

COURSE OVERVIEW ME0967
Fuel Handling and Sampling

Course Title

Fuel Handling and Sampling

Course Date/Venue

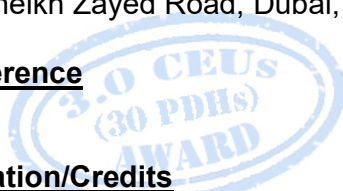
Session 1: April 28-May 02, 2025/Fujairah
 Meeting Room, Grand Millennium
 Al Wahda Hotel, Abu Dhabi, UAE

Session 2: October 26-30, 2025/Boardroom 1,
 Elite Byblos Hotel Al Barsha,
 Sheikh Zayed Road, Dubai, UAE



Course Reference

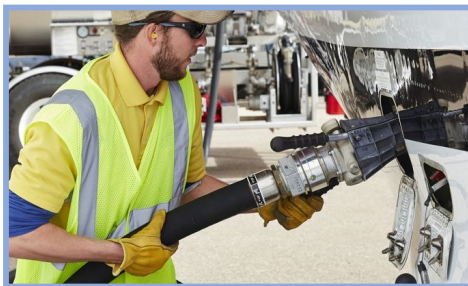
ME0967



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.



Aviation Turbine Kerosene (ATK), or JET Fuel is a type of aviation fuel designed for use in aircraft powered by gas turbines engines. It is colourless to straw-colored in appearances. The most commonly used fuels for commercial aviation are Jet A and Jet A-1 which are produced to a standardized international specification. Jet fuel is a mixture of a large number of different hydrocarbons. The range of their sizes, molecular weights or carbon numbers is restricted by requirements for the products.



This course is designed to provide, participants with a detailed and up-to-date overview of aviation fuel turbine kerosene (ATK) fuel handling and sampling. It covers the jet engine and jet fuel including its specifications; the various types of hydrocarbon; the jet fuel specification properties that include bulk properties and trace properties; and the jet fuel non-specification properties covering cleanliness, water content, micro-organisms, color and lubricity.

During this interactive course, participants will learn the aviation gasolines as well as the methods and control of properties of fuel manufacturer; the aviation fuel stock management (gain/loss); the additives, fuel handling and transportation; the static electricity, pressure control valve (PCV) test and the effect on the aircraft while refueling; the equipment and procedures of QC and airport fuel system.

Course Objectives

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

- Apply and gain a good working knowledge on aviation turbine kerosene (ATK) and fuel handling and sampling
- Discuss jet engine and jet fuel including its specifications
- Identify the various types of hydrocarbons and jet fuel specification properties that include bulk properties and trace properties
- Recognize jet fuel non-specification properties covering cleanliness, water content, micro-organisms, color and lubricity
- Describe aviation gasolines as well as the methods and control of properties of fuel manufacturer
- Discuss aviation fuel stock management (gain/loss)
- Explain additives and apply fuel handling and transportation
- Discuss static electricity, pressure control valve (PCV) test and the effect on the aircraft while refueling as well as the equipment and procedures of QC and airport fuel system

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 aviation turbine kerosene (ATK) and fuel handling and sampling for those who need a general understanding of fuel specifications and quality control, especially supervisors, managers, and professionals new to the field in fuel handling or systems design lab operations, purchasing, quality control, airport service firms, fuel refiners, pipeline operators, fuel and equipment suppliers, inspection labs, trading companies, government agencies, aircraft, engine, or accessory manufacturers.

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.

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: -

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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**. 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. Saad Bedir, MSc, BSc, is a Senior Mechanical Engineer with over 30 years of extensive experience in the Power, Petrochemical, Oil & Gas and Cement industries. He is well-versed in the areas of Control Valves & Actuators, Pump Technology, Pumps Maintenance & Troubleshooting, Valve Maintenance, Plunger Valve, Maintenance & Reliability Best Practices, Maintenance & Reliability Management, Process Plant Operations, Process Plant Startup & Operating Procedure, Ethylene & Vinyl Chloride, Ethane Cracking Furnaces

