



**COURSE OVERVIEW GE0200**

**Detailed Engineering Drawings, Codes & Standards**

*P&ID Reading, Interpretation & Developing*

**Course Title**

Detailed Engineering Drawings, Codes & Standards: *P&ID Reading, Interpretation & Developing*

**Course Date/Venue**

September 07-11, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

**Course Reference**

GE0200

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs

**Course Description**



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



This course is designed to provide participants with a detailed and up-to-date knowledge of detailed engineering drawings, codes and standards. It covers the interpretation of drawings in a multi-discipline environment such as plant layout, mechanical, structural, instrumentation and piping (P&ID); the mechanical engineering drawings from design information; and the interpretation of codes, standards and specifications in engineering drawings.



During the course, participants will be able to prepare hand sketches of a number of mechanical components; participate in a series of blueprint reading exercises; and read, interpret and extract information from mechanical & piping arrangement drawings and piping and instrumentation drawings (P&ID).

Further, the course will also discuss the B31.1 and B31.3 codes; level, flow, pressure and temperature variables; the control valves, relief valves and closed control loops; and the drawing representation and interpretation





### Course Objectives

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

- Interpret drawings in a multi discipline environment such as plant layout, mechanical, structural, instrumentation and piping (P&ID)
- Produce mechanical engineering drawings from design information
- Interpret codes, standards and specifications and apply them in engineering drawings
- Prepare hand sketches of a number of mechanical components and participate in a series of blueprint reading exercises
- Read, interpret and extract information from mechanical & piping arrangement drawings and piping & instrumentation drawings (P&ID)

### 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 covers systematic techniques on P&ID reading, interpretation and developing of detailed engineering drawings, codes and standards for managers, engineers, supervisors and other technical staff. Further, the course is essential for designers and draftspersons in the plant design field as well as for piping fabricators and suppliers.

### 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 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:



**Dr. Tony Dimitry, PhD, MSc, BSc**, is a **Senior Mechanical Maintenance Engineer** with over **35 years** of industrial experience within the **Petroleum, Oil & Gas, Petrochemical, Nuclear & Power** industries. His expertise covers Revising **Engineering Drawings, Engineering Drawings & Diagrams, AutoCAD & GIS Support**, Retailed **Engineering Drawings**, Codes & Standards, **Mechanical Diagrams** Interpretation, Reading **Engineering Drawings, Process & Project Drawings, Engineering Drawings** Interpretation, **Piping Layouts & Isometrics, P&ID** Reading & Interpretation, Glass Reinforced Epoxy (**GRE**), Glass Reinforced Pipes (**GRP**), Glass Reinforced Vent (**GRV**), **Mechanical Pipe Fittings, Flange Joint Assembly**, Adhesive Bond Lamination, **Butt Jointing, Joint & Spool Production, Isometric Drawings, Flange Assembly Method, Fabrication & Jointing**, Jointing & Spool Fabrication, **Pipe Cuttings, Flange Bolt Tightening Sequence, Hydro Testing, Failure Analysis Methodologies**, Machinery Root Cause Failure Analysis (**RCFA**), **Preventive Maintenance & Condition Monitoring**, Reliability Centred Maintenance (**RCM**), Risk Based Inspection (**RBI**), Root Cause Analysis (**RCA**), **Planning & Managing Plant Turnaround, Scheduling Maintenance, Data Archive Maintenance, Master Milestone Schedule (MMS)**, Piping & Mechanical **Vibration Analysis**, Preventive & Predictive Maintenance (**PPM**) Maintenance, Condition Based Monitoring (**CBM**), Risk Based Assessment (**RBA**), Planning & Preventive Maintenance, **Maintenance Management (Preventive, Predictive, Breakdown)**, **Reliability** Management, Rotating Equipment, Scheduling & Cost Control, **Maximo** Foundation, **Maximo** Managing Work, **Asset Management Best Practices, Resource Management, Inventory Set-up & Management, Work Management**, Automatic & Work Flows & Escalations, **Vibration Analysis, Heat Exchanger, Siemens, Gas & Steam Turbine Maintenance, Pumps & Compressors, Turbo-Expanders, Fractional Columns, Boilers, Cryogenic Pumps for LNG, Electromechanical Maintenance, Machinery Alignment, Lubrication Technology, Bearing & Rotary Machine, Blower & Fan, Shaft Repair, Safety Relief Valves, Pipelines, Piping, Pressure Vessels, Process Equipment, Diesel Engine & Crane Maintenance, Tanks & Tank Farms, Pneumatic System, Static Equipment, FMEA, Corrosion, Metallurgy, Thermal and Electrical Modelling of Battery Problems**. He is also well-versed in various simulators such as **i-Learn Vibration, AutoCAD, Word Access, Aspen One, Fortran, VB, C ANSYS, ABAQUS, DYNA3D, Ceasar, Caepipe, MS Project, Primavera, MS Excel, Maximo, Automation Studio** and **SAP**. Currently, he is the **Maintenance Manager** of the PPC Incorporation wherein he is responsible for the maintenance and upgrading of all **Power Station** components.

