

COURSE OVERVIEW GE0053

Seeing from Above: Remote Sensing & Photogrammetry

Course Title

Seeing from Above: Remote Sensing & Photogrammetry

Course Date/Venue

Session 1: February 24-28, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Session 2: July 27-31, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



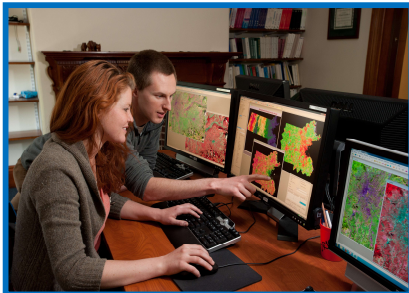
Course Reference

GE0053

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 our state-of-the-art simulators.



This course is designed to provide participants with a detailed and up-to-date overview of Arc-GIS Pro Geospatial Data Management. It covers the Geographic Information Systems (GIS) and their importance in utilities; the interface and basic functionalities of ArcGIS Pro; the best practices for data management including data importing and exporting; the coordinate systems and correct projections for utility-specific data; and the geodatabases, layer properties and symbology for better data visualization.



Further, the course will also discuss the advanced editing tools and topological rules; integrating data from multiple sources and automating repetitive tasks using ModelBuilder; the tools and techniques available in ArcGIS for spatial analysis; the utility networks for optimization of routes and services; the use of GIS for water resource management including watershed and flood analysis; the 3D mapping and analysis; the basics of Python scripting to automate spatial analysis tasks; and the advanced cartography and techniques for creating clear and informative maps including layout design and map elements.

During this interactive course, participants will learn the interactive maps and apps for internal use or public engagement; developing dashboards to monitor utilities and report key metrics effectively; the mobile GIS for field data collection and real-time updates; the best practices for sharing and securing geospatial data within and outside the organization; troubleshooting common GIS issues and developing custom tools in ArcGIS to address specific needs in utilities management; managing GIS projects including timelines, resource allocation and stakeholder communication; and integrating GIS with other IT systems in the utility sector for enhanced data utilization.

Course Objectives

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

- Apply and gain an in-depth knowledge on Arc-GIS Pro geospatial data management
- Discuss Geographic Information Systems (GIS) and their importance in utilities
- Describe the interface and basic functionalities of ArcGIS Pro as well as apply best practices for data management including data importing and exporting
- Recognize coordinate systems and apply correct projections for utility-specific data
- Create and manage geodatabases, add and modify layer properties and apply symbology for better data visualization
- Identify advanced editing tools, manage attributes effectively and perform table operations to streamline data
- Configure and maintain topological rules, integrate data from multiple sources and automate repetitive tasks using ModelBuilder
- Discuss the tools and techniques available in ArcGIS for spatial analysis
- Analyze utility networks for optimization of routes and services as well as use GIS for water resource management including watershed and flood analysis
- Illustrate 3D mapping and analysis and discuss the basics of Python scripting to automate spatial analysis tasks
- Apply advanced cartography and the techniques for creating clear and informative maps including layout design and map elements
- Create interactive maps and apps for internal use or public engagement and develop dashboards to monitor utilities and report key metrics effectively
- Carryout mobile GIS for field data collection and real-time updates and best practices for sharing and securing geospatial data within and outside the organization
- Troubleshoot common GIS issues and develop custom tools in ArcGIS to address specific needs in utilities management
- Manage GIS projects including timelines, resource allocation and stakeholder communication
- Integrate GIS with other IT systems in the utility sector for enhanced data utilization

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 a broad overview of Arc-GIS Pro geospatial data management for data editors, GIS analysis, GIS data designers, map designers and GIS desktop application developers. Further, the course also beneficial to GIS support – junior staff and fresh technicians from electricity planning department.

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.

