COURSE OVERVIEW OE0095
Bulk Carrier Technical & Operational Aspects

Course Title
Buk Carrier Technical & Operational Aspects

Course Date/Venue
Session 1: June 22-26, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
Session 2: November 17-21, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
OE0095

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 Bulk Carrier Technical and Operational Aspects. It covers the bulk carriers and their role in global trade; the bulk carrier structural design and classification; the types of bulk carriers and their configurations; the key equipment and systems on bulk carriers; the load line and stability regulations including regulatory and environmental compliance; the bulk cargo characteristics, dust control and ventilation measures; and the cargo contamination risks and prevention and temperature and moisture considerations.

Further, the course will also discuss the cargo loading, stowage planning, securing and safety measures, unloading operations and best practices; the ballasting and deballasting operations, risk assessment and emergency response in cargo handling; the navigation considerations for bulk carriers and port entry, docking, and berthing operations; the ship stability, damage control and weather-related challenges in bulk carrier operations; and the propulsion and fuel efficiency considerations and bulk carrier automation and digitalization trends.

During this interactive course, participants will learn the structural integrity monitoring, hull maintenance and machinery and engine room maintenance; the safety management systems (SMS) on bulk carriers; the fire hazards in bulk carriers and regulatory inspections and classification society surveys; the bulk carrier pollution prevention and environmental regulations; and the incident investigation and risk mitigation strategies.

Course Objectives

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

- Apply and gain an in-depth knowledge on bulk carrier technical and operational aspects
- Discuss bulk carriers and their role in global trade as well as bulk carrier structural design and classification
- Identify the types of bulk carriers and their configurations and the key equipment and systems on bulk carriers
- Explain load line and stability regulations including regulatory and environmental compliance
- Describe bulk cargo characteristics and apply dust control and ventilation measures, cargo contamination risks and prevention and temperature and moisture considerations
- Carryout cargo loading, stowage planning, securing and safety measures, unloading operations and best practices
- Employ ballasting and deballasting operations as well as risk assessment and emergency response in cargo handling
- Discuss navigation considerations for bulk carriers and apply port entry, docking, and berthing operations
- Carryout ship stability and damage control and assess weather-related challenges in bulk carrier operations
- Discuss propulsion and fuel efficiency considerations and bulk carrier automation and digitalization trends
- Appy structural integrity monitoring, hull maintenance and machinery and engine room maintenance
- Recognize safety management systems (SMS) on bulk carriers and carryout fire hazards in bulk carriers and regulatory inspections and classification society surveys
- Employ bulk carrier pollution prevention and environmental regulations and incident investigation and risk mitigation strategies

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 covers systematic techniques and methodologies on bulk carrier technical and operational aspects handling for marine engineers, deck officers (navigational officers), ship owners and operators, fleet managers, cargo superintendents, port and terminal operators, safety officers, marine surveyors, regulatory and compliance personnel.

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: -

- 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.

- 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.

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:

Captain Sergey Kole, is an **International Expert** in **Port Operations & Management** with over **25 years** of **onshore** and **offshore** experience within the **Oil & Gas**, **Petroleum** and **Refinery** industry. His expertise widely covers in the areas of **Tanker Vetting & Inspection**, **International Ship and Port Facility Security Code** (**ISPS**) **Code**, **Marine Vetting & Audit Criteria Manual** for **Tank Ships**, **Marine & Ship Vetting**, **Vetting Process & Marine Safety Criteria**, **Tanker Vetting** for **Terminals**, **Ship Vetting**, **Marine Terminal** Operations & Management, **Marine Hazards** Prevention & Control, **Marine Communication** Systems, **Marine Safety**, **Ship** Management, **Oil Terminal** Planning, **Vessels** Operations, **Terminal** Management & Support Operations, **Oil Spill Contingency & Emergency Response Plan**, **Qualitative & Quantitative Risk** Assessments, **Terminal** Planning, **Oil Tanker Storage** Planning, **Cargo Transfer** Handling, Loading & Discharging, **Ballasting**, **Tank** Cleaning, **Crude Oil Washing**, **Ship** Handling, **Radar** Navigation, **Navigational** Aids, **Meteorological** Data Review, **Sea & Weather** Condition Monitoring, **ERT Vessel** Coordination and **Transport & Distribution Carrier**. Further, he is well-versed in **Sea-going** Personnel Human Resource Management, **Survival Craft & Rescue Boats**, Dynamic Positioning, Anti-Piracy Preparedness & Response, **Shipping** Maintenance System, **Oil & Chemical Tanker**, **Liquefied Gas Tanker**, **Inert Gas** System, **Crude Oil** Tanker & Gas Carrier, Offshore Logistics & Supply Management, **Marine Fleet** Management & Operations, **International Maritime Conventions & Codes**, **Marine Radar**, **Port Traffic Control** Systems & Instrumentation, **H^2S** Hazard Awareness, **Firefighting**, Medical Care Onboard, Carriage of Dangerous & Hazardous Substances and **Ballast Water & Sediment** Management.

