

COURSE OVERVIEW HE0440
Lifting & Rigging Equipment Selection, Sizing, Applications, Operation, Diagnostic Testing, Troubleshooting & Maintenance

Course Title

Lifting & Rigging Equipment Selection, Sizing, Applications, Operation, Diagnostic Testing, Troubleshooting & Maintenance

Course Date/Venue

December 16-20, 2024/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference

HE0440

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.



The absence of good lifting practices contributes to a large percentage of material handling accidents. This course, through classroom problems and practical sessions, will enhance the competencies of engineers and other technical staff for reviewing and approving lifting plans for various lifting equipment. The course will instruct attendees in determining the correct size and type of lifting equipment required to safely perform lifting operations.



This course is designed to ensure that all personnel involved in rigging and lifting operations have an understanding of the requirements pertaining to rigging operations, the development and approval of the lifting plans, the requirements for pre-use inspection and discard criteria of lifting equipment, the safe working procedures for rigging and to ensure delegates can use lifting equipment safely without exceeding the load limit imposed on them.

The course will train attendees how to prepare, review and approve the lifting plans. It will guide participants on the use and inspection of lifting equipment, hazards and controls required for static and mobile lifting equipment, lifting procedures, colour coding and risk assessment.

The course will discuss the various types of static and mobile lifting equipment including cranes, wire ropes, slings, hitches, shackles, hooks, eye bolts, turnbuckles, spreader beams, man-baskets, sheares, blocks, drums, chains, hoists, jacks and rollers.

The course will end up by a competency exam (theory & practice) to certify successful participants as “Certified Lifting & Rigging Officer/Inspector”.

Course Objectives

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

- Get certified as a “*Certified Lifting & Rigging Officer/Inspector*”
- Apply proper techniques and procedures in lifting equipment management
- Discuss the heavy lift philosophy and procedures as well as the applicable safety rules during the lifting operations
- List the colour codes used at the sites and discuss the reasons and advantages of using colour coding for lifting equipment
- Apply the certification requirements for Lifting Plan Engineers
- Develop, review and approve lift plans for various lifting operations
- Apply the methods of pre-lift planning/lifting plans including the lift plan requirements, module lift and ANSI/OSHA standards
- Inspect the various types of lifting equipment including wire rope slings, polyester webbing, round (endless) sling, chains, etc
- Recognize the requirements for mobile crane safety including crane signals, crane identification, hoisting systems and crane safety features
- Carryout risk assessment methodology and identify the various hazards connected to lifting equipment

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 lifting and rigging equipment for construction engineers, lifting equipment engineers, rigging engineers, project engineers, plant engineers, maintenance engineers, safety program managers and all senior personnel involved in lifting operations.

Course Certificate(s)

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a “*Certified Lifting & Rigging Officer/Inspector*”. Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants:-




Certified Lifting & Rigging Officer/Inspector

Certification Number: 74851
Certification Date: 15-Nov-2023
Expiration Date: 15-Nov-2028

This is to certify that **Waleed Al Habeeb** has successfully met the requirements to be certified as a **Lifting & Rigging Officer/Inspector** under the Lifting & Rigging Equipment Selection, Sizing, Applications, Operation, Diagnostic Testing, Troubleshooting & Maintenance Program, HE0440.



Mr. Jaryl Castillo
Academic Director

Haward Technology is accredited by:




Lifting & Rigging Officer/Inspector Certification Program

This program is designed to assist companies in identifying professionals who have satisfied the minimum competencies specified in HE0440. Haward Technology does not warrant or guarantee the performance of any professional certified under this program.

P.O. Box 26070
Abu Dhabi, UAE
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Http://www.haward.org



74851

Haward Technology is accredited by:



- (2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

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Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEUs

CEU Official Transcript of Records

TOR Issuance Date: 15-Nov-23

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE0440	Lifting & Rigging Equipment Selection, Sizing, Applications, Operation, Diagnostic Testing, Troubleshooting & Maintenance	November 11-15, 2023	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date **3.0**

TRUE COPY



Jaryl Castillo
Academic Director

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



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Certificate Accreditations


Certificates are accredited by the following international accreditation organizations:-

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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.

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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.

