GPS 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

GPS Surveying Training Course is a comprehensive professional program designed to develop advanced skills in Global Positioning System (GPS) technology, GNSS surveying, geospatial data collection, precision mapping, and modern land surveying techniques. This industry-focused training equips participants with practical knowledge of RTK GPS, static surveying, differential GPS (DGPS), drone mapping integration, GIS workflows, and high-accuracy positioning solutions used in construction, infrastructure development, mining, agriculture, environmental monitoring, and smart city projects. With the growing demand for digital transformation, geospatial intelligence, and location-based technologies, GPS surveying expertise has become an essential skill for modern surveyors, engineers, and GIS professionals.

This course combines theory, field-based practical training, advanced surveying software applications, and real-world project simulations to help participants master accurate data acquisition, processing, analysis, and reporting. Through hands-on exercises and industry case studies, learners gain confidence in using GNSS receivers, total station integration, GIS platforms, coordinate systems, survey adjustment techniques, and precision positioning technologies. The program prepares professionals to meet current market requirements in smart infrastructure, geospatial engineering, precision agriculture, and next-generation surveying applications.

Programme Curriculum

GPS Surveying Training Course

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Course Duration

5 days

Course Objectives

1. Develop expertise in GPS and GNSS surveying technologies for professional applications.
2. Understand advanced concepts of satellite positioning systems and geospatial accuracy management.
3. Master practical operation of RTK GPS and DGPS surveying equipment.
4. Learn advanced field data collection and digital surveying workflows.
5. Apply coordinate systems, projections, and geospatial reference frameworks.
6. Perform accurate topographic surveys, boundary surveys, and engineering surveys.
7. Understand integration of GPS surveying with GIS and remote sensing technologies.
8. Improve skills in survey data processing, analysis, and visualization.
9. Learn industry standards for precision mapping and infrastructure projects.
10. Develop capability in GNSS network surveying and real-time corrections.
11. Apply GPS technology in smart cities and digital construction environments.
12. Understand emerging trends in AI-powered surveying and geospatial automation.
13. Build professional competency for global surveying and geoinformatics careers.

Target Audience

1. Land Surveyors and Assistant Surveyors
2. Civil Engineers and Construction Professionals
3. GIS Specialists and Geospatial Analysts
4. Mapping and Cartography Professionals
5. Mining and Exploration Engineers
6. Urban Planning and Smart City Professionals
7. Agriculture and Environmental Monitoring Specialists
8. Students and Professionals seeking careers in Geomatics

Course Modules

Module 1: Fundamentals of GPS and GNSS Surveying

- Introduction to **GPS, GNSS, satellite navigation, and positioning principles**
- Understanding satellite signals, errors, and accuracy factors
- Overview of GPS surveying equipment and components
- Coordinate systems, datums, and geodetic concepts

- **Case Study:** GPS applications in highway and infrastructure development projects

Module 2: GPS Surveying Equipment and Field Operations

- Operation of modern **GNSS receivers and survey controllers**
- Setting up GPS base stations and rover systems
- Field data collection procedures and quality control
- Survey planning and satellite visibility analysis
- **Case Study:** RTK GPS implementation for construction site control networks

Module 3: RTK GPS and Differential Surveying Techniques

- Principles of **Real-Time Kinematic (RTK) positioning**
- Static, rapid-static, and kinematic survey methods
- Network RTK and correction services
- Improving accuracy through advanced field techniques
- **Case Study:** Precision RTK surveying for bridge construction alignment

Module 4: GNSS Data Processing and Adjustment

- Downloading and managing GPS observation data
- Processing GNSS measurements and survey adjustments
- Error correction and accuracy assessment
- Generating professional survey reports
- **Case Study:** GNSS data processing for cadastral mapping projects

Module 5: GPS Integration with GIS and Remote Sensing

- Connecting GPS data with **GIS platforms and spatial databases**
- Creating digital maps from GPS survey data
- GPS applications in remote sensing workflows
- Mobile GIS data collection techniques
- **Case Study:** GIS-based utility mapping using GPS technology

Module 6: Advanced Surveying Applications

- GPS applications in construction and engineering surveys
- Mining, agriculture, and environmental monitoring applications
- Drone and UAV mapping integration with GPS
- Machine control and automated construction surveying
- **Case Study:** GPS-guided precision agriculture monitoring project

Module 7: Modern Geospatial Technologies and Industry Trends

- Introduction to **AI, automation, and smart surveying solutions**
- Digital twins and 3D geospatial modeling
- Cloud-based surveying data management
- IoT and location intelligence applications
- **Case Study:** Smart city development using GNSS and GIS technologies

Module 8: Professional GPS Surveying Project

- Complete GPS surveying workflow from planning to reporting

- Field data collection and accuracy verification
- Processing and visualization of survey outputs
- Preparing professional technical documentation
- **Case Study:** Complete land development project using GPS surveying methods

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