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: -

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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. Amer AlKhatib, MSc, BSc, is a **Senior Engineer** with over **25 years** of integrated industrial experience and academic experience as a **University Professor**. His wide expertise lies extensively in the areas of **ArcGIS Data Management, Spatial Analysis, Spatial Data Management, Collecting & Evaluating Data, Data Integration & Quality Control, Alignment Techniques, Cartographic Planning Process & Design Principles, Editing Workflows & Geometry, Geographic Coordinate Systems, Advanced Symbology Techniques, Comparing Projections, Map Projections, Geographic Information System (GIS) & Remote Sensing, Advanced Operating Systems, Graphic Drawing, Advanced Digital Mapping, Digital Cartography, PC ARC/INFO System, Advanced Remote Sensing, Advanced Operating System, Graphic Drawing, Global Signing System, Global Positioning System (GPS), Web Mapping, Geodatabase Management, Engineering Survey, Building Geodatabase** and various softwares such as ArcGIS, Global Mapping, Google Earth Pro, Envi 4.2 and Terra Incognita.

During his career life, Mr. Amer has gained his practical and field experience through his various significant positions and dedication as the **University Professor** for various institutes and research centers like the Mutah University, Karak Governorate, Jordanian Computer Corner, Royal Jordanian Geographical Center, Information Advisory Association, Automatic Drawing Company and Graphic Information Systems Company.

Mr. Amer has a **Master** degree in **Information Systems** and a **Bachelor** degree in **Geography**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, seminars, courses, workshops and conferences globally.

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

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 - 0930	Overview of GIS: Introduction to Geographic Information Systems (GIS) & Their Importance in Utilities
0930 - 0945	Break
0945 – 1040	Getting Started with ArcGIS Pro: Understanding the Interface, Basic Functionalities & Setting Up a Project



1040 – 1135	Data Management Fundamentals: Best Practices for Data Management, Including Data Importing & Exporting
1135 - 1230	Coordinate Systems & Map Projections: Understanding Coordinate Systems & How to Apply Correct Projections for Utility-Specific Data
1230 – 1245	Break
1245 – 1335	Creating & Managing Geodatabases: Techniques for Effective Geodatabase Creation & Management to Store Spatial & Non-Spatial Data
1335 - 1420	Layer Management & Symbology: Basics of Adding & Modifying Layer Properties & Applying Symbology for Better Data Visualization
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 – 0830	Advanced Editing Tools: Using Advanced Tools for Editing Vector & Raster Data to Reflect Real-World Changes
0830 - 0930	Attribute Management & Table Operations: Methods for Managing Attributes Effectively & Performing Table Operations to Streamline Data
0930 – 0945	Break
0945 – 1040	Topology & Spatial Relationships: Configuring & Maintaining Topological Rules & Understanding Spatial Relationships Between Different Data Layers
1040 – 1135	Data Integration & Conversion: Techniques for Integrating Data from Multiple Sources & Converting Between Different Formats
1135 - 1230	Automating Tasks with Modelbuilder: Introduction to Automating Repetitive Tasks Using Modelbuilder
1230 – 1245	Break
1245 - 1420	Practical Exercise: Hands-On Data Editing Session Focused on Utility Infrastructure Mapping
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0830	Spatial Analysis: Understanding the Tools & Techniques Available in ArcGIS for Spatial Analysis
0830 - 0930	Network Analysis: Analyzing Utility Networks for Optimization of Routes & Services
0930 – 0945	Break
0945 – 1040	Hydrological Modeling: Using GIS for Water Resource Management, Including Watershed & Flood Analysis
1040 – 1135	3D Mapping & Analysis: Creating 3D Visualizations of Utility Assets for Enhanced Planning & Analysis
1135 - 1230	Using Python with ArcGIS: Basics of Python Scripting to Automate Spatial Analysis Tasks
1230 – 1245	Break
1245 - 1420	Case Study Discussion: Reviewing A Case Study on GIS Application in Utility Management
1420 – 1430	Recap
1430	Lunch & End of Day Three