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. Ashraf Mohamed is a **Senior Health, Safety & Environmental (HSE) Consultant** with **35 years** of practical and industrial experience within the **Oil & Gas, Refinery** and **Petrochemical** industry. He is a **NEBOSH Approved Instructor** for various certification programs. His expertise lies extensively in the areas of **NEBOSH Fire Safety & Risk Management International Certificate, NEBOSH International General Certificate, Firefighting Techniques, Advanced Lifting and Rigging - Offshore, Fire & Gas Detection System, Fire Fighter & Fire Rescue, Fire Risk Assessment, HSE Policy & Strategy, HSEMS Development & Implementation, Risk Assessment & Management, HSE Performance Measurement & Monitoring Systems, HSE & Fire Inspection, HAZOP & HAZID, HAZMAT & HAZCOM, As Low as Reasonably Practicable (ALARP), Process Hazard Analysis (PHA), Process Safety Management (PSM), Accident/Incident Investigation, Risk Management, Hazard & Effect Management Process, ALARP System, Radiation Safety & Protection, Radioactive Waste Management, Radiation Protection Instrumentation, Nuclear & Radiological Safety, Radiation Protection Design, Isotopes Application & Protection, Safety Induction, PTW, Gas Testing, Lock Out/Tag Out, Confined Space, H₂S, Working at Heights, Lifting Operations, Scaffolding, Rigging & Slings, Incidents Investigations, First Aid & CPR, Crane Inspection, Risk Evaluation, Emergency Response Plan, Defensive Driving, Safety Supervision, Environment Management System, Environmental Impact & Life Cycle Assessment, Pesticide Assessment & Environmental Control, Behavioural Based Safety, Work Management System** and various international codes and standards such as the ISO 9001, OHSAS 18001 and ISO 14001. He is currently the **Acting Senior HSE Engineer** wherein he develops and manages the implementation of fire, safety and environment programs for all the employees and contractors.

During his career life, Mr. Ashraf has gained his practical and field experience through his various significant positions as the **Safety & Fire Manager, HSE Manager, Safety & Fire Instructor, Senior HSE & Fire Instructor, Safety Construction Manager** and **Safety Section Head** from various companies such as the Eprome, Foster Wheeler-MIDOR Refinery, Amyria Petroleum Refining Company and Egyptian Refinery Company.

Mr. Ashraf has a **Bachelor's** degree in **Geology**. Further, he is a Certified Instructor/Trainer, a member of Society of Petroleum Engineers and Egyptian Society for Safety and has delivered numerous courses, trainings, seminars, workshops and conferences globally.

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 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: Monday, 16th of December 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Heavy Lift Philosophy & Procedures Types of Cranes • Crane Components • Steps in Crane Setup on Sites • General Lifting Procedures
0930 – 0945	Break
0945 – 1100	Heavy Lift Philosophy & Procedures (cont'd) Marking of Lifting Equipment • Sling Loads & Angles • Establishing Load Weight & Center of Gravity • Hand Signals
1100 – 1230	Safety & Lifting Health & Safety Legislation • Inspection Definitions
1230 – 1245	Break
1245 – 1420	Safety & Lifting (cont'd) Safe Use of Wire Ropes • Safe Use of Chain Slings • Safe Use of Shackles & Eyebolts • Safe Use of Beam Clamps & Trolleys
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: Tuesday, 17th of December 2024

0730 – 0930	Colour Coding <i>Reasons of Colour Coding for Lifting Equipment • Colour Codes at Site</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Colour Coding (cont'd) <i>Process of Changing the Colour Code • Procedure for Equipment that Arrive on Site without the Right Colour Coding</i>
1100 – 1230	Certification Requirement/Lifting Plan Engineers <i>Certification Necessity • Load Planning • Lifting Plan Engineers • Hook-up (Rigging)</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Certification Requirement/Lifting Plan Engineers (cont'd) <i>Load Signalling • Hoisting Equipment • Crane Operators</i>
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>

Day 3: Wednesday, 18th of December 2024

0730 – 0930	Pre-Lift Planning/Lifting Plans <i>Lift Plan Requirements • Critical Lift • Critical Lift Plan Analysis</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Pre-Lift Planning/Lifting Plans (cont'd) <i>Calculating Soil Bearing Capacity • Crane Weight</i>
1100 – 1230	Pre-Lift Planning/Lifting Plans (cont'd) <i>Load Calculation • Soil Bearing Load</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Pre-Lift Planning/Lifting Plans (cont'd) <i>Crane Set-Up Summary • Fin Fan Lift</i>
1420 – 1430	Recap <i>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</i>
1430	<i>Lunch & End of Day Three</i>

