

Geomatics Course Catalog

Course Title	Course Description	Duration (Days)
Fundamentals of GPS Data Collection	<p>This course provides the introduction of using GPS in terms of data collection and integrating GIS with GPS. Participants will have the chance in using different GPS devices on field and manipulate the data collected according to its various data accuracy.</p> <p><i>Objective: After completion of the course, participants will be able to:</i></p> <ol style="list-style-type: none"> 1. <i>Understand the background and basics of GPS.</i> 2. <i>Fundamental Theory of and techniques of positioning in GPS.</i> 3. <i>Identify types of GPS equipment in terms of positioning accuracy for its purpose.</i> 4. <i>Proceed with data collection with GPS and apply into GIS.</i> <p><i>Pre-requisite: Introduction to GIS</i></p> <p>Course Outline:</p> <ul style="list-style-type: none"> • Chapter 1: Introduction to GPS <ul style="list-style-type: none"> ▪ What is GPS? ▪ Why use GPS? ▪ GPS Satellites ▪ GPS Signals ▪ Monitoring Station for GPS Satellites ▪ General Usage of GPS • Chapter 2: Theory of Locating a Positioning <ul style="list-style-type: none"> ▪ Concepts of Positioning • Chapter 3: GPS Positioning Technique <ul style="list-style-type: none"> ▪ Introduction ▪ Pseudoranges ▪ Carrier Phase • Chapter 4: Errors in GPS <ul style="list-style-type: none"> ▪ Errors in Satellite ▪ Errors in Atmospheric Propagation ▪ Errors in Receivers ▪ Multipath Errors ▪ Ambiguity Initialization Errors ▪ Summary Figures for Error Budgeting ▪ Removal of Errors • Chapter 5: Using Garmin Handheld GPS <ul style="list-style-type: none"> ▪ Introduction ▪ Steps involves in using the Device ▪ Data Transfer ▪ Finding Location • Chapter 6: Using Leica GS20 GPS <ul style="list-style-type: none"> ▪ Introduction ▪ About Leica GS20 ▪ Working with Leica GIS DataPRO • Chapter 7: Advantages and Disadvantages of using GPS <ul style="list-style-type: none"> ▪ Advantages ▪ Disadvantages 	3