Day 4

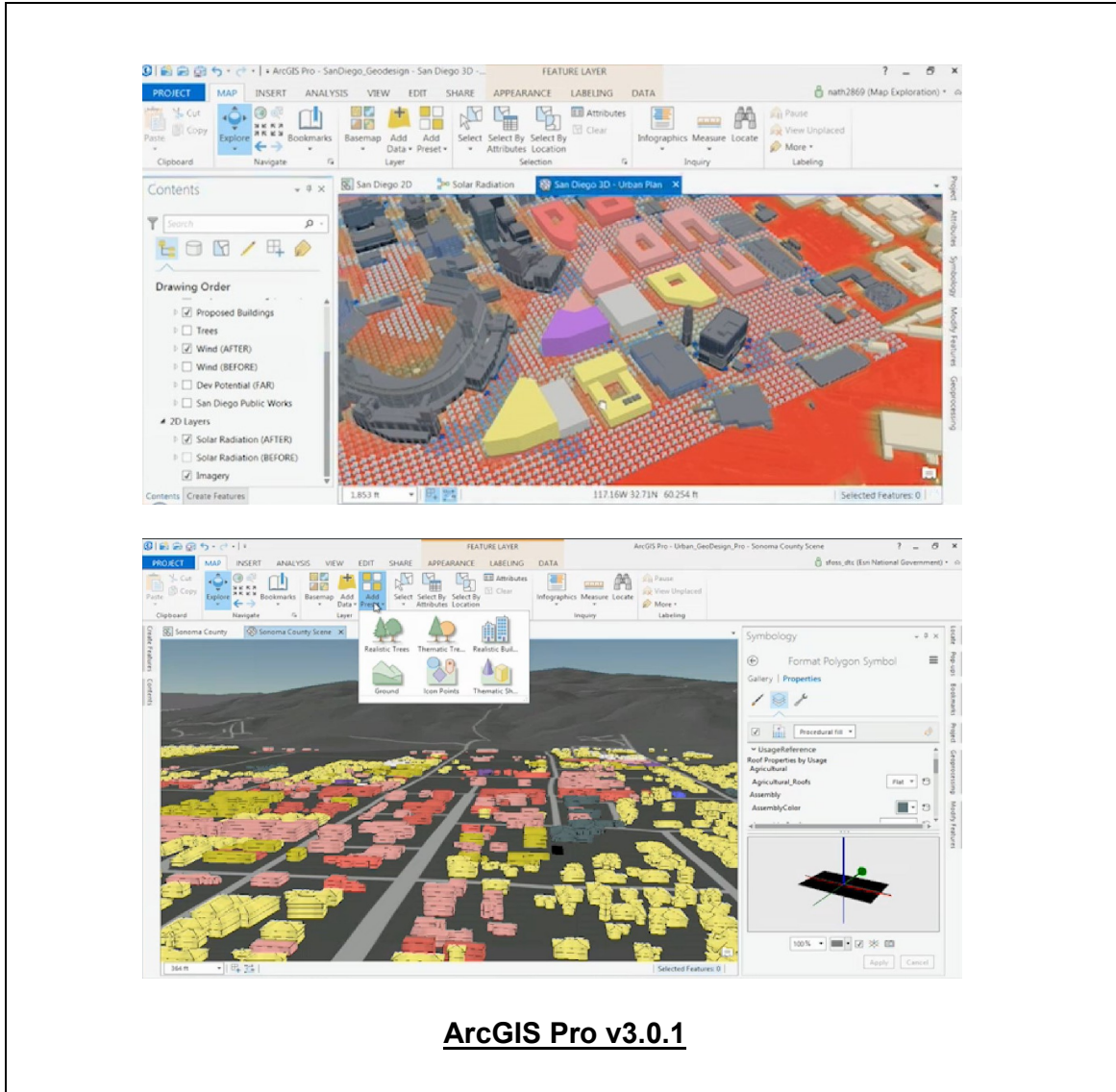
0730 – 0830	Advanced Cartography: Techniques for Creating Clear & Informative Maps, Including Layout Design & Map Elements
0830 - 0930	Interactive Maps & Apps: Creating Interactive Maps & Apps for Internal Use or Public Engagement
0930 – 0945	Break
0945 – 1040	Dashboards & Reporting: Developing Dashboards to Monitor Utilities & Report Key Metrics Effectively
1040 – 1135	Mobile GIS Applications: Leveraging Mobile GIS for Field Data Collection & Real-Time Updates
1135 - 1230	Spatial Data Sharing & Security: Best Practices for Sharing & Securing Geospatial Data Within & Outside the Organization
1230 – 1245	Break
1245 - 1420	Workshop: Participants Will Create a Complete Map from Scratch, Incorporating Data Layers, Analysis Results & Layout Design
1420 – 1430	Recap
1430	Lunch & End of Day Four

