COURSE OVERVIEW PE0442
Fertilizer Markets, Products & Technologies

Course Title
Fertilizer Markets, Products & Technologies

Course Date/Venue
July 06-10, 2025/Meeting Plus 9, City Centre Rotana, Doha Qatar

Course Reference
PE0442

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

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 Fertilizer Markets, Products & Technologies. It covers the market dynamics, key players and market trends; the classification and characteristics of nitrogenous, phosphatic, and potassic fertilizers; the fertilizer demand and supply, economic impact of fertilizers and global and regional regulations affecting the fertilizer industry; the sustainability practices in fertilizer production; and the nitrogen fertilizer production, phosphorus fertilizer production and potassium fertilizer production.

Further, the course will also discuss the innovative fertilizer technologies and by-products and waste management; improving energy efficiency and reducing emissions; the nutrient management best practices and soil fertility and testing; using technology to enhance fertilizer application efficiency; the application and benefits of foliar fertilizers and micronutrient supplements; the environmental impact of fertilizers, tools and methods for analyzing fertilizer markets; the factors affecting fertilizer pricing and strategies for pricing optimization; and the efficient distribution and logistics management in the fertilizer industry.

During this interactive course, participants will learn the effective marketing and sales approaches for fertilizer products; identifying and targeting different customer segments and mitigating risks in the fertilizer market; and the emerging fertilizer markets, biological fertilizers, digital agriculture, sustainable agriculture practices and policy and regulation trends.

Course Objectives

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

- Apply and gain a comprehensive knowledge on fertilizer markets, products and technologies
- Discuss the market dynamics, key players and market trends as well as the classification and characteristics of nitrogenous, phosphatic, and potassic fertilizers
- Identify fertilizer demand and supply, economic impact of fertilizers and global and regional regulations affecting the fertilizer industry
- Employ sustainability practices in fertilizer production and determine nitrogen fertilizer production, phosphorus fertilizer production and potassium fertilizer production
- Discuss innovative fertilizer technologies and apply by-products and waste management by handling and utilizing by-products and waste from fertilizer production
- Improve energy efficiency and reduce emissions as well as apply nutrient management best practices, and soil fertility and testing
- Use technology to enhance fertilizer application efficiency and explain the application and benefits of foliar fertilizers and micronutrient supplements
- Discuss the environmental impact of fertilizers, tools and methods for analyzing fertilizer markets and the factors affecting fertilizer pricing and strategies for pricing optimization
- Carryout efficient distribution and logistics management in the fertilizer industry including effective marketing and sales approaches for fertilizer products
- Identify and target different customer segments and mitigate risks in the fertilizer market
- Discuss the emerging fertilizer markets, biological fertilizers, digital agriculture, sustainable agriculture practices and policy and regulation trends

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 fertilizer markets, products and technologies for those who are working in the fertilizer industry, particularly those who have recently assumed new responsibilities, to increase their technical knowledge in fertilizer production and for experienced staff to become better acquainted with new technologies in the industry. The course will help to improve the participants' skills and broaden their vision and understanding of the entire industry, including technology, economics, energy, use, safety and environmental stewardship.