During his career life, Dr. Dimitry held a significant positions such as the **Operations Engineers, Technical Trainer, HSE Contracts Engineer, Boilers Section Engineer, Senior Engineer, Trainee Mechanical Engineer, Engineer, Turbines Section Head, Professor, Lecturer/Instructor** and **Teaching Assistant** from various multinational companies like **Chloride Silent Power Ltd., Technical University of Crete, National Nuclear Corporation, UMIST Aliveri Power Station** and **HFO Fired Power Station**.

Dr. Dimitry has **PhD, Master** and **Bachelor** degrees in **Mechanical Engineering** from the **Victory University of Manchester** and the **University of Newcastle, UK** respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and an associate member of the **American Society of Mechanical Engineers (ASME)** and **Institution of Mechanical Engineers (IMechE)**. He has further delivered various trainings, seminars, courses, workshops and conferences internationally.



**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 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 Sunday 07<sup>th</sup> of September 2025**

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<b>Introduction</b> Plant Layout Disciplines • Defining Priorities in Design Drafting • Orthographic Projection • Isometric Projection • Linework & Symbolology
0930 – 0945	Break
0945 – 1100	<b>Working Drawings</b> Mechanical • Structural, Piping & Instrumentation • Title Blocks • Revisions • Metric & Imperial Scales • Dimensioning
1100 – 1230	<b>Field Sketching</b> Freehand Sketching & Lettering • Notes • Sketching in the Field or Plant
1230 – 1245	Break
1245 – 1420	<b>Field Sketching (cont'd)</b> Ensuring that Sufficient Information is Provided on Sketch
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day One

**Day 2 Monday 08<sup>th</sup> of September 2025**

0730 – 0930	<b>Plant Design Drawing Interpretation</b> Terminology Used in Plant Design Drawings • Dimensioning
0930 – 0945	Break
0945 – 1115	<b>Plant Design Drawing Interpretation (cont'd)</b> Drafting & Interpretation Examples
1115 – 1215	<b>Piping Terminology</b> Process Flow Diagram • Development of Process & Instrumentation Diagram (P&ID)
1215 – 1230	Break
1230 – 1420	<b>Piping Terminology (cont'd)</b> Piping & Instrumentation Functions
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Two



**Day 3 Tuesday 09<sup>th</sup> of September 2025**

0730 – 0930	<b>Piping Drawing Interpretation</b> Piping Arrangements • Isometrics • Piping Documentation • Specifications • Instrumentation Specs
0930 – 0945	Break
0945 – 1100	<b>Piping Drawing Interpretation (cont'd)</b> Components • Fittings & Valve Functions
1100 – 1215	<b>Piping Drawings</b> Dimensioning & Drafting Isometrics • Bills of Material • P&ID Development • Engineering Design
1215 – 1230	Break
1230 – 1420	<b>Piping Drawings (cont'd)</b> Equipment Design • Equipment Sizing & Selection • Introduction to Flow Analysis
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Three

