

COURSE OVERVIEW IT0174
Advanced Data Analysis

Course Title

Advanced Data Analysis

Course Date/Venue

Session 1: September 06-10, 2026/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Session 2: December 13-17, 2026/Sur Meeting Room, Royal Tulip Muscat, Muscat, Oman



Course Reference

IT0174

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using the “MS Excel” application.



This course is designed to provide participants with a detailed and up-to-date overview of Microsoft Advanced Data Analysis. It covers the advanced data preparation and cleaning including advanced sorting and filtering techniques; the advanced Excel functions for data analysis and conditional formatting for data insights; the data validation and control, analytical tools in Excel and pivottables for complex data analysis; the advanced pivottable features and data visualization with advanced charts; and the power query for data transformation, statistical analysis with Excel tools, what-if analysis and scenario modelling.



During this interactive course, participants will learn the advanced data modeling techniques, power pivot and data analysis expressions (DAX) basics; the effective data dashboards, pivottables, charts and slicers and interactive visualizations; automating repetitive tasks using macros and recording and editing simple macros; automating report generation and improving workflow efficiency; interpreting analytical results for business decisions and communicating insights effectively; and identifying trends and opportunities and applying analysis to strategic planning.

Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain an advanced knowledge on Microsoft data analysis
- Carryout advanced data preparation and cleaning including advanced sorting and filtering techniques
- Identify advanced Excel functions for data analysis and use conditional formatting for data insights
- Apply data validation and control, analytical tools in Excel and pivottables for complex data analysis
- Recognize advanced pivottable features and apply data visualization with advanced charts
- Use power query for data transformation and carryout statistical analysis with Excel tools, what-if analysis and scenario modeling
- Employ advanced data modeling techniques, power pivot and data analysis expressions (DAX) basics
- Design effective data dashboards, integrate pivottables, charts and slicers and create interactive visualizations
- Automate repetitive tasks using macros, record and edit simple macros, automate report generation and improve workflow efficiency
- Interpret analytical results for business decisions, communicate insights effectively, identify trends and opportunities and apply analysis to strategic planning

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 advanced Microsoft data analysis for data analysts and business analysts, finance and accounting professionals, project managers and operations staff, marketing and sales analysts, IT professionals and reporting specialists, business intelligence (BI) professionals, managers and team leaders who make data-driven decisions and other technical staff.

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 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

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.

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:



Dr. Peter Lalos, PhD, MSc, BSc, is a Senior IT, Telecommunications, Control & Electronics Engineer & Management Consultant with over 20 years of extensive experience in the areas of Importance of Data in BPM, Business Process Modelling with BPMN 2.0, Intelligent BPM (iBPM), Artificial Intelligence in BPM, Leading with Analytics, Leadership by the Numbers: Analytics & AI in Action, Transforming Organizations Through AI & Data Analytics, Executive Strategies with AI & Analytics, Business Data in Petroleum Operations, Business Intelligence Tools, Programming with Python & Java Specialization, Software Design

Principles, Java Control Structures, Java Methods & Classes, Python Syntax & Data Types, Operators & Expressions in Python, Business Process Management for IT, IT Performance Management, IT Performance Success Factors, Critical Factors for IT Performance, IT Metrics Management, IT Matrix & Protocols, IT Service Management, IT Service Management Strategy, Information Technology Architectures, IT Disaster Recovery & Planning, IT Risk Management Concepts, IT Risk Management Standard Approaches, IT Risk Management Planning, IT Risk Identification, IT Risk Monitoring & Control, Understanding & Contributing to Company's IT Strategy, E-Communication & Collaboration Skills, Virtual Communication, Social Networking, Application Architecture, Logical Applications, Interfaces & Services, Logical & Physical Components, Portfolio Management, Application Security, Application Integration Technologies & Strategies, Solution Architecture Patterns, Web Applications & Services, Mobile & Cloud Applications, Blended Learning Programs, Web Programming, E-Commerce Strategies, Advanced Database Management Systems, Web Design, HCI, 3D Animation, Multimedia Design, Gamification Techniques and Internal & External Auditing. Further, he is also well-versed in ACAD, ASP, PHP, JSP, MS Visual Studio, VB.NET, ASP.NET, Moodle administration, Design & Development, WAMP & LAMP, Oracle Design, Oracle JDeveloper, Oracle 11g, PL/SQL, MS SQL Server, MySQL, MS Access, HTML5, CSS, XML, XSD/ XSL, JavaScript, Python, Ajax, Angular, jQuery, Web Services Adobe Suite, MS Office 2013, IIS Servers, MS Exchange Server & Apache Tomcat, Open Source CMS Expert (Xaraya, Joomla, Mambo) & Module Development, Open Source E-commerce Expert (oscommerce, Joomla & Virtuemart) and Module Development. Currently, he is the IT Instructor/Subject Matter Expert and Course Developer of the University of Liverpool, UK, wherein he lectures various courses in Information Systems Program and develop courses in Information Technology project management and security risk management.