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

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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 **2.0 CEUs** (Continuing Education Units) or **20 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. Robert Harvey, MSc (Cum Laude), BSc is a **Senior Chemical Engineer** with over **45 years** of in-depth industrial experience within the **Oil & Gas**, **Refinery**, **Petrochemical**, **Mining** and **Power** industries. His expertise widely covers in the areas of **Fertilizer Manufacturing** Process Technology, **Fertilizer Storage** Management (Ammonia & Urea), **Petrochemical & Fertilizer** Plants, **Nitrogen Fertilizer** Production, **Petroleum Industry Process** Engineering, **Process Equipment** Design & Troubleshooting, **Process Equipment & Piping Systems**, **Fertilizer** Manufacturing Process Technology, **Production** Management, **Process Plant** Optimization & Continuous Improvement, **Revamping & Debottlenecking**, **Pressure Vessel** Operation, **Heat Mass Balance**, **Distillation-Column** Operation, & Troubleshooting, **Production Process** Optimization, **Debottlenecking**, **Unit Performance** Optimization, **Process Analyzers**, Real Time Online Optimization, **Operations Planning** Optimization, **Engineering Problem Solving**, **Bag Filters** Operation & Maintenance, **Process Equipment** Design, Chemical Reaction Engineering Application, **Phosphatic Industry**, **Diammonium Phosphate**, **Monoammonium Phosphate**, **NPK**, Troubleshooting Improvement, **Production** Management, **Distillation-Column** Operation & Troubleshooting, Vinyl Chloride Monomer (**VCM**) Manufacturing & Process Troubleshooting, **Monomer** Handling Safety, **Cement** Manufacturing Process Technology & Standards, Complex Operational Troubleshooting, Incident **Root Cause Analysis** & Corrective Action, **Process Equipment & Piping** System, **Fertilizer** Manufacturing, **Process Plant** Optimization & Continuous Improvement, **Process Plant** Performance & Efficiency, Continuous Improvement & Benchmarking, **Energy Efficiency** for Process Plants, **Pressure Vessel** Operation, **Reactors & Storage Tanks**, Dehydrating Columns, Heat & Material Balance, **Troubleshooting Process Operations**, Modern **Aluminium Production Processes**, **Cement Kiln Process**, **Process Engineer Calculations**, Steel Making Process, **P&ID** Reading & Interpretation, **Detailed Engineering Design**, **Process Diagrams** Review, Process Hazard Analysis (**PHA**), **HAZOP** Leadership, Project HSE Review (**PHSER**), Safe Handling of **Propylene Oxide & Ethylene Oxide**, Safety in **Process & Industrial Plants**, Environmental Impact Assessment (**EIA**) and Effective **Risk Assessment & HAZOP** Studies. Further, he is also well versed in Feasibility Studies Analysis & Evaluation, Project Gate System Procedures, Process Mapping, Change Management Skills, Change Management Strategy, Strategical Process Control in Process Industry, Developing Commercial Contracts, Project Management Skills, Project Scheduling & Cost Control, FIDIC & Other Model Contracts, EPC & EPCM Contracts, Knowledge Management, Job Evaluation, Creative Problems Solving & Innovation Skills, Problem Solving & Decision Making, Strategic Planning & Creative Thinking and Mind Mapping.

During his career life, Mr. Harvey has gained his practical and field experience through his various significant positions and dedication as the **Commercial Director**, **Manufacturing Director**, **Chief Operating Officer**, **Head Projects Division**, **Project Leader**, **Lead Technical Advisor/Consultant** and **Project Consultant** to various international companies such as the Trade and Industrial Policy Strategies (TIPS), PGBI Johannesburg, IDC Green Industries SBU/Arengo 316 Pty Ltd, Ferrum Crescent Limited, CEF Limited, Rio Tinto Alcan, Industrial Development Corporation of SA (IDC) and AECI Limited.

Mr. Harvey has **Master** (**Cum Laude**) and **Bachelor** degrees in **Chemical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and has delivered various trainings, seminars, conferences, workshops and courses globally.

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.

Course Fees

US$ 6,000 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

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

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: ***Sunday, 06th of July 2025***

0730 – 0800	*Registration, Welcome, Coffee & Introduction*
0800 – 0815	***PRE-TEST***
0815 – 1015	***Global Fertilizer Market Overview**: Understanding Market Dynamics, Key Players, & Market Trends*
1015 – 1040	***Types of Fertilizers**: Classification & Characteristics of Nitrogenous, Phosphatic, & Potassic Fertilizers*
1040 – 1045	*Break*
1045 – 1115	***Fertilizer Demand & Supply**: Factors Influencing Demand & Supply, Regional Consumption Patterns*
1115 – 1240	***Economic Impact of Fertilizers**: Role in Agriculture, Food Security, & Economic Development*
1240 – 1245	*Break*
1245 – 1300	***Regulatory Environment**: Overview of Global & Regional Regulations Affecting the Fertilizer Industry*
1300 - 1420	***Sustainability in Fertilizer Production**: Sustainable Practices & their Impact on the Environment*
1420 - 1430	***Recap***
1430	*End of Day One*

