

COURSE OVERVIEW SE0045

Building Erection Essentials for Construction Management

Course Title

Building Erection Essentials for Construction Management

Course Date/Venue

Session 1: February 24-28, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
 Session 2: September 21-25, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



Course Reference

SE0045

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 Civil Building Maintenance. It covers the causes of concrete and reinforced concrete structures damage; the additional preventive measures in designing for durability; the surface applied barriers and altering; the electrochemical behavior; the nature, structure and properties of concrete; the port land concrete, slag and fly properties; the properties of admixtures and concrete mixes; the proper inspection and quality control of concrete; and sampling and testing concrete on site and check concrete faults.

During this interactive course, participants will learn the inspection, assessment and repair of concrete structure damage; the reinforced concrete site practice; selecting proper materials cements, aggregates, additions and reinforcement; the concrete mixes and specifications; the optimum concrete production and quality assurance; the principles of concrete mix design; the risk-based maintenance strategy; and the proper inspection, sampling and compliance testing.

Course Objectives

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

- Apply and gain an in-depth knowledge on civil building maintenance
- Identify the causes of concrete and reinforced concrete structures damage
- Employ additional preventive measures in designing for durability, surface applied barriers and altering the electrochemical behavior
- Recognize the nature, structure and properties of concrete
- Identify port land concrete, slag and fly properties, properties of admixtures and concrete mixes
- Perform proper inspection and quality control of concrete as well as sampling and testing concrete on site and check concrete faults
- Inspect, assess and repair concrete structure damage
- Describe the reinforced concrete site practice and select proper materials including cements, aggregates, additions and reinforcement
- Determine concrete mixes and specifications and employ optimum concrete production and quality assurance
- Discuss the principles of concrete mix design and apply risk-based maintenance strategy
- Carryout proper inspection, sampling and compliance testing

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 on civil building maintenance for civil engineers, maintenance engineers, plant engineers, maintenance superintendents and first line supervisors, foremen and preventive maintenance specialists.

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. Steve Magalios, CEng, PGDip (on-going), MSc, BSc, is a **Senior Civil Engineer** with almost **40 years** of extensive **On-shore & Offshore** experience in the **Oil & Gas, Construction, Refinery and Petrochemical** industries. His expertise widely covers in the areas of **Blast Simulation, Blast Resistant & Resilient Design, Building Life Assessment & Retrofit Solutions for Blast Resistance, Seismicity Modelling, Seismic Design** for Buildings, Advanced **Seismic & Wind Design of Reinforced Concrete**, Industrial Building Design, **Blast Resistance & Resilient** for Oil & Gas Field, **Concrete Structures & Building Rehabilitation, Reinforced Concrete Structures Protection, Concrete Structure Inspection & Repair, Concrete Inspection & Maintenance, Concrete Maintenance & Reliability Analysis**, Design and Behaviour of **Steel Structures, Advanced Steel Design & Stability of Structures Concrete Structural Design, Dynamic Analysis of Rotating Equipment Foundations & Structural Steel Piperacks, Concrete Technology, Construction Planning, Construction & Concrete Works Maintenance, Advanced Building Construction Technology, Geosynthetics & Ground Improvement Methods, Bench Design, Benching, Land Survey and ArcGIS for Earthworks & Management, ArcGIS for Surveying, Computer Aided Design (CAD), AutoCAD Civil 3D, GIS & Mapping, Structural Analysis & Design (STAAD PRO), Land Surveying & Property Evaluation, Earth Measurements, Earthwork & Structural Maintenance, System Safety Program Plan (SSPP) Inspection, Building & Road Design Skills, Civil Engineering Design, Structural Reliability Engineering, Road Construction & Maintenance, Road Pavement Design, Road Maintenance, Drainage System Operations & Maintenance, Blueprint Reading & Interpretation, Blue Print Documentation, Mechanical Drawings, P&ID, Flow Diagram Symbols, Cartographic Representation, Soil Classification, Cadastral Surveying & Boundary Definition, Project Engineering & Design, Construction Management, Project Planning & Execution, Site Management, Site Supervision, Effective Resource Management, Project Evaluation, FEED Management, EPC Projects Design, Project Completion & Workover, Quality Control and Team Management. He is also well-versed in Pipeline Operation & Maintenance, Pipeline Design & Construction, Pipeline Engineering, Scraper Traps, Burn Pits, Risk Assessment, HSE Plan & Procedures, Construction Planning, Methods & Management, Sloping, Embankments, Construction Planning, Construction Quality Management, Project Risk Assessment, Project Quality Plans, Excavation, Backfill & Compaction, Excavation & Reinstatement, Excavation Safety for Construction, Groundworks Supervision, Construction Quality Remote Sensing, Construction Materials, Construction Surveying, Detailed Engineering Drawings, Codes & Standards Quality Plan & Procedures, Safety & Compliance Management, Permit-to-Work Issuer, ASME, API, ANSI, ASTM, BS, NACE, ARAMCO & KOC Standards, MS Office tools, AutoCAD, STAAD-PRO, GIS, ArcInfo, ArcView, Autodesk Map and various programming languages and software such as SHOTPlus, FORTRAN, BASIC and AUTOLISP. Currently, he is the **Chartered Professional Surveyor Engineer & Urban-Regional Planner** wherein he is deeply involved in providing exact data, measurements and determining properly boundaries. He is also responsible in preparing and maintaining sketches, maps, reports and legal description of surveys.**