During his career life, Captain Sergey has gained his technical and marine expertise through various challenging key positions such as being the **Captain**, **Operations Director**, **Project Manager**, **Port Supervisor**, **Master** of General Cargo Ship, **Master** of Container Ship, **Chief Officer**, **Marine Operations Specialist**, **Marine Coordinator**, **On-call Duty Officer**, **Crewing Consultant**, **2nd Officer**, **Ship Chandler** and **Senior Instructor/Trainer** for several international companies such as **ZADCO**, **AMEC Foster Wheeler**, Fircroft Engineering Services, Ltd., Rusalina Yacht Company, Van Oord Offshore, Exxon Neftegaz Ltd (ENL), Jr Shipping, Carisbrooke Shipping, Unicorn Petrol ve Kimya, Q Shipping BV, m/v Tradeport, Miedema Shipping CV, Rah Management BV, Petrobulk Maritime Inc., Empross Lines Ship Management, Melcard Ltd., Aquarian Shell Marine Inc., Mercy Baaba and Square Ltd.

Captain Sergey has a **Bachelor's** degree in **Navigation** in **Nautical Studies** from the **Kiev State Academy** of **Water Transport**, **Ukraine** and holds a **Master Mariner** (Unlimited) Certificates of Equivalent Competency from the MCA, UK and NSI, Netherlands. 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, courses, seminars, workshops and conferences internationally.

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 Fee

US$ 8,000 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 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 Bulk Carrier Industry*** *Introduction to Bulk Carriers and Their Role in Global Trade • Types of Bulk Cargoes (Dry, Liquid, Grain, Coal, Ore) • Key Bulk Carrier Routes and Market Trends• Bulk Carrier Operations and Fleet*
0930 – 0945	*Break*
0945 – 1045	***Bulk Carrier Structural Design & Classification*** *Hull Structure and Load-Bearing Considerations • Structural Components (Deck, Frames, Bulkheads, Double Bottom) • Classification Society Rules (ABS, DNV, LR, ClassNK) • Structural Reinforcement for Heavy Cargoes*
1045 - 1130	***Types of Bulk Carriers & Their Configurations*** *Handysize, Handymax, Supramax, Panamax, Capesize, VLOC • Self-Unloading vs. Conventional Bulk Carriers • Gearless vs. Geared Bulk Carriers • Ballast Water Management Considerations*
1130 - 1215	***Key Equipment & Systems on Bulk Carriers*** *Cargo Hold and Hatch Cover Designs • Ballast Systems and Stability Control • Propulsion and Power Generation Systems • Steering and Navigation Systems*
1215 – 1230	*Break*