Day 2: ***Monday, 07th of July 2025***

0730 – 0900	***Nitrogen Fertilizer Production**: Ammonia Synthesis, Urea Production, & Other Nitrogenous Fertilizers*
0900 – 1015	***Phosphorus Fertilizer Production**: Phosphate Rock Processing, Phosphoric Acid Production, & Phosphate Fertilizers*
1015 – 1030	*Break*

1030 – 1100	***Potassium Fertilizer Production**: Mining & Processing of Potash, Production of Potassium Fertilizers*
1100 – 1145	***Innovative Fertilizer Technologies**: Advances in Slow-Release & Controlled-Release Fertilizers*
1145 – 1200	*Break*
1200 – 1245	***By-Products & Waste Management**: Handling & Utilization of By-Products & Waste from Fertilizer Production*
1245 – 1420	***Energy Efficiency in Production**: Techniques to Improve Energy Efficiency & Reduce Emissions*
1420 – 1430	***Recap***
1430	*End of Day Two*

Day 3: ***Tuesday, 08th of July 2025***

0730 – 0900	***Nutrient Management Practices**: Best Practices for Fertilizer Application to Optimize Crop Yield*
0900 – 1015	***Soil Fertility & Testing**: Methods for Testing Soil Fertility & Determining Fertilizer Requirements*
1015 – 1030	*Break*
1030 – 1100	***Precision Agriculture**: Use of Technology to Enhance Fertilizer Application Efficiency*
1100 – 1145	***Foliar Fertilizers & Micronutrients**: Application & Benefits of Foliar Fertilizers & Micronutrient Supplements*
1145 – 1200	*Break*
1200 – 1245	***Environmental Impact of Fertilizers**: Understanding & Mitigating Negative Environmental Impacts*
1245 – 1420	***Case Studies**: Real-World Examples of Effective Fertilizer Use in Different Crop Systems*
1420 – 1430	***Recap***
1430	*End of Day Three*

Day 4: ***Wednesday, 09th of July 2025***

0730 – 0900	***Market Research Techniques**: Tools & Methods for Analyzing Fertilizer Markets*
0900 – 1015	***Pricing Strategies**: Factors Affecting Fertilizer Pricing & Strategies for Pricing Optimization*
1015 – 1030	*Break*
1030 – 1100	***Distribution & Logistics**: Efficient Distribution & Logistics Management in the Fertilizer Industry*
1100 – 1145	***Marketing & Sales Strategies**: Effective Marketing & Sales Approaches for Fertilizer Products*
1145 – 1200	*Break*
1200 – 1245	***Customer Segmentation**: Identifying & Targeting Different Customer Segments*
1245 – 1420	***Risk Management**: Identifying & Mitigating Risks in the Fertilizer Market*
1420 – 1430	***Recap***
1430	*End of Day Four*

Day 5:	***Thursday, 10th of July 2025***
0730 – 0900	***Emerging Markets**: Opportunities & Challenges in Emerging Fertilizer Markets*
0900 – 1015	***Biological Fertilizers**: Advances in Biofertilizers & their Potential Impact on Traditional Fertilizers*
1015 – 1030	*Break*
1030 – 1100	***Digital Agriculture**: Role of Digital Technologies in Transforming Fertilizer Application & Market Dynamics*
1100 – 1145	***Sustainable Agriculture Practices**: Integrating Fertilizers into Sustainable Farming Practices*
1145 – 1200	*Break*
1200 – 1245	***Policy & Regulation Trends**: Future Regulatory Trends & their Potential Impact on the Fertilizer Industry*
1245 – 1400	***Innovation & R&D**: Current Research & Development Trends in Fertilizer Technologies*
1400 – 1415	***Course Conclusion***
1415 – 1430	***POST-TEST***
1430	*End of Course*

Practical Sessions

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

Course Coordinator

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