**Day 4 Wednesday 10<sup>th</sup> of September 2025**

0730 – 0930	<b>B31.1, B31.3 Codes</b> Scope of Code Rules • Intent of the Code
0930 – 0945	Break
0945 – 1100	<b>B31.1, B31.3 Codes (cont'd)</b> Operations & Scope • Piping Design Conditions
1100 – 1215	<b>B31.1, B31.3 Codes (cont'd)</b> Code Applicability • Responsibilities
1215 – 1230	Break
1230 – 1420	<b>B31.1, B31.3 Codes (cont'd)</b> Piping Design Criteria
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Four

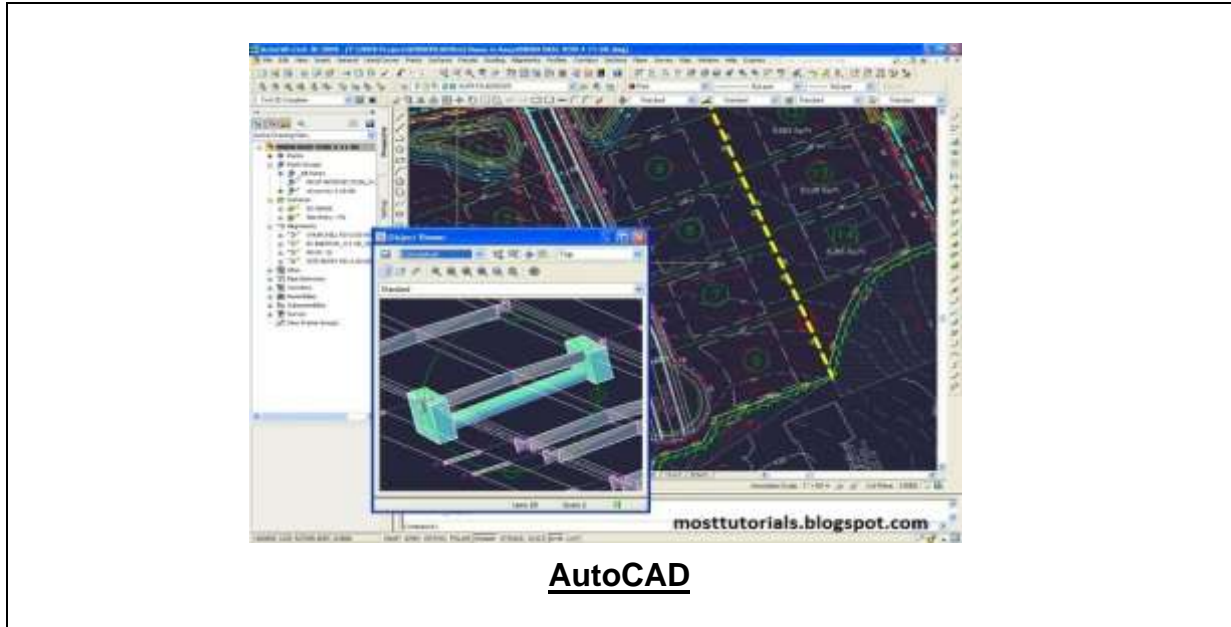
**Day 5 Thursday 11<sup>th</sup> of September 2025**

0730 – 0830	<b>Instrumentation</b> Level, Flow, Pressure & Temperature Variables • Control Valves & Sets
0830 – 0930	<b>Instrumentation (cont'd)</b> Relief Valves • Closed Control Loops
0930 – 0945	Break
0945 – 1200	<b>Piping &amp; Instrumentation Drafting Standards</b> Drawing Representation • Drawing Interpretation
1200 – 1215	Break
1215 – 1345	<b>Q &amp; A Discussion &amp; Review</b>
1345 – 1400	<b>Course Conclusion</b>
1400 – 1415	<b>POST-TEST</b>
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course



**Simulator (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 the “AutoCAD” software.



**Course Coordinator**

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