COURSE OVERVIEW GE0759
QHSE Statistics & Data Analysis

Course Title
QHSE Statistics & Data Analysis

Course Date/Venue
November 23-27, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
GE0759

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 "MS Excel" applications.

Corporate ethos which demands continual improvement in work place efficiencies and reduced operating, maintenance, support service and administration costs means that managers, analysts and their advisors are faced with ever-challenging performance targets. In order to make decisions resulting in improved business performance, it is vital to base decision making on appropriate analysis and interpretation of data.

This course adopts an applications-oriented approach, minimizing the time spent on the mathematics of analysis and maximizing the time spent on the use of practical methods and understanding why such methods work. Delegates will explore Excel's functionality and Data Analysis Tool Pack to investigate realistic data from a wide range of technical and non technical example applications.

Organizations that are able to make optimum decisions will enhance their ability to compete on the global stage.

The participants on this course, and therefore the teams that they work within will, as a result of their training, be better positioned to influence the organization with recommendations based on objective data analysis that in turn produce a higher performing business.

Individuals exposed to this training will develop new insights into the field of data analysis, and they will learn why the best companies in the world see data analysis essential to delivering the right quality products and services at the lowest costs.

Participants will gain an understanding and practical experience of a range of the more common analytical techniques and data representation methods, which have direct relevance to a wide range of issues. The ability to recognize which types of analysis are best suited to particular types of issue. A sufficient background and theoretical knowledge to be able to judge when an applied technique will likely lead to incorrect conclusions.

Course Objectives

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

- Apply systematic techniques of QHSE statistics and data analysis
- Discuss the QHSE data and the basics of QHSE data analysis
- Illustrate charting and categorical data, summarize data with descriptive statistics and investigate the variation of a set of data
- Recognize the basis of statistical analysis as well as monitor and predict future process performance
- Identify some common data distributions and their uses
- Investigate the relationships between variables
- Identify the measuring uncertainty of basic probability concepts and apply statistical decision making in inferential analysis
- Build statistical modelling for prediction purposes
- Calculate the ability of process to operate within specification
- Estimate values and calculate confidence intervals
- Illustrate data analysis model and discuss how to get from data to conclusion

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 during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of QHSE statistics and data analysis for professionals whose jobs involve the manipulation, representation, interpretation and/or analysis of data. Basic familiarity with PC's and in particular with Microsoft Excel is assumed. The course consists of a large amount of data analysis and therefore delegates will be expected to be numerate and enjoy working with data.

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: -

- 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.

- 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.

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

Course Fee
US$ 5,500 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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. Dimitry Rovas, CEng, MSc, PMI-PMP, is a **Senior Engineer** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise include **Oil & Gas Trading**, **Pricing & Economic** Framework, **Crude Oil Market Trading**, **Market** Strategies, **Crude Oil Pricing** System, **Linear Programming**, **Data Analysis** Techniques, **Detailed Engineering Drawings**, **Codes & Standards**, **GPS & Data Capture**, **Advanced Design** Techniques, **P&ID Reading**, **Interpretation & Developing**, **Project Management Economics** Program, **Pump** Technology, **Pump** Selection & Installation, **Centrifugal Pumps & Troubleshooting**, **Reciprocating & Centrifugal Compressors**, **Compressor** Control & Protection, **Gas & Steam Turbines**, **Turbine** Operations, **Gas Turbine** Technology, **Valves**, **Bearings & Lubrication**, Advanced **Machinery Dynamics**, **Rubber Compounding**, **Elastomers**, **Thermoplastic**, **Industrial Rubber Products**, **Rubber** Manufacturing Systems, **Heat Transfer**, **Vulcanization Methods**, **Process Plant Shutdown & Turnaround**, **Maintenance Optimization & Best Practices**, **Maintenance Auditing & Benchmarking**, **Reliability** Management, **Rotating Equipment**, **Energy Conservation**, **Energy Loss Management** in Electricity Distribution Systems, **Energy Saving**, **Thermal Power Plant** Management, **Thermal Power Plant** Operation & Maintenance, **Heat Transfer**, **Machine Design**, **Fluid Mechanics**, **Heating & Cooling Systems**, **Heat Insulation Systems**, **Heat Exchanger & Cooling Towers**, **Mechanical Erection**, **Heavy Rotating Equipment**, Material Unloading & Storage, Commissioning & Start-Up. Further, he is also well-versed in MS project & AutoCAD, EPC Power Plant, Power Generation, Combined Cycle Powerplant, Leadership & Mentoring, Project Management, Strategic Planning/Analysis, Construction Management, Team Formation, Relationship Building, Communication, Reporting and Six Sigma. He is currently the **Project Manager** wherein he is managing, directing and controlling all activities and functions associated with the domestic heating/cooling facilities projects.

