Lift** Methods, **Crude Oil Artificial Lift** Operations, **Artificial Lift** Systems, **Artificial Lift** & Challenges, **Artificial Lift** Systems & Optimization Technology, Production Optimization with **Artificial Lift** System, **Well Integrity & Artificial Lift**, **Formation Damage** & Flow Assurance Issues, **Formation Damage** Evaluation, Prevention, Remediation & Control, **Formation Damage** (Causes, Prevention & Remediation), **Well Completion** Design & Operations, Crude **Oil Market**, Oil **Reserves**, Global Oil **Supply & Demand**, Government Legislation & Oil **Contractual** Agreements, Oil **Projects & Their Feasibility** (Revenue and Profitability), Oil & Gas **Exploration** and **Methods**, Oil & Gas **Extraction**, Oil **Production & Refining**, Technology Usage in Industrial Security; **Oil & Gas Economics** Modelling Evaluation Decision Making & Risk Analysis, **Economic Evaluation** & Global Profitability Criteria, **Petroleum Economics**, Fluid Properties & Phase Behaviour (**PVT**), **Workovers & Completions**, Acidizing Application in **Sandstone & Carbonate**, **Well Testing** Analysis, **Reserves** Evaluation, **Reservoir** Fluid Properties, **Reservoir** Monitoring, **Heavy Oil** Technology, Applied **Water Technology**, **X-mas Tree & Wellhead** Operations & Testing, **Artificial Lift** Systems (**Gas Lift**, **ESP**, and **Rod Pumping**), **Well Cementing**, **Well Completion** Design, **Slickline** Operations, **Cased Hole Logging** and **Production Logging**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **Abu Dhabi National Oil Company** (**ADNOC**) Group of companies wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer**, **Well Completion Specialist**, **Production Manager**, **Project Manager**, **Technical Manager**, **Trainer**, **Technical Supervisor** & **Contracts Manager**, **Production Engineer**, **Production Supervisor**, **Production Technologist**, **Technical Specialist**, **Business Development Analyst**, **Field Production Engineer** and **Field Engineer**. He worked for many **world-class oil/gas companies** such as **ZADCO**, **ADMA-OPCO**, **Oilfield International Ltd**, **Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P**, **Saudi Aramco**, **Pluspetrol E&P SA**, **Wintershall**, **Taylor Energy**, **Schlumberger**, **Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP** and **Gas Lift systems**.

Mr. Zorbalas has **Master's** and **Bachelor's** degrees in **Petroleum Engineering** from the **Mississippi State University**, **USA**. Further, he is an **SPE Certified Petroleum Engineer**, **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Overview of Planning & Scheduling in Oil Refineries***
0930 – 0945	*Break*
0945 – 1030	***Refinery Complexity***
1030 – 1100	***Refinery Configuration***
1100 – 1130	***Integrated Refineries***
1130 – 1215	***Choice of Crude***
1215 – 1230	*Break*
1230 – 1315	***Crude Oil Scheduling***
1315 – 1400	***Capacity Utilization of Crudes & Operational Efficiency***
1400 – 1420	***Workshop - Cut-point Optimization***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Improving Product Movements & Releasing Tankages***
0830 – 0930	***Crude Assay***
0930 – 0945	*Break*
0945 – 1030	***Intermediate Feed Characteristics***
1030 – 1130	***Yields & Properties***

1130 – 1215	***Different Process Units***
1215 – 1230	*Break*
1230 – 1315	***Storage Tanks***
1315 – 1400	***Custody Transfer / Measurements***
1400 – 1420	***Class Exercises: Using Excel - Yield Optimization***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Product Blending Rules***
0930 – 0945	*Break*
0945 – 1030	***Product Specifications***
1030 – 1130	***New Trends in Fuel Production***
1130 – 1215	***Environmental Issues***
1215 – 1230	*Break*
1230 – 1330	***Crude Oil Pricing Regimes***
1330 – 1420	***Product Netback***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Refinery Flow Sheets***
0930 – 0945	*Break*
0945 – 1030	***Simplified Material Balance***
1030 – 1130	***Product Inventory Control***
1130 – 1215	***Product Quality Control***
1215 – 1230	*Break*
1230 – 1330	***Fixed Composition Blend***
1330 – 1420	***Capacity Control / Constraints***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Availability of Feedstock / Control***
0830 – 0930	***Refinery Planning & Scheduling***
0930 – 0945	*Break*
0945 – 1030	***Petroleum Product Movement & Product Exchange***
1030 – 1130	***Marginal Depot Supply & Movements***
1130 – 1215	***Crude Selection Strategies***
1215 – 1230	*Break*
1230 – 1300	***Linear Programming & Fundamentals of Supply Chain Management for Refining***
1300 - 1345	***Refinery Planning & Scheduling***
1345 - 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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