Cadastral Surveying 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

Cadastral Surveying Training Course is designed to build advanced expertise in land administration, digital cadastral mapping, geospatial technology, and precision surveying practices. The course focuses on modern cadastral data management, boundary determination, land parcel identification, GIS integration, GNSS surveying, drone mapping, and smart land governance solutions. Participants will gain practical knowledge of 2D and 3D cadastral systems, digital transformation in land records, spatial databases, and international cadastral standards to support efficient land management, urban planning, infrastructure development, and sustainable resource management.

This comprehensive training combines theory, field applications, advanced surveying technologies, and real-world case studies to develop professional capabilities in land surveying, cadastral database creation, geospatial analytics, and legal land documentation. Learners will explore industry best practices using Total Station, RTK GNSS, UAV photogrammetry, LiDAR, GIS platforms, and cloud-based geospatial solutions. The course prepares surveyors, GIS professionals, engineers, planners, and land administrators to manage modern cadastral projects aligned with digital land governance, smart cities, and global geospatial trends.

Programme Curriculum

Cadastral Surveying Training Course

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Course Duration

5 days

Course Objectives

1. Develop advanced skills in modern cadastral surveying techniques and digital land mapping.
2. Understand land administration frameworks, cadastral principles, and property boundary management.
3. Apply GNSS, RTK positioning, and satellite-based surveying technologies for accurate parcel mapping.
4. Master GIS-based cadastral database development and spatial data management.
5. Learn Total Station surveying workflows and precision measurement techniques.
6. Understand UAV drone mapping and photogrammetric approaches for cadastral applications.
7. Explore 3D cadastral modeling and smart land information systems.
8. Develop expertise in digital cadastral workflows and automated mapping solutions.
9. Apply remote sensing and LiDAR technologies for land information management.
10. Interpret land records, legal boundaries, and cadastral documentation standards.
11. Implement quality control, accuracy assessment, and survey validation methods.
12. Analyze global trends in e-governance, smart cities, and geospatial infrastructure development.
13. Build professional capability for future-ready cadastral systems and sustainable land management.

Target Audience

1. Land Surveyors.
2. GIS Professionals.
3. Civil Engineers.
4. Urban Planners.
5. Government Land Officers
6. Real Estate Professionals.
7. Remote Sensing Specialists.
8. Students and Researchers.

Course Modules

Module 1: Fundamentals of Cadastral Surveying and Land Administration

- Introduction to cadastral systems, land parcels, and property boundaries.
- Principles of land registration and cadastral frameworks.
- Overview of multipurpose cadastre and land information systems.
- Understanding cadastral maps, plans, and survey documentation.
- Global cadastral standards and best practices.
- Case Study: Netherlands Kadaster System

Module 2: Advanced Surveying Instruments and Field Data Collection

- Practical applications of Total Station surveying technology.
- High-precision measurements using RTK GNSS systems.
- Field control networks and survey benchmarks.
- Data collection workflows for cadastral mapping.
- Accuracy standards and quality assurance procedures.
- Case Study: Singapore Land Surveying Framework

Module 3: GNSS Technology and Precision Positioning

- Fundamentals of GPS, GNSS, and satellite positioning systems.
- RTK and Network RTK surveying techniques.
- Coordinate systems, projections, and transformations.
- GNSS data processing and accuracy improvement.
- Applications of satellite positioning in cadastral projects.
- Case Study: Australia Digital Cadastre Program

Module 4: GIS-Based Cadastral Mapping and Database Management

- Creating digital cadastral maps using GIS platforms.
- Spatial database design and attribute management.
- Geodatabase development for land information systems.
- GIS analysis for land administration decisions.
- Web GIS and cloud-based cadastral applications.
- Case Study: Estonia E-Land Administration System

Module 5: UAV Drone Surveying and Photogrammetry Applications

- Introduction to drone-based cadastral mapping workflows.
- UAV image acquisition and processing.
- Orthophoto generation and parcel mapping.
- Photogrammetric accuracy assessment.
- Drone applications in rapid land surveying.
- Case Study: Rwanda Drone Mapping Initiative

Module 6: Remote Sensing, LiDAR, and 3D Cadastral Modeling

- Satellite imagery applications in cadastral surveying.
- LiDAR data processing for terrain information.
- Development of 3D cadastral models.
- Digital twins and smart city applications.
- Integration of multiple geospatial datasets.
- Case Study: Switzerland 3D Cadastre Project

Module 7: Legal Cadastral Surveying and Land Boundary Management

- Legal principles of boundary identification.
- Land ownership documentation processes.
- Resolving boundary disputes using survey evidence.
- Cadastral legislation and professional ethics.
- Survey reporting and documentation standards.
- Case Study: United Kingdom Land Registry System

Module 8: Future Trends in Cadastral Surveying and Smart Land Governance

- Artificial Intelligence (AI) applications in cadastral mapping.
- Blockchain technology for secure land records.
- Smart city geospatial infrastructure.
- Automated feature extraction and machine learning.
- Future-ready digital cadastral ecosystems.
- Case Study: Dubai Smart City Geospatial Platform

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
28 Sep 2026	02 Oct 2026	Online	$1,000
28 Sep 2026	02 Oct 2026	Physical	$1,500
28 Sep 2026	02 Oct 2026	Physical	$0
28 Sep 2026	02 Oct 2026	Physical	$0
28 Sep 2026	02 Oct 2026	Physical	$0
28 Sep 2026	02 Oct 2026	Physical	$0
28 Sep 2026	02 Oct 2026	Physical	$0
28 Sep 2026	02 Oct 2026	Physical	$0

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

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