1230 – 1330	***Load Line & Stability Regulations*** *Understanding the International Load Line Convention • Freeboard, Draft, and Stability Considerations • Calculation of Cargo Load and Displacement • Stability Enhancement Techniques*
1330 -1420	***Regulatory & Environmental Compliance*** *SOLAS (Safety of Life at Sea) Regulations for Bulk Carriers • MARPOL (Marine Pollution Prevention) Guidelines • IMO Bulk Carrier Safety Code (BC Code) • Compliance and Safety Policies*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 - 0830	***Bulk Cargo Characteristics & Handling Procedures*** *Density, Angle of Repose, and Flow Properties • Dust Control and Ventilation Measures • Cargo Contamination Risks and Prevention • Temperature and Moisture Considerations*
0830 - 0930	***Cargo Loading & Stowage Planning*** *Weight Distribution and Hull Stress Management • Loading Sequences for Different Cargoes • Use of Load Sensors and Monitoring Systems • Cargo Space Preparation and Cleaning Procedures*
0930 – 0945	*Break*
0945 – 1100	***Cargo Securing & Safety Measures*** *IMO Code of Safe Practice for Solid Bulk Cargoes (IMSBC Code) • Cargo Lashing and Securing Techniques • Risks of Cargo Liquefaction and Prevention Methods • Structural Damage Prevention During Cargo Operations*
1100 – 1230	***Unloading Operations & Best Practices*** *Methods of Discharging (Grabs, Conveyor Belts, Pneumatic Systems) • Risks Associated with High-Density Cargo Unloading • Hold Cleaning and Preparation for Next Cargo • Inspection and Reporting After Discharge*
1230 – 1245	*Break*
1245 – 1330	***Ballasting & Deballasting Operations*** *Role of Ballast in Bulk Carrier Stability • Ballast Water Treatment and IMO Regulations • Sequential vs. Flow-through Ballasting Techniques • Minimizing Structural Stress During Ballast Exchange*
1330 -1420	***Risk Assessment & Emergency Response in Cargo Handling*** *Common Accidents During Cargo Operations (Shifting, Fires, Explosions) • Handling Cargo Spills and Emergency Cleanup Procedures • Fire Suppression Systems and Firefighting Readiness • Emergency Response and Safety Drills*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Navigation Considerations for Bulk Carriers*** *Challenges of Navigating Large Bulk Carriers • Effects of Wind, Currents, and Shallow Water on Maneuverability • Safe Passage Planning in Narrow Channels*
0830 - 0930	***Port Entry, Docking, & Berthing Operations*** *Pilotage and Tug Assistance for Bulk Carriers • Mooring Arrangements and Line Handling Techniques • Challenges of Berthing at Bulk Terminals • Port Safety Regulations*
0930 – 0945	*Break*
0945 – 1100	***Ship Stability & Damage Control*** *Impact of Cargo Distribution on Stability • Free Surface Effect and Countermeasures • Flooding Scenarios and Stability Recovery Procedures • Damage Control Techniques for Structural Integrity*
1100 – 1230	***Weather-Related Challenges in Bulk Carrier Operations*** *Handling Bulk Carriers in Rough Seas • Weather Routing and Voyage Optimization • Impact of Ice Conditions on Bulk Carriers • Case Study: Bulk Carrier Accidents Due to Severe Weather*
1230 – 1245	*Break*
1245 – 1330	***Propulsion & Fuel Efficiency Considerations*** *Fuel Consumption Optimization Strategies & Role of Exhaust Gas Scrubbers and Emission Control Systems • Alternative Fuels in Bulk Carrier Operations • Approach to Energy Efficiency in Shipping*
1330 - 1420	***Bulk Carrier Automation & Digitalization Trends*** *Smart Ship Technologies and Predictive Maintenance • Role of AI in Cargo Optimization and Route Planning • Digital Twin Technology for Bulk Carriers • Digitalization Strategy for Marine Transport*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0830	***Structural Integrity Monitoring & Hull Maintenance*** *Corrosion Prevention and Coating Systems • Ultrasonic Thickness Measurement (UTM) for Hull Inspection • Maintenance Strategies for High-Stress Areas • Dry-Docking and Repairs*
0830 - 0930	***Machinery & Engine Room Maintenance*** *Diesel Engine Performance Monitoring • Lubrication and Cooling System Maintenance • Emergency Generator and Pump System Readiness • Preventive Maintenance Standards*
0930 – 0945	*Break*
0945 – 1100	***Safety Management Systems (SMS) on Bulk Carriers*** *ISM Code Compliance for Bulk Carriers • Safety Culture and Human Factors in Marine Operations • Marine Safety Procedures • Case Studies on Safety Failures and Lessons Learned*
1100- 1230	***Fire Prevention & Emergency Procedures*** *Fire Hazards in Bulk Carriers (Spontaneous Combustion, Electrical Fires) • Fixed and Portable Fire Suppression Systems • Crew Drills and Firefighting Preparedness • Emergency Response Protocols*
1230 - 1245	*Break*

1245 – 1420	***Regulatory Inspections & Classification Society Surveys*** *Port State Control (PSC) Inspections for Bulk Carriers • Flag State and Classification Society Requirements • Compliance with Maritime Regulatory Bodies • Case Study: Bulk Carrier Detentions and Compliance Failures*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Bulk Carrier Pollution Prevention & Environmental Regulations*** *MARPOL Annex V: Cargo Residue and Garbage Disposal • Oil Spill Prevention and Response • Ship Recycling and Green Shipping Initiatives • Sustainability and Environmental Policy*
0930 – 0945	*Break*
0934 – 1100	***Bulk Carrier Operations & Best Practices Case Studies*** *Bulk Carrier Fleet and Operational Standards • Terminal Loading/Unloading Procedures • Approach to Ship-Shore Interface Safety*
1100 – 1230	***Practical Bulk Carrier Stability & Load Planning Exercise*** *Hands-on Cargo Stowage and Ballasting Simulation • Cargo Weight Distribution Analysis • Free Surface Effect Demonstration • Emergency Response Simulation*
1230 – 1245	*Break*
1245 – 1345	***Incident Investigation & Risk Mitigation Strategies*** *Case Study: Bulk Carrier Grounding and Structural Failure • Case Study: Cargo Liquefaction-Induced Capsizing • Risk Analysis and Preventive Measures Discussion • Approach to Marine Risk Management • Risk Analysis and Preventive Measures Discussion • Approach to Marine Risk Management*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
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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