During his career, Mr. Magalios has gained his expertise and thorough practical experience through challenging positions such as a **Project Site Construction Manager, Construction Site Manager, Project Manager, Deputy PMS Manager, Head of the Public Project Inspection Field Team, Technical Consultant, Senior Consultant, Consultant/Lecturer, Construction Team Leader, Lead Pipeline Engineer, Project Construction Lead Supervising Engineer, Civil Engineer, Lead Site Engineer, Senior Site Engineer Lead Engineer, Senior Site Engineer, R.O.W. Coordinator, Site Representative, Supervision Head and Contractor** for international Companies such as the Penspen International Limited, Eptista Servicios de Ingenieria S.I., J/V ILF Pantec TH. Papaioannou & Co. – Emenergy Engineering, J/V Karaylannis S.A. – Intracom Constructions S.A., Ergaz Ltd., Alkyonis 7, Palaeo Faliro, Piraeus, Elpet Valkaniki S.A., Asprofos S.A., J/V Depa S.A. just to name a few.

Mr. Magalios is a **Registered Chartered Engineer** and has a **Master's and Bachelor's** degree in **Surveying Engineering** from the **University of New Brunswick, Canada** and the **National Technical University of Athens, Greece**, respectively. Further, he is currently enrolled for **Post-graduate** in **Quality Assurance** from the **Hellenic Open University, Greece**. He has further obtained a **Level 4B** Certificates in Project Management from the **National & Kapodistrian University of Athens, Greece** and **Environmental Auditing** from the **Environmental Auditors Registration Association (EARA)**. Moreover, he is a **Certified Instructor/Trainer**, a **Chartered Engineer** of **Technical Chamber of Greece** and has delivered numerous trainings, workshops, seminars, courses 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 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

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| 0730 – 0800 | <i>Registration & Coffee</i> |
| 0800 – 0815 | <i>Welcome & Introduction</i> |
| 0815 – 0830 | PRE-TEST |
| 0830 – 0930 | <i>Causes of Concrete and Reinforced Concrete Structures Damage</i> <i>Mechanical Causes • Physical Causes</i> |
| 0930 – 0945 | <i>Break</i> |
| 0945 – 1100 | <i>Causes of Concrete and Reinforced Concrete Structures Damage (cont'd)</i> <i>Structural Causes • Chemical Causes • Reinforcement Corrosion</i> |
| 1100 – 1215 | <i>Additional Preventative Measures</i> <i>Design for Durability</i> |
| 1215 – 1230 | <i>Break</i> |
| 1230 – 1420 | <i>Additional Preventative Measures (cont'd)</i> <i>Surface Applied Barriers • Altering the Electrochemical Behaviour</i> |
| 1420 – 1430 | Recap |
| 1430 | <i>Lunch & End of Day One</i> |

Day 2

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|-------------|--|
| 0730 – 0900 | <i>Structure and Properties of Concrete</i> <i>Cements, Aggregates, Water, Admixtures • Fresh and Hardened Concrete Properties</i> |
| 0900 – 0915 | <i>Break</i> |
| 0915 – 1100 | <i>Structure and Properties of Concrete (cont'd)</i> <i>Transport Processes in Concrete • Degradation of Concrete</i> |
| 1100 – 1230 | <i>Corrosion of Concrete Reinforcement</i> <i>Corrosion Principles • Passivity • Carbonation • Chloride Induced Corrosion</i> |
| 1230 – 1245 | <i>Break</i> |
| 1245 – 1420 | <i>Corrosion of Concrete Reinforcement (cont'd)</i> <i>Stray Currents • Hydrogen Embrittlement • Macrocells</i> |
| 1420 – 1430 | Recap |
| 1430 | <i>Lunch & End of Day Two</i> |