During his career life, Dr. Lalos has gained his practical and field experience through his various significant positions and dedication as the **IT Manager, Bid Manager & S/W Developer, Project Manager, E-Learning Software Manager, Scrum Master, IT Professor, IT Lecturer/Trainer, Telecommunications, Control & Electronics Lecturer, Physics Instructor, Scientific Advisor, E-Learning Specialist, Undergraduate & Postgraduate Thesis Supervisor, IT Contractor, Laboratory Administrator, Moodle Expert & Administrator and Telecommunications Engineer** for various companies and universities such as the University of Greenwich, Empire State College, Roehampton University, University of East London, Athens Technology Center, University of Athens, **ShellGas**, Advanced Services Group (ASG), Piraeus University, Chemmedia Hellas Ltd., Conceptum S.A, IEK and Frontistirio Apopsi.

Dr. Peter has a **PhD in IT, Telecommunications, Control & Electronics** from the **University of Athens**, a **Master's degree in Information Technology with Web Technology** from the **University of Paisley, UK** and a **Bachelor's degree in Physics** from the **Aristotelian University of Thessaloniki, Greece**. Further, he is a **Certified Instructor/Trainer**, a **Scrum Master**, a **Certified Administrator**, an **LMS Specialist** and a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**. He has further published several journals, participated as an author in various projects and conducted numerous trainings, courses, workshops, seminars 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.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0900 – 0930	Advanced Data Preparation & Cleaning <i>Identifying & Correcting Inconsistent or Incomplete Data • Removing Duplicates & Handling Missing Values • Standardizing Data Formats & Structures • Using Excel Tools for Efficient Data Cleaning</i>
0930 - 0945	<i>Break</i>
0945 – 1100	Advanced Sorting & Filtering Techniques <i>Multi-level Sorting for Complex Datasets • Using Advanced Filters with Criteria Ranges • Filtering Data Using Formulas & Conditions • Extracting Specific Datasets for Analysis</i>
1100 - 1215	Advanced Excel Functions for Data Analysis <i>Using Logical Functions such as IF AND OR • Lookup Functions Including VLOOKUP HLOOKUP & XLOOKUP • Text Functions for Data Transformation • Date & Time Functions for Time-based Analysis</i>
1215 – 1230	<i>Break</i>
1230 – 1420	Conditional Formatting for Data Insights <i>Highlighting Trends & Patterns Using Conditional Formatting • Creating Data Bars Color Scales & Icon Sets • Applying Formula-based Conditional Formatting • Using Conditional Formatting for Exception Reporting</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 One</i>



Day 2

0730 – 0930	Data Validation & Control Creating Dropdown Lists & Controlled Inputs • Preventing Incorrect Data Entry • Custom Validation Rules Using Formulas • Using Validation Alerts & Error Messages
0930 – 0945	Break
0945 – 1100	Basics of Analytical Tools in Excel Overview of Built-in Analytical Tools in Excel • Understanding the Analysis ToolPak • Preparing Datasets for Advanced Analysis • Selecting the Appropriate Analysis Technique
1110 - 1215	PivotTables for Complex Data Analysis Creating PivotTables from Large Datasets • Using PivotTables to Summarize & Group Data • Applying Filters Slicers & Timelines • Customizing PivotTable Calculations
1215 – 1230	Break
1230 – 1300	Advanced PivotTable Features Creating Calculated Fields & Calculated Items • Using Multiple Data Sources in PivotTables • Performing Advanced Aggregations & Summaries • Automating PivotTable Updates
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 Two

Day 3

0730 – 0930	Data Visualization with Advanced Charts Selecting Appropriate Charts for Analytical Purposes • Creating Combination & Secondary-axis Charts • Customizing Charts for Clarity & Presentation • Building Interactive Charts
0930 – 0945	Break
0945 – 1100	Using Power Query for Data Transformation Importing Data from Multiple Sources • Cleaning & Transforming Datasets with Power Query • Merging & Appending Datasets • Automating Data Preparation Workflows
1110 - 1215	Statistical Analysis with Excel Tools Descriptive Statistics for Data Interpretation • Correlation & Covariance Analysis • Regression Analysis for Trend Evaluation • Hypothesis Testing Basics
1215 – 1230	Break
1230 – 1300	What-If Analysis & Scenario Modeling Using Goal Seek for Target-based Analysis • Building Scenario Managers for Planning • Creating Data Tables for Sensitivity Analysis • Evaluating Different Decision Scenarios
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 Three



