

GPS General Training and Software Applications Training

Description

Course Description

This course is an easy-to-understand introduction to using GPS and digital maps. It is a mixture of classroom activity and practical exercises using GPS with waypoints and routes downloaded from a digital map system. Basic GPS safety techniques will also be considered as well as how to choose a GPS that is right for your needs.

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All the jargon and technical features will be explained as we go along and you'll get handouts to refer to when you get home.

Although most of the learning points of the course are easily transferable to other products and brands, please note that there is usually not enough time to address specific product-related questions that are outside the scope of the course.

Course Objective

The aim of the Course is that you will leave the course with the skills to use a GPS confidently and safely at a basic level and understand the advantages of linking it to a digital mapping system. You will download and uploading routes and tracks between GPS and three-dimensional digital map systems with the opportunity to design and walk some routes and practice the skills that have been learnt.

Course Outline

What is a GPS?

- How does it work? How accurate is it? WAAS and EGNOS enabling
- Ordnance Survey National Grid and grid references; GPS 10 digit references
- GPS – buttons & main pages; battery; power; display; etc.
- Setting up the GPS – position format; map datum; north reference; etc.
- Finding your position: GPS vs. map & compass
- Waypoints: mark; manually enter; download

- Finding your destination: Navigating using a GPS; Go to – get ‘lost’ and find destination exercise
- Routes: manually create and delete; navigating a route exercise; creating a track log
- Digital maps: what’s available; what they will do; different map views
- Choosing a GPS to fit user needs
- Introduction to safety issues when using a GPS
- Future trends in GPS & digital maps.
- Consideration of elements of Naismith’s rule as a feature of Memory-Map software
- Converting tracks to routes
- Downloading and uploading data between digital map and GPS
- The ‘Compass’/’Navigate’ page – setting it up and using the features
- The ‘Map’ screen – setting it up and using the features
- Navigation of planned route using relevant GPS information to assist you
- Reviewing track performance; saving and deleting routes and track log
- Setup and manage tracklog
- Navigation of route using TracBack features
- International position formats, map datums and sources of worldwide information
- The latest developments of GPS for the outdoors – how useful are they?

Trimble Resources

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- Other Resources
- GIS Overview
- Forms of GIS Data Collection
- GPS Overview
- Code Differential GPS
- Carrier Phase Differential GPS
- System Accuracy
- Correction Methods

Mapping Projects

- Five Steps of a Project
- System Components
- Data DictionaryCreation
- Using QuickPlan
- Creating Satellite Visibility Graphs

Data logger Configuration Data Collection

Source of Base Station Files

- Asset Surveyor Configuration
- Configuring the TSC-1 Data logger
- Satellite Tracking Information
- Field Techniques
- Data Collection Options

Post processing

- Project from Start-to-Finish
- Setting Parameters in Pathfinder Office
- Data Transfer
- Differential Correction Techniques
- Display/Edit/Plot GPS Data
- Using the SSF Editor
- Additional Pathfinder Office Functions
- GIS Export
- GIS Import
- Using the Batch Processor

Review of Data Collection and Field Procedures

- Preparing for the Field
- Real-Time Setup

Field Session Two

Postprocessing

- Pathfinder Office Postprocessing
- Data Editing Techniques
- Data Statistical Analysis
- Discuss Field Session Strategies

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Waypoint Manager

- Using the Waypoint Manager
- Creating a Waypoint File
- Navigation Techniques