COURSE OVERVIEW SE0380
Knowledge of Materials, Composite Materials & Testing Equipment

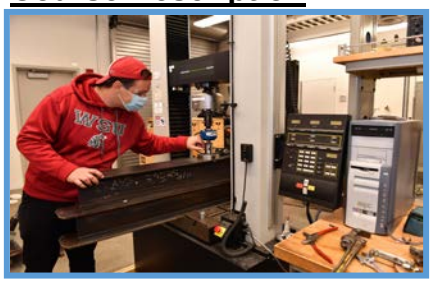
Course Title
Knowledge of Materials, Composite Materials & Testing Equipment

Course Date/Venue
November 18-22, 2024/Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
SE0380

Course Duration/Credits
Five days/3.0 CEUs

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 Materials, Composite Materials & Testing Equipment. It covers the functions of concrete materials in construction and the technical requirements; and enumerate the types of concrete and the construction methods.

During this interactive course, participants will learn the composites and implement the mechanics of composite materials; the various sample cement tests such as OPC, RHPC, LHPC and SRPC; and differentiate compression testing equipment and tension testing equipment.

Course Objectives

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

- Apply the latest techniques, applications and procedures on materials, composite materials and testing equipment
- Explain the functions of concrete materials in construction and recognize the technical requirements
- Enumerate the types of concrete and employ the construction methods
- Introduce composites and implement the mechanics of composite materials
- Discuss the various sample cement tests such as OPC, RHPC, LHPC and SRPC
- Differentiate compression testing equipment and tension testing 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, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of materials, composite materials and testing equipment for design engineers, civil engineers, construction engineers, material engineers, structural engineers, architects and contractors.

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 IRCA Certification, H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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.

Accommodation

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

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 **Materials**, **Composite Materials & Testing Equipment**, **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, System Safety Program Plan (**SSPP**) Inspection, **Building & Road** Design Skills, **Civil Engineering Design**, **Structural Reliability** Engineering, **Road** Construction & Maintenance, **Drainage** System Operations & Maintenance, **Blueprint** Reading & Interpretation, **Blue Print** Documentation, Mechanical **Drawings**, **P&ID**, **Flow Diagram** Symbols, **Construction** Management, **Project Planning** & Execution, **Site Management**, **Site Supervision**, Effective **Resource Management**, **Project Evaluation**, **FEED** 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, **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 Ingeneria 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.

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, 18th of November 2024***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Consideration of Broad Aspects of Use of Concrete in Construction***
0930 - 0945	*Break*
0945 – 1100	***Consideration of Broad Aspects of Use of Concrete in Construction (cont'd)***
1100 – 1215	***Technical Requirements*** *Selection of Materials ● Control of Quality*
1215 – 1230	*Break*
1230 - 1430	***Types of Concretes and Construction Methods Used for Buildings***
1430	*Lunch & End of Day One*

Day 2: ***Tuesday, 19th of November 2024***

0730 – 0930	***Types of Concretes and Construction Methods Used for Highways, Airfields, Bridges, Dams and Other Hydraulic Structures***
0930 - 0945	*Break*
0945 – 1100	***Types of Concretes and Construction Methods Used for Highways, Airfields, Bridges, Dams and Other Hydraulic Structures (cont'd)***
1100 – 1215	***Types of Concretes and Construction Methods Used for Highways, Airfields, Bridges, Dams and Other Hydraulic Structures (cont'd)***
1215 – 1230	*Break*
1230 - 1430	***Types of Concretes and Construction Methods Used for Highways, Airfields, Bridges, Dams and Other Hydraulic Structures (cont'd)***
1430	*Lunch & End of Day Two*

Day 3: ***Wednesday, 20th of November 2024***

0730 – 0930	***Introduction to Composites***
0930 - 0945	*Break*
0945 – 1100	***Mechanics of Composite Materials***
1100 – 1215	***Mechanics of Composite Materials (cont'd)***
1215 – 1230	*Break*
1230 - 1430	***Design Case Studies***
1430	*Lunch & End of Day Three*

Day 4: ***Thursday, 21st of November 2024***

0730 – 0930	***Design Case Studies (cont'd)***
0930 - 0945	*Break*
0945 – 1100	***Design Case Studies (cont'd***
1100 – 1215	***Ordinary Portland Cement (OPC) Test***
1215 – 1230	*Break*
1230 - 1430	***Rapid Hardening Portland Cements (RHPC) Test***
1430	*Lunch & End of Day Four*

Day 5:	***Friday, 22nd of November 2024***
0730 – 0930	***Low Heat Portland Cements (LHPC) Test***
0930 - 0945	*Break*
0945 – 1100	***Sulphate Resistant Portland Cement (SRPC) Test***
1100 – 1215	***Compression Testing Equipment***
1215 – 1230	*Break*
1230 - 1400	***Tension Testing Equipment***
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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