Day 4: Thursday, 19th of December 2024

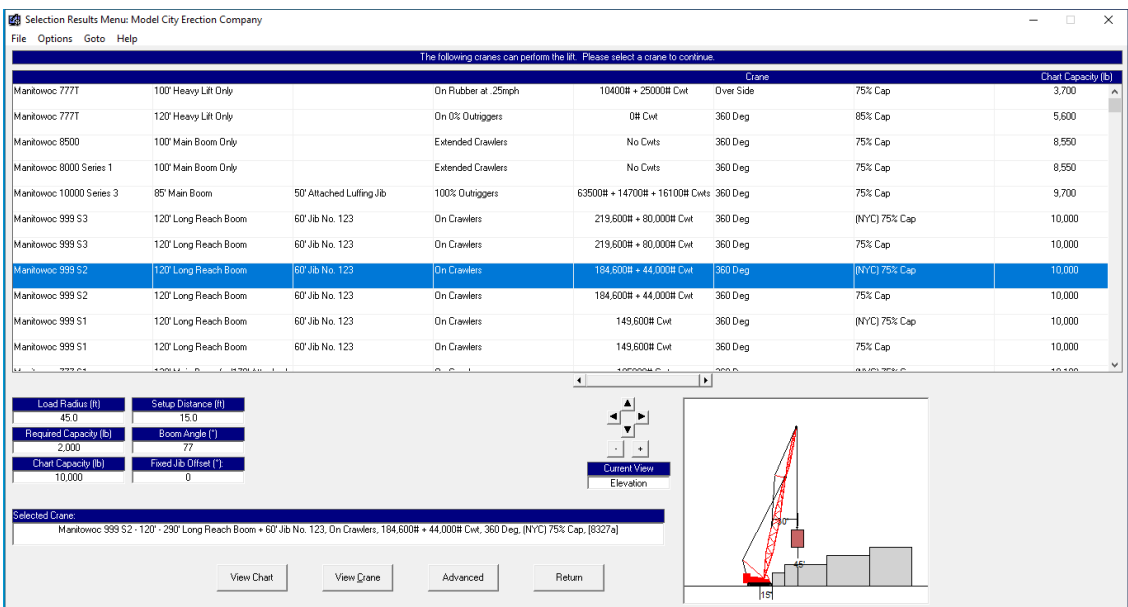
0730 – 0930	Pre-Lift Planning/Lifting Plans (cont'd) <i>Heat Exchanger Lift • Module Lift • Fractionator Lift • ANSI/OSHA Standards</i>
0930 – 0945	<i>Break</i>
0945 – 1100	Inspection of Lifting Equipment <i>Wire Rope Slings • Polyester Webbing Sling • Round (Endless) Sling • Chains • Shackles</i>
1100 – 1230	Inspection of Lifting Equipment (cont'd) <i>Eyebolts • Plate Clamps • Hooks • Chain blocks • Pull Lines • Tirsors</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Inspection of Lifting Equipment (cont'd) <i>Beams Clamps / Pad Eyes • Sheave (Snatch) Blocks • Air / Hydraulic Winches</i>
1420 – 1430	Recap <i>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</i>
1430	<i>Lunch & End of Day Four</i>

Day 5: Friday, 20th of December 2024

0730 – 0930	Mobile Cranes Crane Signals • Operational Aids • Crane Identification • Crane Types • Hoisting Systems • Site Preparation • Set-up & Assembly • Boom Inspection & Repair • Crane Gantry • Crane Jibs • Wire Rope Factors
0930 – 0945	Break
0945 – 1100	Mobile Cranes (cont'd) Crane Stability • Outriggers Position • Load Charts • Conditions Affecting Capacity • Traveling with Load • Telescoping Booms • Boom Contact Hazard • Crane Log Books • Crane Inspection • Crane Operation • Crane Safety Features
1100 – 1230	Risk Assessment Methodology Fatality Reports • What Causes Accidents?
1230 – 1245	Break
1245 – 1300	Risk Assessment Methodology (cont'd) Personal Lifting Techniques • Personal Safety Equipment • Special Considerations
1300 – 1315	Course Conclusion
1315 – 1415	COMPETENCY EXAM (Theory & Practical)
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Simulators (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using one of our state-of-the-art simulators “Compu-Crane” Software.



The screenshot shows the 'Selection Results Menu: Model City Erection Company' window. It contains a table of crane specifications with columns for Crane, Chart Capacity (lb), and various technical details. A crane is selected, and its details are shown in a 'Selected Crane' box at the bottom. A 3D model of a crane is visible on the right side of the interface.

Compu-Crane Simulator

Course Coordinator

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