



GE089: Business Analytics in GIS

Training Description:

This five-day training course explores how Geographic Information Systems (GIS) can be effectively integrated with **Business Analytics** (BA) to **enhance planning, decision-making** and **operational efficiency**. It covers geospatial data analysis, spatial modeling, business intelligence dashboards, and strategic planning through real-world case studies and hands-on exercises. Participants will gain the skills to derive actionable insights from spatial data for urban development, infrastructure projects, and resource management.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the fundamentals of GIS and its relevance to business and planning analytics
- ✓ Integrate spatial data with business data for insightful analytics
- ✓ Use spatial analysis and visualization techniques to solve planning challenges
- ✓ Create interactive GIS dashboards for monitoring and reporting
- ✓ Apply predictive models and spatial statistics for scenario analysis
- ✓ Make data-driven decisions using geospatial insights

Training Designed for:

This training course is intended for Planning Engineers, Urban and Infrastructure Planners, Data Analysts and GIS Specialists, Project Managers working in construction, utilities or transportation and Professionals involved in strategic development or location-based analysis.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ Introduction to GIS and Business Analytics
 - Overview of GIS and Business Analytics
 - Key Concepts: Spatial vs. Non-Spatial Data
 - Role of GIS in Business Intelligence and Planning
 - Tools and Software Overview: ArcGIS, QGIS, Power BI, Tableau
 - Geospatial Data Sources and Standards
 - Use Cases in Urban Planning and Engineering
- ❖ Exercises:
 - **Demo:** Navigating a GIS interface (QGIS/ArcGIS)
 - **Discussion:** Identifying spatial challenges in participants' projects

DAY TWO:

- ❖ Data Integration and Spatial Data Management

- Types of Spatial Data: Vector, Raster, and Tabular
- Data Collection Methods: GPS, Drones, Remote Sensing
- Integrating Business Data with GIS
- Geodatabase Design and Management
- Data Quality and Metadata Standards
- Spatial Joins and Attribute Linking

❖ **Exercises:**

- **Hands-on:** Creating and linking spatial and non-spatial datasets
- **Case Study:** Using GIS to visualize resource allocation

DAY THREE:

❖ **Spatial Analysis and Visualization**

- Thematic Mapping and Symbolology
- Spatial Querying and Buffer Analysis
- Hotspot and Cluster Analysis
- Overlay and Suitability Analysis
- Temporal and 3D Spatial Analysis
- Communicating Insights with Map Visualizations

❖ **Exercises:**

- **Practical Exercise:** Perform a proximity analysis
- **Group Work:** Create thematic maps for a planning scenario

DAY FOUR:

❖ **GIS Dashboards, Reporting, and Decision-Making Tools**

- Introduction to GIS Dashboards (ArcGIS Dashboard / Power BI with Maps)
- Real-time Data Visualization
- Creating Interactive Maps and Reports
- Integrating Business KPIs with Geospatial Data
- Scenario Planning and What-if Analysis
- Stakeholder Communication through Visual Tools

❖ **Exercises:**

- **Hands-on:** Build a dashboard showing project KPIs and map-based analytics
- **Peer Review:** Presenting spatial dashboards for feedback

DAY FIVE:

❖ **Advanced Applications and Project Work**

- Predictive Modeling and Spatial Forecasting
- Using Machine Learning with GIS
- Risk Mapping and Impact Analysis
- Planning for Smart Cities and IoT Integration
- Legal, Ethical, and Privacy Considerations in GIS Use
- Final Project Presentations and Feedback

❖ **Exercises:**

- **Capstone Project:** Analyze a planning challenge using GIS and BA tools
- **Group Presentations & Instructor Feedback**
- **Wrap-up Discussion:** Implementing GIS analytics in your organization

❖ **POST-ASSESSMENT and EVALUATION**

Assessment:

- Daily practical exercises
- Final Capstone GIS Analysis Project
- Peer Review and Instructor Evaluation

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA As per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Group and Corporate Discounts:

- We offer group and corporate discounts on many courses. These discounts are available for clients who want to maximize their return on investment.

Individual Discounts:

- We offer individual discounts on many courses for people who are self-sponsored and make their payment in full and upfront at the time of registration

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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