Operations, Boiler & Steam System Management, Waste Heat Recovery, Boiler Plant Safety, Boiler Controls, Steam Distribution Systems, Steam Traps, Pollution Control, Cracked Gas Compressor, Reboilers, Selection & Operation, Boiler Inspection & Maintenance, Introduction to Process Troubleshooting, Polyethylene Manufacturing & Process Troubleshooting, Heat & Power Consumption and Heat Transfer. His expertise also includes the implementation of Environmental Impact Assessment (EIA), OHSAS 18001, ISO 9001, ISO 14001, QHSE Management Planning, Air Quality Management, Health, Fire, Safety, Security & Environmental Codes of Practice, Legislations and Procedures. Crisis & Business Continuity Management Planning, Emergency Response & Procedures, Industrial Security Risk Assessment & Management, , Behavioural Safety, Incident & Accident Investigation, Integrated EHS Aspects, Risk Assessment & Hazard Identification, Environmental Audits, Hazardous & Non-Hazardous Waste Management, Confined Space Safety, SHEMS Principles, Process Safety, Basic & Advanced Construction Safety, Rig & Barge Inspection, , Safety & Occupational Health Awareness, Loss Control, Lifting & Slings, Marine Pollution Hazards & Control, Ground Contamination & Reclamation Processes, Waste Management & Recycling, HAZOP, HAZID, HSEIA, QRA, Hazardous Area Classification, Radiation Protection, Active and Positive Fire Fighting, Fire & Gas Detection Systems, Fire Fighting Systems, Fire Proofing, ESD, Escape Routes. Presently, he is the **HSE Director** for one of the largest and renowned companies in the Middle East, wherein he takes charge of all HSE and security operations of the company.

Mr. Saad's vast professional experience in directing & managing process operations and health, safety and the environment aspects as per OSHA framework and guidelines can be traced back to his stint with a few international companies like **Saudi ARAMCO, CONOCO, Kuwait Oil Co. (KOC)**, etc, where he worked as the **Field Senior Process Consultant** handling major projects and activities related to the discipline. Through these, he gained much experience and knowledge in the implementation and maintenance of **internationally accepted principles** of process operations. Through this, he has also gained knowledge regarding international safety standards for the National Fire Protection Association (**NFPA**), the American Petroleum Institute (**API**), Safety of Life at Sea (**SOLAS**), and Safety for Mobile Offshore Drilling Unit (**MODU**).

Mr. Saad has a **Master and Bachelor** degrees in **Chemical Engineering**. Further, he is a **Certified Lead Auditor** for **OHSAS 18001, ISO 9001 and ISO 14001** and he holds **NEBOSH** certificate which includes health & safety measures. His passion for development and acquiring new skills and knowledge has taken him all over the Middle East to attend and share his expertise in numerous trainings and workshops.

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 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	Jet Engine Descriptions
0930 – 0945	<i>Break</i>
0945 – 1100	Jet Engine Descriptions (cont'd)
1100 – 1215	Jet Fuel Descriptions & Specifications (Commercial/Military)
1215 – 1230	<i>Break</i>
1230 – 1420	Hydrocarbon Types
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 0930	Jet Fuel Specification Properties <i>Bulk Properties: Volatility, Low Temperature and Combustion • Density • Heat Content • Viscosity</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Jet Fuel Specification Properties (cont'd) <i>Trace Properties: Oxidative Stability • Compatibility with Materials • Particulate Content etc.</i>
1100 – 1215	Jet Fuel Non-Specification Properties <i>Cleanliness • Water Content</i>
1215 – 1230	<i>Break</i>
1230 – 1420	Jet Fuel Non-Specification Properties (cont'd) <i>Micro-organisms • Color • Lubricity</i>
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>

Day 3

0730 – 0930	Aviation Gasolines (Avgas) <i>Engines • History • Specification Listings</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Aviation Gasolines (Avgas) cont'd <i>Specification Properties: Knock Ratings Lead Content • Volatility • Heat • Content • Storage Stability • Water Separation Corrosivity</i>
1100 – 1215	Fuel Manufacture <i>Methods • Control of Properties • Additives</i>
1215 – 1230	<i>Break</i>
1230 – 1420	Stock Management (Gain/Loss)
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0930	Additives
0930 – 0945	<i>Break</i>
0945 – 1100	Additives (cont'd)
1100 – 1215	Fuel Handling & Transportation
1215 – 1230	<i>Break</i>
1230 – 1420	Fuel Handling & Transportation (cont'd)
1420 – 1430	Recap
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 0930	Static Electricity
0930 – 0945	<i>Break</i>
0945 – 1100	Static Electricity (cont'd)
1100 – 1215	QC: Equipment & Procedures
1215 – 1230	<i>Break</i>
1230 – 1345	QC: Equipment & Procedures & General Discussion: Q&A
1345 – 1400	Course Conclusion
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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