During his life career, Mr. Rovas has gained his practical and field experience through his various significant positions and dedication as the **EPC Project Manager**, **Field Engineer**, **Preventive Maintenance Engineer**, **Researcher**, **Instructor/Trainer**, **Telecom Consultant** and **Consultant** from various companies such as the Podaras Engineering Studies, Metka and Diadikasia, S.A., **Hellenic Petroleum Oil Refinery** and COSMOTE.

Mr. Rovas is a **Chartered Engineer** of the **Technical Chamber** of **Greece**. Further, he has **Master** degrees in **Mechanical Engineering** and **Energy Production & Management** from the **National Technical University of Athens**. Moreover, he is a **Certified Instructor/Trainer**, a **Certified Project Management Professional** (**PMP**), a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and a **Certified Six Sigma Black Belt**. He is an active member of Project Management Institute (**PMI**), Technical Chamber of Greece and Body of Certified Energy Auditors and has further delivered numerous trainings, seminars, courses, 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 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, 23rd of November 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***QHSE Data*** *QHSE Data Source • QHSE Monthly Reports • QHSE Quarterly Reports • Objectives of GHSE Data Analysis • Continual Improvement • Problem Solving • Probability & Prediction*
0900 – 0930	***The Basics of QHSE Data Analysis*** *The Need and Role of Data Analysis in QHSE System • Types of Data • The Two Data Enemies of Data Analysts • The Data Acquisition Model*
0930 – 0945	*Break*
0945 – 1100	***Charting & Understanding Categorical Data*** *Bar Charts and Their Derivatives: What They are and How to Use Them • Pareto Charts. Location Charts*
1100 – 1230	***Summarising Data with Descriptive Statistics*** *Mean/Average, Median, Mode, Percentiles, Deciles, and Quartiles • Measures of Dispersion: The Range, Standard Deviation and Variance*
1230 – 1245	*Break*
1245 - 1420	***Investigating & Understanding Variation of a Set of Data*** *Box & Whisker Plots, Histograms Check Sheets and How to Interpret Them*
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2: ***Monday, 24th of November 2025***

0730 – 0900	***The Basis of Statistical Analysis: The Normal Distribution*** *The Normal Distribution*
0900 – 0915	*Break*
0915 – 1100	***The Basis of Statistical Analysis: The Normal Distribution (cont'd)*** *The Origin of Six Sigma, The Z-Score, The Standard Normal Distribution*

1100 – 1230	***How to Monitor & Predict Future Process Performance*** *Variation in Processes • Common and Special Causes of Variation, Tampering, Statistical Control • Control Charts: What They are and How to Use Them*
1230 – 1245	*Break*
1245 – 1420	***How to Monitor & Predict Future Process Performance (cont'd)*** *How to Predict Future Performance • Other Uses of the Control Charts*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3: ***Tuesday, 25th of November 2025***

0730 – 0930	***Some Common Data Distributions & their Uses*** *Poisson and Binomial Distributions • Their Relationship to Other Distributions and Where they are Likely to Occur in Business, Specifically the Occurrence of Time Based Events*
0930 - 0945	*Break*
0945 – 1100	***Investigating the Relationships Between Variables*** *Scatter Diagrams and Their Derivatives • Correlation and the Correlation Coefficient •*
1100 – 1215	***Investigating the Relationships Between Variables (cont'd)*** *Covariance • Linear Regression Analysis, Least Squares Estimation and the Analysis of Variance*
1215 – 1230	*Break*
1230 - 1420	***Investigating the Relationships Between Variables (cont'd)*** *More Complex Regression Models and Transformations*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

