

COURSE OVERVIEW PE0792

Aromatics Manufacturing Process Technology **Benzene & Paraxylene**

Course Title

Aromatics Manufacturing Process Technology:
Benzene & Paraxylene

Course Reference

PE0792

Course Date/Venue

Session 1: April 26-30, 2026/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Session 2: July 12-16, 2026/Crowne Meeting Room, Crowne Plaza Al Khobar, an IHG Hotel, Al Khobar, KSA



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.

Aromatics are a major sector within the global petrochemical industry. The key products are benzene, toluene and xylene (BTX). These are the raw materials for a number of the most important petrochemical intermediates and polymers.

Aromatics markets are complex to understand due to their close relationship to gasoline markets. Changes in aromatics markets are thus often not driven by supply/demand factors in the individual product markets, but by upstream developments in oil and feedstock markets. In addition, Asia's dominance of the C8 polyester chain adds a further geographic complication when trying to forecast likely developments in those business areas further down the value chain that depend on aromatics.

This course will give the participants deeper insights into different manufacturing aromatics processes. It will help participants to acquire a more detailed understanding of the various aromatics technologies, the varied applications of aromatics and their competing alternative valuations from a refinery.

Course Objectives

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

- Apply a comprehensive overview of the aromatics manufacturing process technology
- Describe the aromatic complex and distinguish the manufacturing process of benzene and paraxylene
- Identify the chemistry of aromatic compounds, extraction of aromatics, different processes used in the manufacture of different aromatics and feedstock selection
- Analyze the important functions of benzene, different manufacturing processes and carryout proven methods regarding economics, feedstock consideration, performance and equipment selection
- Recognize the importance and uses of the material, physical & chemical properties of the different types of xylenes and the economic important manufacturing processes that include economics, feedstock consideration, performance and equipment selection

Who Should Attend

This course provides an overview of all significant aspects and considerations of aromatics manufacturing process technology for process engineers, operations process support engineers, cost engineers and other technical staff seeking a better understanding of the aromatics manufacturing process technology.

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**.*

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.

Accommodation

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

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 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:

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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.

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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. Mervyn Frampton (Mervyn Geoffrey Frampton), BSc, PMI-PMP, CSSBB, is a **Senior Process Engineer** with over **40 years** of industrial experience within the **Oil & Gas, Refinery, Petrochemical** and **Utilities** industries. His expertise lies extensively in the areas of **Process Unit Operations & Maintenance, Operations Asset Integrity, Flare, Blowdown & Pressure Relief Systems** Operation, Maintenance & Troubleshooting, Dynamics of the **Petrochemicals Industry**, Understanding the **Global Petrochemical Industry**, **Petrochemicals**

Analysis, Naphtha & Condensate in Petrochemicals, Feedstock Handling & Storage, Natural Gas Liquids & Petrochemical Industry and Markets, Refinery & Process Industry, Refinery Optimization, Refinery Operations Troubleshooting, Refinery Production Operations, Refinery Process Safety, Process Safety Design, Petroleum Refinery Process, Asset Operational Integrity, Refinery Induction, Crude Distillation, Crude Oil Properties, Distillation Column Operation & Control, Oil Movement Storage & Troubleshooting, Root Cause Analysis (RCA) for Process & Equipment Failures, Process Equipment Design, Applied Process Engineering Elements, Process Plant Optimization, Revamping & Debottlenecking, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant Monitoring, Catalyst Selection & Production Optimization, Operations Abnormalities & Plant Upset, Process Plant Start-up & Commissioning, Clean Fuel Technology & Standards, Oil & Gas Field Commissioning Techniques, Pressure Vessel Operation, Gas Processing, Chemical Engineering, Process Reactors Start-Up & Shutdown, Gasoline Blending for Refineries, Urea Manufacturing Process Technology, Continuous Catalytic Reformer (CCR), De-Sulfurization Technology, Advanced Operational & Troubleshooting Skills, Principles of Operations Planning, Rotating Equipment Maintenance & Troubleshooting, Hazardous Waste Management & Pollution Prevention, Heat Exchangers & Fired Heaters Operation & Troubleshooting, Energy Conservation Skills, Catalyst Technology, Chemical Analysis, Process Plant, Commissioning & Start-Up, Alkylation, Hydrogenation, Dehydrogenation, Isomerization, Hydrocracking & De-Alkylation, Fluidized Catalytic Cracking, Catalytic Hydrodesulphuriser, Kerosene Hydrotreater, Thermal Cracker, Catalytic Reforming, Polymerization, Polyethylene, Polypropylene, Pilot Water Treatment Plant, Gas Cooling, Cooling Water Systems, Effluent Systems, Material Handling Systems, Gasifier, Gasification, Coal Feeder System, Sulphur Extraction Plant, Acid Plant Revamp and Crude Pumping. Further, he is also well-versed in HSE Leadership, Project and Programme Management, Project Coordination, Project Cost & Schedule Monitoring, Control & Analysis, Team Building, Relationship Management, Quality Management, Performance Reporting, Project Change Control, Commercial Awareness and Risk Management.