Day 4

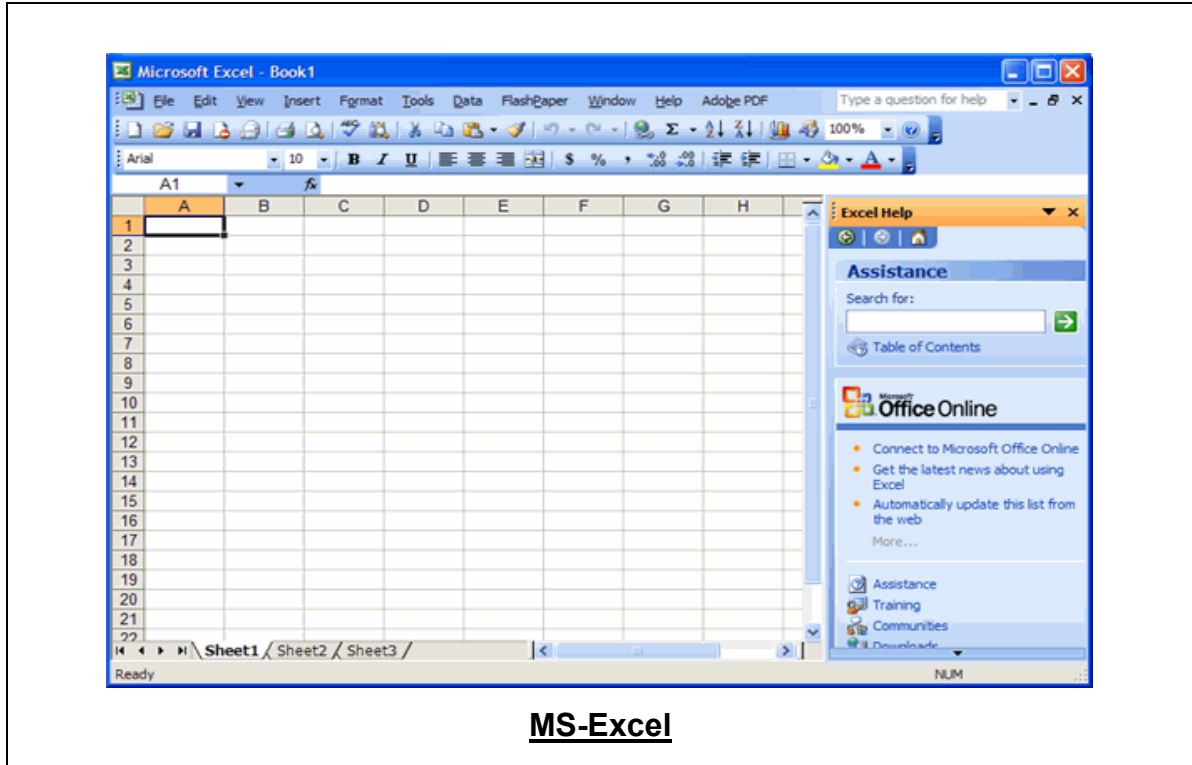
0730 – 0930	Advanced Data Modeling Techniques Structuring Data Models for Large Datasets • Creating Relationships Between Tables • Managing Structured References & Tables • Preparing Datasets for Analytical Modeling
0930 – 0945	Break
0945 – 1100	Power Pivot Understanding Power Pivot & Its Capabilities • Creating Relationships Across Multiple Datasets • Using the Data Model for Advanced Analysis • Managing Large-scale Datasets Efficiently
1110 - 1215	Data Analysis Expressions (DAX) Basics Understanding Calculated Columns & Measures • Writing Basic DAX Formulas • Using Aggregation Functions in DAX • Applying DAX for Analytical Insights
1215 – 1230	Break
1230 – 1300	Dashboard Design & Interactive Reporting Designing Effective Data Dashboards • Integrating PivotTables Charts & Slicers • Creating Interactive Visualizations • Presenting Analytical Results Clearly
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 Four

Day 5

0730 – 0830	Automation of Data Analysis Processes Automating Repetitive Tasks Using Macros • Recording & Editing Simple Macros
0930 – 0945	Break
0945 – 1100	Automation of Data Analysis Processes (cont'd) Automating Report Generation • Improving Workflow Efficiency
1100 – 1215	Data-Driven Decision Making Interpreting Analytical Results for Business Decisions • Communicating Insights Effectively
1215 – 1230	Break
1230 – 1300	Data-Driven Decision Making (cont'd) Identifying Trends & Opportunities • Applying Analysis to Strategic Planning
1345 – 1400	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 – 1415	POST-TEST
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 “MS-Excel” application.



Course Coordinator

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