Training Course on Geospatial Analysis for Market Access and Logistics

Professional Development Training Course Outline

Category	Agriculture	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The "Geospatial Analysis for Market Access and Logistics" training course is a dynamic, data-driven program designed to equip professionals with practical skills in GIS mapping, spatial analytics, and logistical optimization. With the growing demand for efficient supply chains, last-mile delivery, and strategic market expansion, geospatial intelligence has become essential for decision-making in both public and private sectors. Training Course on Geospatial Analysis for Market Access and Logistics empowers learners to analyze geographic data, identify market opportunities, and streamline transportation logistics through real-time spatial analysis, predictive modeling, and smart mapping techniques. By blending theory with real-world applications, this course bridges the gap between geospatial technology and operational logistics.

Participants will master trending tools like QGIS, ArcGIS, and remote sensing technologies while exploring themes such as market accessibility, logistics network design, route optimization, and location intelligence. The course integrates sustainable development goals (SDGs), digital transformation, and infrastructure planning into geospatial analysis for holistic insights. Learners will engage with real case studies, interactive datasets, and location-based decision tools to solve real-life challenges related to transport bottlenecks, rural accessibility, urban market expansion, and emergency logistics. This industry-relevant training is vital for professionals working in transportation, trade facilitation, disaster response, agri-logistics, e-commerce, and economic planning.

Programme Curriculum

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Course Objectives

1. Understand the fundamentals of geospatial intelligence in market and logistics analysis
2. Apply GIS tools to visualize and interpret logistical networks
3. Utilize location analytics to optimize supply chain routes and reduce costs
4. Assess market accessibility in rural and urban areas using spatial data
5. Analyze transportation bottlenecks and recommend spatial solutions
6. Perform spatial demand forecasting using historical and real-time datasets
7. Design logistics networks using GIS-based site suitability analysis
8. Integrate remote sensing for terrain and infrastructure assessments
9. Use mobile GIS for field data collection and last-mile delivery planning
10. Explore public-private partnerships in infrastructure using spatial insights
11. Develop geospatial dashboards for decision-making in logistics
12. Incorporate climate and disaster risk data into logistics planning
13. Create data-driven reports for policy and investment in market access

Target Audiences

1. Logistics Managers and Transport Planners
2. Urban and Rural Development Experts
3. Supply Chain and Distribution Analysts
4. Government Policy Makers and Planners
5. Disaster Management and Humanitarian Response Teams
6. Trade Facilitation and Customs Officers
7. GIS Specialists and Data Analysts
8. Academics, Researchers, and Graduate Students

Course Duration: 10 days

Course Modules

Module 1: Introduction to Geospatial Technologies in Logistics

- Fundamentals of GIS and remote sensing
- Overview of spatial data types and sources
- Coordinate systems and projections
- Geospatial data preprocessing
- Basic mapping and visualization tools
- **Case Study: Use of GIS in DHL's delivery optimization**

Module 2: Market Access and Catchment Area Analysis

- Defining market boundaries using spatial buffers
- Accessibility models (gravity and Huff models)
- Service area delineation with network analyst
- Spatial inequality and underserved areas
- Targeting interventions for rural markets
- **Case Study: Mapping health market access in sub-Saharan Africa**

Module 3: Logistics Network Design Using GIS

- Concepts of network analysis in logistics
- Identifying optimal routes and hubs
- Facility location modeling
- GIS-based supply chain visualization
- Impact of traffic and terrain on network performance
- **Case Study: GIS-led redesign of cold chain logistics in India**

Module 4: Remote Sensing Applications in Logistics Planning

- Basics of remote sensing and satellite imagery
- Land cover classification for infrastructure assessment
- Detecting road conditions using imagery
- Terrain modeling with DEMs
- Integrating remote sensing with GIS for logistics
- **Case Study: Monitoring roads and landslides in Nepal with Sentinel data**

Module 5: Spatial Demand Forecasting and Trend Analysis

- Analyzing population density and growth trends
- Forecasting service demand based on spatial variables
- Heatmaps and interpolation techniques
- Historical trend analysis
- Combining economic indicators with spatial layers
- **Case Study: Retail site selection using spatial demand analytics**

Module 6: Route Optimization and Cost Minimization

- Vehicle routing problem (VRP) models
- Shortest vs fastest routes
- Real-time traffic and time windows
- Delivery scheduling with GIS
- Fuel cost and carbon emission analysis
- **Case Study: UPS ORION GIS-based delivery optimization**

Module 7: Mobile GIS and Field Data Collection

- Tools for mobile GIS (e.g., Survey123, Collector)
- Setting up forms and offline data capture
- Real-time syncing and monitoring
- Geotagged photo and audio documentation
- Field logistics planning and monitoring
- **Case Study: Mobile GIS for vaccine delivery in Nigeria**

Module 8: Infrastructure and Road Network Mapping

- Digitizing and classifying road types

- Infrastructure inventory management
- Evaluating road connectivity and quality
- Public transportation mapping
- Urban vs rural transport access
- **Case Study: Road quality assessment for World Bank rural projects**

Module 9: GIS for Emergency Logistics and Humanitarian Response

- Mapping vulnerable populations
- Disaster response logistics planning
- Routing for emergency supplies
- Real-time situation mapping (drones, mobile apps)
- Shelter and aid location planning
- **Case Study: GIS in Haiti earthquake response**

Module 10: Spatial Analysis for E-Commerce Logistics

- Customer distribution analysis
- Warehouse placement optimization
- Last-mile delivery challenges
- Reverse logistics planning
- Integration with CRM and ERP systems
- **Case Study: Amazon's geospatial logistics infrastructure**

Module 11: GIS in Trade and Customs Facilitation

- Mapping cross-border logistics corridors
- Customs infrastructure and bottlenecks
- Risk profiling and route scanning
- GIS for trade efficiency monitoring
- Port-to-market analysis
- **Case Study: GIS-enabled customs tracking in East Africa**

Module 12: Environmental Risk Mapping in Logistics

- Flood and landslide risk assessment
- Climate resilience in supply chains
- Hazard zoning and evacuation routing
- Resilient infrastructure planning
- Integrating risk maps in logistics systems
- **Case Study: Flood logistics risk mapping in Bangladesh**

Module 13: Interactive Geospatial Dashboards for Decision Making

- Designing dashboards with ArcGIS Online/Power BI
- Custom indicators and metrics
- Linking live data streams
- User accessibility and permissions
- Decision support for managers and policymakers
- **Case Study: Transport dashboard for COVID-19 logistics**

Module 14: Data Ethics, Security, and Spatial Governance

- Ethical use of location data
- Privacy laws and geospatial tracking
- Secure storage of spatial datasets

- Licensing and open data policies
- Promoting spatial data governance frameworks
- **Case Study: GDPR compliance in logistics mapping in Europe**

Module 15: Capstone Project and Application Lab

- Define a logistics or market access problem
- Design a GIS-based solution framework
- Apply tools learned across modules
- Create a map-based report or dashboard
- Present solution to instructors and peers
- **Case Study: Student-led GIS project on rural logistics in Kenya**

Training Methodology

- Instructor-led lectures with real-time demonstrations
- Hands-on lab sessions using ArcGIS, QGIS, and mobile tools
- Guided analysis of real-world case studies
- Group assignments and capstone project presentations
- Peer-reviewed feedback and professional mentoring
- Access to datasets, templates, and support materials

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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