During his career life, Mr. Frampton held significant positions as the **Site Engineering Manager, Senior Project Manager, Project Engineering Manager, Construction Manager, Site Manager, Area Manager, Procurement Manager, Factory Manager, Technical Services Manager, Senior Project Engineer, Project Engineer, Assistant Project Manager, Handover Coordinator and Engineering Coordinator** from various international companies such as the **Fluor Daniel, KBR South Africa, ESKOM, MEGAWATT PARK, CHEMEPIC, PDPS, CAKASA, Worley Parsons, Lurgi South Africa, Sasol, Foster Wheeler, Bosch & Associates, BCG Engineering Contractors, Fina Refinery, Sapref Refinery, Secunda Engine Refinery** just to name a few.

Mr. Frampton has a **Bachelor's degree in Industrial Chemistry** from **The City University in London**. Further, he is a **Certified Project Management Professional (PMI-PMP)**, a **Certified Six Sigma Black Belt (CSSBB)** from **The International Six Sigma Institute**, a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management (ILM)**, a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, workshops, conferences and seminars internationally.

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	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Aromatic Complex <i>Introduction • Aromatic Compounds</i>
0930 - 0945	<i>Break</i>
0945 - 1100	Aromatic Complex (cont'd) <i>Extraction of Aromatics</i>
1100 - 1215	Aromatic Complex (cont'd) <i>Description of the Flow Process • Feedstock Consideration</i>
1215 - 1230	<i>Break</i>
1230 - 1430	Aromatic Complex (cont'd) <i>Configuration • Case Study</i>
1430	<i>Lunch & End of Day One</i>

Day 2

0730 - 0930	Benzene <i>Introduction • Benzene Uses • Benzene Production & Manufacturing Process</i>
0930 - 0945	<i>Break</i>
0945 - 1100	Benzene (cont'd) <i>Catalytic Reforming • Pyrolysis Gasoline</i>
1100 - 1215	Benzene (cont'd) <i>Production from Coal Tar • Toluene Hydrodealkylation • Toluene Disproportionation</i>
1215 - 1230	<i>Break</i>
1230 - 1430	Benzene (cont'd) <i>Selection of the Process • Thermal Hydrodealkylation (THDA) Process - Process Description • Process Economics</i>
1430	<i>Lunch & End of Day Two</i>

Day 3

0730 - 0930	P-Xylene <i>Introduction to Xylenes and P-Xylene • Xylenes Physical Properties • Xylene Chemical Properties</i>
0930 - 0945	<i>Break</i>
0945 - 1100	P-Xylene (cont'd) <i>Economic Environment for Para-xylene Producers • UOP Aromatics Complex to Produce Para-xylene • BP-UOP Cyclor Process - Introduction</i>
1100 - 1215	BP-UOP Cyclor Process <i>BP-UOP Cyclor Process – Process Chemistry • Description of the Flow Process</i>
1215 - 1230	<i>Break</i>
1230 - 1430	BP-UOP Cyclor Process (cont'd) <i>Feedstock Consideration • Process Performance • Equipment Consideration</i>
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 - 0930	UOP Isomer Process <i>Introduction • Process Chemistry</i>
0930 - 0945	<i>Break</i>
0945 - 1100	UOP Isomer Process (cont'd) <i>Description of the Flow Process • Feedstock Consideration • Process Performance</i>
1100 - 1215	UOP Isomer Process (cont'd) <i>Process Performance • Equipment Consideration</i>
1215 - 1230	<i>Break</i>
1230 - 1430	UOP Parex Process <i>Introduction • Parex vs. Crystallization</i>
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 - 0930	UOP Parex Process (cont'd) <i>Process Performance • Feedstock Consideration • Description of the Flow Process • Equipment Consideration</i>
0930 - 0945	<i>Break</i>
0945 - 1100	UOP TATORAY Process <i>Introduction • Process Chemistry</i>
1100 - 1215	UOP TATORAY Process (cont'd) <i>Description of the Flow Process • Process Performance</i>
1215 - 1230	<i>Break</i>
1230 - 1400	UOP TATORAY Process (cont'd) <i>Equipment Consideration</i>
1400 - 1415	POST-TEST
1415 - 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>



Practical Sessions

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



Course Coordinator

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