Geographic Information Systems (GIS) for Data Visualization Training Course

Professional Development Training Course Outline

Category	Research and Data Analysis	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In an era of data-driven decision-making, Geographic Information Systems (GIS) have emerged as powerful tools for interpreting complex datasets through spatial analysis and visually impactful storytelling. Geographic Information Systems (GIS) for Data Visualization Training Course empowers professionals, researchers, and decision-makers to transform raw geographic data into compelling, interactive maps and dashboards that reveal hidden patterns and insights. Leveraging cutting-edge tools like ArcGIS, QGIS, and web-based platforms, this course bridges the gap between spatial analytics and data visualization best practices.

With the growing demand for location intelligence, organizations in sectors such as urban planning, public health, logistics, disaster management, and agriculture are turning to GIS for strategic insights. This training offers hands-on, real-world learning through practical case studies, visual mapping techniques, and spatial data analytics, ensuring participants not only understand the theory but also apply GIS tools for storytelling, decision-making, and stakeholder engagement.

Programme Curriculum

Geographic Information Systems (GIS) for Data Visualization Training Course

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Course Objectives

1. Understand the core concepts and principles of GIS and spatial data visualization.
2. Analyze and interpret geospatial data using industry-standard GIS tools (ArcGIS, QGIS).
3. Create interactive and static maps for spatial data storytelling.
4. Apply spatial analysis techniques to solve real-world problems.
5. Visualize demographic, environmental, and economic data using GIS.
6. Integrate GIS with data dashboards and BI tools (Power BI, Tableau).
7. Utilize web-based mapping platforms for online data sharing and visualization.
8. Geocode addresses and visualize location-based datasets.
9. Build custom map applications using open-source tools.
10. Evaluate spatial patterns using heatmaps, clusters, and time series data.
11. Conduct GIS-driven decision-making in urban and rural planning.
12. Apply ethical standards in handling geospatial data.
13. Develop GIS project plans from data collection to visualization delivery.

Target Audiences

1. Urban and regional planners
2. Environmental analysts and scientists
3. Public health professionals
4. Government officials and policy makers
5. Researchers and academic scholars
6. Business intelligence analysts
7. Transportation and logistics managers
8. NGO and humanitarian project managers

Course Duration: 5 days

Course Modules

Module 1: Introduction to GIS and Data Visualization

- History and evolution of GIS
- Core GIS concepts: spatial vs. non-spatial data
- Types of GIS systems and software
- Basics of geospatial visualization
- Key tools and datasets for beginners
- *Case Study: Visualizing population growth in African cities*

Module 2: GIS Data Collection and Management

- Understanding raster and vector data
- GPS data collection techniques
- Data cleaning and validation
- Metadata and file formats
- Data repositories and import methods
- *Case Study: Agricultural land use mapping using GPS and satellite data*

Module 3: Spatial Analysis Fundamentals

- Buffering and overlay analysis
- Geocoding and address matching
- Network and proximity analysis
- Topology and spatial relationships
- Applying symbology to spatial patterns
- *Case Study: Emergency response planning for flood-prone areas*

Module 4: Interactive Mapping and Dashboarding

- Creating dynamic web maps
- Using ArcGIS Online and QGIS Plugins
- Linking GIS with Power BI and Tableau
- User interface customization
- Real-time data feed integration
- *Case Study: COVID-19 tracking dashboard with GIS integration*

Module 5: Remote Sensing and Satellite Imagery

- Basics of remote sensing
- Accessing and processing satellite imagery
- Land classification techniques
- Change detection and NDVI analysis
- Integrating imagery with vector data
- *Case Study: Deforestation monitoring in the Amazon*

Module 6: Thematic and Story Maps

- Creating engaging story maps
- Theme selection and layout design
- Data storytelling principles
- Multimedia integration (audio, video, images)
- Embedding maps into presentations and websites
- *Case Study: Story map of climate change impact in coastal areas*

Module 7: Open Source GIS Tools and Customization

- Introduction to QGIS and Leaflet.js
- Customizing layers and widgets
- Building simple web-based map apps
- Data scraping and web APIs
- Automation using Python in GIS
- *Case Study: Open-source spatial project for rural electrification*

Module 8: Ethics, Privacy, and Project Management

- Ethical handling of location data
- Data privacy laws and geospatial data
- Inclusive and responsible map-making
- Stakeholder engagement strategies
- Project lifecycle: Planning, execution, reporting
- *Case Study: Community mapping initiative for underserved populations*

Training Methodology

- Instructor-led virtual and in-person sessions
- Interactive demos and live GIS software walkthroughs

- Hands-on exercises and GIS mapping labs
- Peer collaboration and group mapping projects
- Real-world case studies and data visualization critiques
- Assessment through quizzes and final GIS project

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com