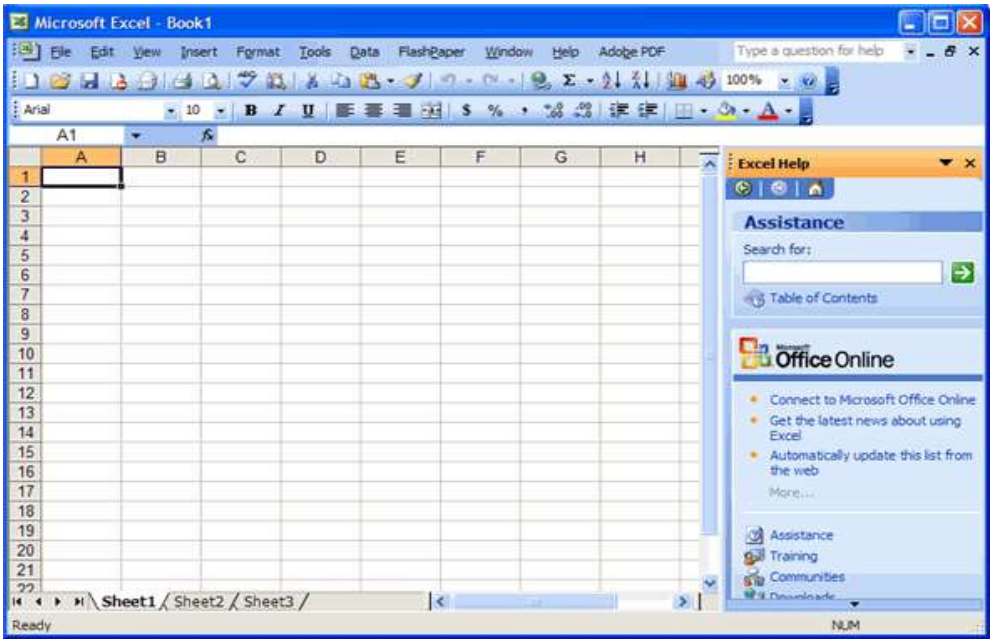
Day 4: ***Wednesday, 26th of November 2025***

0730 – 0900	***Basic Probability Concepts – Measuring Uncertainty*** *Basic Probability Types, Rules and Concepts • Normal Probability Distribution*
0900 – 0915	*Break*
0915 – 1100	***Inferential Analysis – Statistical Decision Making*** *Confidence Intervals – to Estimate Likely Population Measures • Application Of Confidence Intervals to Statistical Quality Control (Process Control Charts (R-Charts, X(Bar)-Charts, S-Charts), Control Charts for Attribute Data, Process Capability Indexes (SPC XL For Excel) • Hypothesis Testing – Tests for Statistical Relationships between Measures*
1100 – 1230	***Statistical Modelling – Building Models for Prediction Purposes*** *The Model Building Process • Correlation Analysis • Multiple Linear Regression Models (Stepwise Regression Modelling)*
1230 – 1245	*Break*
1245 – 1420	***Statistical Modelling – Building Models for Prediction Purposes (cont'd)*** *Modelling with Categorical Measures • Curve Fitting (Polynomial And Auto-Regressive Models)*
1420 - 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5:	***Thursday, 27th of November 2025***
0730 – 0930	***Calculating the Ability of Process to Operate within Specification*** *Process Capability • Specification Limits*
0930 - 0945	*Break*
0945 – 1100	***Calculating the Ability of Process to Operate within Specification (cont'd)*** *Calculating Process Capability*
1100 – 1215	***Estimating Values and Calculating Confidence Intervals*** *Point Estimates and Confidence Intervals for Averages and Standard Deviations •*
1215 – 1230	*Break*
1230 - 1345	***The Data Analysis Model*** *How to Get from Data to Conclusion*
1345 – 1400	***Course Conclusion***
1400 - 1415	***POST-TEST***
1415 - 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

Practical sessions will be arranged for all participants throughout the course using "MS Excel applications".



MS Excel

Course Coordinator

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