Day 3

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|-------------|---|
| 0730 – 0900 | Portland Concrete, Slag and Fly Ash Properties –Mix Design |
| 0900 – 0915 | Break |
| 0915 – 1100 | Inspection and Quality Control of Concrete |
| 1100 – 1215 | Sampling and Testing Concrete on Site |
| 1215 – 1230 | Break |
| 1230 – 1420 | Concrete Faults |
| 1420 – 1430 | Recap |
| 1430 | Lunch & End of Day Two |

Day 4

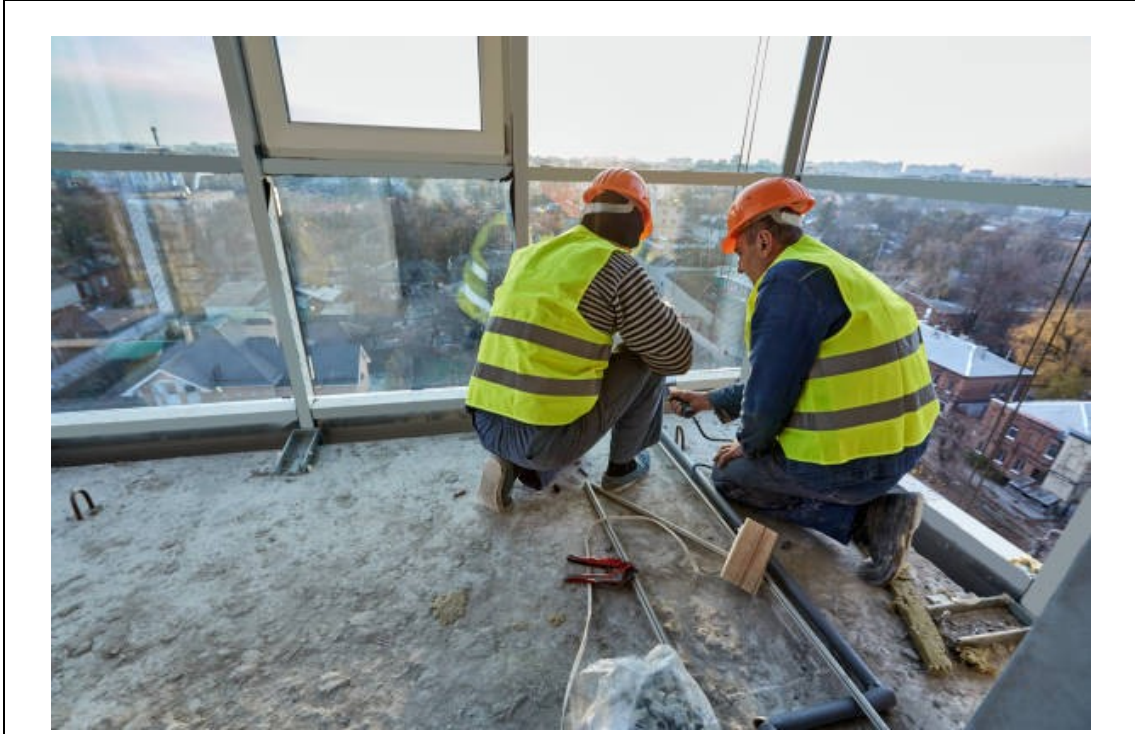
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| 0730 – 0900 | Assessment of the Reinforced Concrete Structures Conditions Inspection Phase • Structural Assessment |
| 0900 – 0915 | Break |
| 0915 – 1100 | Assessment of the Reinforced Concrete Structures Conditions (cont'd) Assessment Report |
| 1100 – 1215 | Assessment of the Reinforced Concrete Structures Conditions (cont'd) Practical Cases |
| 1215- 1230 | Break |
| 1230 – 1420 | Reinforced Concrete Monitoring Techniques Monitoring Objectives • Sensors |
| 1420 – 1430 | Recap |
| 1430 | Lunch & End of Day Four |

Day 5

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|-------------|--|
| 0730 – 0930 | Rehabilitation of Reinforced Concrete Structures (cont'd) Practical Case |
| 0930 – 0945 | Break |
| 0945 – 1100 | Risk-Based Maintenance Strategy Present Value Method • Repair Time • Capacity Loss in Reinforced Concrete Sections |
| 1100 – 1115 | Break |
| 1115 – 1345 | Risk-Based Maintenance Strategy (cont'd) Required Time to Start of Corrosion • Time Required to Start of Deterioration • Cost Analysis for Different Protection Methods |
| 1345 – 1400 | Course Conclusion |
| 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

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org