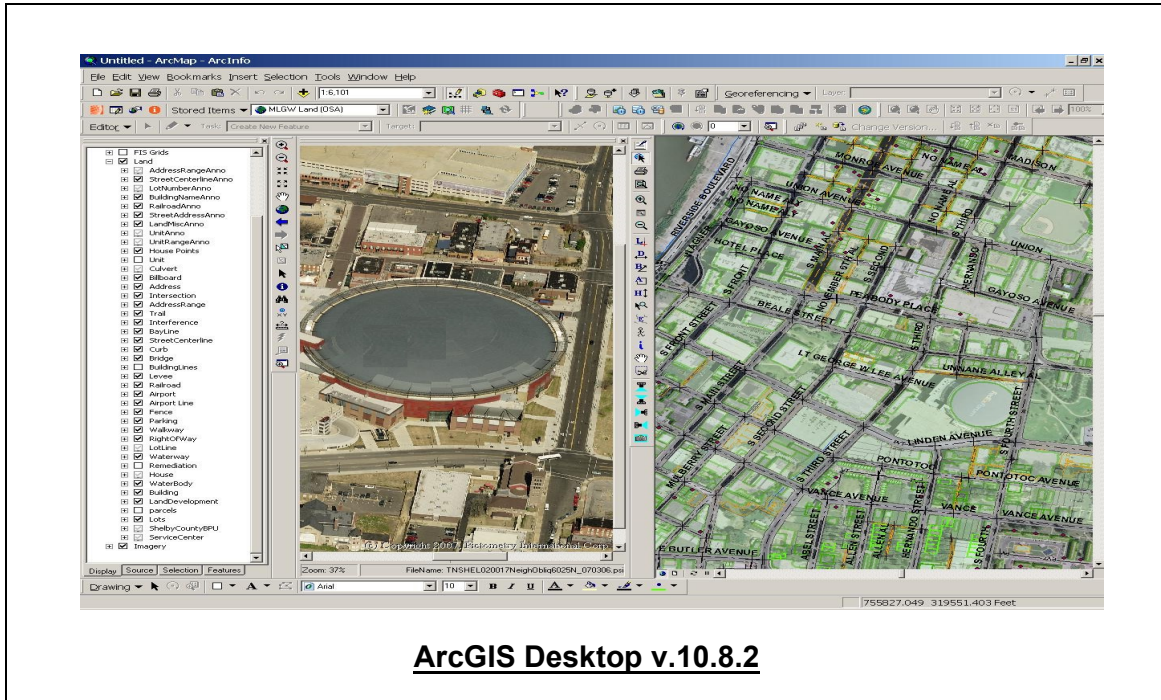
Day 5

0730 – 0830	Troubleshooting Common GIS Issues: Identifying & Resolving Common Issues Encountered in GIS Projects
0830 - 0930	Custom Tool Development: Developing Custom Tools in ArcGIS to Address Specific Needs in Utilities Management
0930 – 0945	Break
0945 – 1040	Project Management in GIS: Best Practices for Managing GIS Projects, Including Timelines, Resource Allocation & Stakeholder Communication
1040 – 1135	Integrating GIS with Other Systems: Techniques for Integrating GIS with Other IT Systems in the Utility Sector for Enhanced Data Utilization
1135 - 1230	Break
1230 - 1345	Group Project: Undertaking a Project That Involves Compiling, Analyzing & Presenting Data Relevant to Kahramaa’s Operations
1345 – 1400	Course Conclusion
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 the “ArcGIS Pro v3.0.1” and “ArcGIS Desktop v.10.8.2”.





Course Coordinator

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