ArcGIS Pro Applications in Construction Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

ArcGIS Pro Applications in Construction Training Course is designed to equip engineers, surveyors, construction managers, GIS professionals, project planners, architects, and infrastructure specialists with advanced geospatial skills for modern construction projects. As the construction industry rapidly adopts Building Information Modeling (BIM), Digital Twins, Smart Construction, UAV Mapping, Geospatial Analytics, AI-driven Site Monitoring, Reality Capture, and Infrastructure Asset Management, ArcGIS Pro has become an essential platform for integrating spatial intelligence into project planning, execution, monitoring, and decision-making. Participants will gain practical experience in creating, analyzing, and managing geospatial data that enhances project accuracy, reduces construction risks, improves resource allocation, and supports sustainable infrastructure development.

The course combines theoretical knowledge with intensive practical exercises using ArcGIS Pro, 3D GIS Visualization, Construction Site Mapping, Spatial Data Analysis, Remote Sensing, GPS Integration, LiDAR Processing, Drone Imagery, Geodatabase Management, and Web GIS Applications. Through real-world case studies from roads, bridges, railways, buildings, utilities, mining, airports, and smart city developments, participants will develop industry-ready competencies for delivering data-driven construction projects. Upon completion, learners will be capable of integrating GIS technologies throughout the construction project lifecycle to improve efficiency, quality assurance, environmental compliance, and strategic planning.

Programme Curriculum

ArcGIS Pro Applications in Construction Training Course

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5 days

Course Objectives

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

1. Master ArcGIS Pro for construction planning and project management.
2. Develop professional Construction GIS Databases for infrastructure projects.
3. Apply Spatial Analysis to optimize construction site selection and planning.
4. Integrate Drone Mapping (UAV) and orthomosaic imagery into ArcGIS Pro.
5. Utilize LiDAR Point Cloud Processing for terrain and earthwork analysis.
6. Perform advanced 3D GIS Modeling for infrastructure visualization.
7. Implement BIM-GIS Integration for digital construction workflows.
8. Conduct Construction Risk Assessment using geospatial analytics.
9. Analyze project progress using Remote Sensing and Satellite Imagery.
10. Design interactive GIS Dashboards for project monitoring.
11. Implement Digital Twin Technologies for infrastructure asset management.
12. Publish Web GIS Applications for collaborative construction management.
13. Apply AI-powered Geospatial Analytics to improve construction decision-making.

Target Audience

1. Civil Engineers
2. Construction Project Managers
3. GIS Analysts and GIS Specialists
4. Surveyors and Geomatics Engineers
5. Architects and Urban Planners
6. Infrastructure and Utility Engineers
7. Environmental and Land Development Professionals
8. Government Agencies, Contractors, and Engineering Consultants

Course Modules

Module 1: Introduction to ArcGIS Pro for Construction

- ArcGIS Pro Interface and Navigation
- Construction GIS Concepts
- Coordinate Systems and Projections
- Importing Construction Spatial Data
- Project Organization and Data Management
- **Case Study:** Road Corridor Development GIS Project

Module 2: Construction Data Management

- Geodatabase Design
- CAD to GIS Integration
- Data Quality Control
- Attribute Management
- Versioning and Editing Workflows
- **Case Study:** Urban Highway Construction Database Development

Module 3: Site Analysis and Planning

- Terrain Analysis
- Suitability Analysis
- Hydrological Modeling
- Environmental Constraints Mapping
- Earthwork Volume Calculations
- **Case Study:** Industrial Park Site Selection

Module 4: UAV, Drone and Remote Sensing Applications

- Drone Image Processing
- Orthomosaic Creation
- LiDAR Integration
- Change Detection Analysis
- Progress Monitoring
- **Case Study:** Construction Progress Monitoring Using UAV Data

Module 5: 3D GIS and BIM Integration

- 3D Scene Creation
- Digital Surface Models
- BIM Import into ArcGIS Pro
- Infrastructure Visualization
- Reality Capture Integration
- **Case Study:** Bridge Construction Digital Twin

Module 6: Construction Project Monitoring

- GIS Dashboards
- Workforce Mapping
- Equipment Tracking

- Material Logistics Analysis
- Construction Risk Mapping
- **Case Study:** Smart Highway Project Monitoring Dashboard

Module 7: Web GIS and Infrastructure Asset Management

- Publishing Web Maps
- ArcGIS Online Integration
- Asset Inventory Management
- Utility Network Mapping
- Mobile GIS Applications
- **Case Study:** Municipal Water Infrastructure Management

Module 8: Advanced Construction GIS Analytics

- Spatial Statistics
- AI-assisted GIS Analysis
- Predictive Maintenance Mapping
- Machine Learning Applications
- Decision Support Systems
- **Case Study:** Smart City Infrastructure Planning

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

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
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