

GEOMATICS TRAINING CATALOGUE



ORACLE[®]



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Contents

- 3 About the Geomatics Training
- Training Catalogue**
- 4 Introduction to GIS and Remote Sensing
- 5 Working with ArcGIS Desktop
- 6 Fundamentals of GPS Data Collection
- 7 Working with gvSIG
- 8 Working with ArcGIS Spatial Analyst
- 9 Working with ArcGIS 3D Analyst
- 10 Introduction to GIS Analysis and Modeling
- 11 Introduction to ORACLE SQL *Plus
- 12 ORACLE Database : Administration
- 13 MySQL : Administration
- 14 MS SQL Server : Administration
- 15 Working with CRYSTAL reports
- 16 Working with ArcSDE using ArcInfo
- 17 ArcSDE Administration for ORACLE
- 18 Introduction to ArcGIS Server
- 19 ArcGIS Server Enterprise Administration for ORACLE

For Bookings, Fees and Training programme, please contact:

SAINS Training Centre

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GIS applies a scientific process to the tasks for which it is used. Proper education and training are essential to successfully using GIS. As part of our commitment to our customers, we provide professional training in GIS solutions to ensure you get hands-on knowledge of the solutions you invest in. All our training is hands-on and is conducted by our experienced trainers.

All training courses will be held in SAINS Training Center in Kuching. If required, training can be provided on the customer's premises. Conditions apply.

Certificates of Attendance will be presented upon completion of course.

WHO SHOULD ATTEND

The courses are suitable for all working adults.

- Executives
- Government Officers
- Professionals
- Administrative and Support Staffs

METHODOLOGY

- Screen Projection
- Lecturing
- Practical
- Workshop



SBL Scheme Claimable
(Subject to HRDC approval)

Pembangunan Sumber
Manusia Berhad

ABOUT SAINS

SAINS was formed in 1991 and has grown to be one of the leading system integrators and solution providers in Malaysia with services ranging from IT consultancy, software development, networking, systems engineering, project management, IT training, data conversion, multimedia content development, facility management and operations support. Information on SAINS can be found at <http://www.sains.com.my>.

INTRODUCTION TO GIS AND REMOTE SENSING

Training code: GL1-01

OVERVIEW

This course covers the definition of Geomatics, geographical knowledge, modeling of spatial data and information, the latest technology used to develop the system, and the benefits of applying GIS in organizations or companies. It will equip participants with the methodology of GIS planning. A good starting point for those who wish to venture into the world of GIS or implement GIS within their organization.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand GIS and GIS components.
- Understand GIS history, and how GIS was used before the advance of computer technologies.
- Understand how to perform GIS functions.
- Understand how to manage GIS data.

FACILITIES

- LCD Projector
- Personal Computer

COURSE CONTENTS

Day 1	Lesson 1	What is GIS
	Lesson 2	Analysis
	Lesson 3	GIS Implementation
	Lesson 4	Data Management
Day 2	Lesson 5	Data Quality
	Lesson 6	Data Integrity
	Lesson 7	GIS and the Internet
	Lesson 8	ESRI Open GIS Concept

Duration : 2 Days

WORKING WITH ArcGIS DESKTOP

Training code: GL2-01

OVERVIEW

This course introduces the fundamentals of using ArcGIS Desktop applications. It also covers capturing data, analyzing GIS data, layout design, and data management in ArcInfo.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Have an overview of ArcGIS and its components.
- Use the basic functionality of the ArcGIS Application to produce a map.
- Create shapefiles as well as a geodatabase.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction To GIS
	Lesson 2	ArcGIS Desktop
	Lesson 3	Exploring ArcCatalog
	Lesson 4	Exploring ArcMap
Day 2	Lesson 5	Adding Fields, Data & Labels
	Lesson 6	Layout View
	Lesson 7	Georeferencing
	Lesson 8	Hyperlink
Day 3	Lesson 9	Geodatabase
	Lesson 10	Annotation in Geodatabase
	Lesson 11	Dimension

Duration : 3 Days

FUNDAMENTALS OF GPS DATA COLLECTION

Training code: GL2-02

OVERVIEW

This course is an introduction to using GPS in terms of data collection and integrating GIS with GPS. Participants will have the chance to use different GPS devices in the field and manipulate the data collected according to its respective data accuracy.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand the background and basics of GPS.
- Understand theory of and techniques of positioning in GPS.
- Identify types of GPS equipment in terms of positioning accuracy and purpose.
- Proceed with data collection using GPS and apply it to GIS.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software
- GPS Devices

COURSE CONTENTS

Day 1	Lesson 1	Introduction to GPS
	Lesson 2	Theory of Locating a Positioning
	Lesson 3	GPS Positioning Technique
Day 2	Lesson 4	Errors in GPS
	Lesson 5	Using Garmin Handheld GPS
Day 3	Lesson 6	Using Leica GS20 GPS
	Lesson 7	Advantages and Disadvantages of using GPS

Duration : 3 Days

WORKING WITH gvSIG

Training code: GL2-03

OVERVIEW

This course provides the participants with the knowledge to use gvSIG to perform GIS tasks, such as GIS digitising / editing, display, query, analysis and layout design. The participants will be provided on-the-job related GIS data sources to perform the tasks, encouraging them to relate training activities to their office environment and enabling them to use gvSIG to improve their work function.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand GIS concepts, data types and formats, and coordinate the system.
- Perform GIS tasks using gvSIG.
- Prepare GIS data
- Produce and print GIS maps

FACILITIES

- LCD Projector
- Personal Computer
- gvSIG Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction to gvSIG
	Lesson 2	Data Editing and Analysis
Day 2	Lesson 3	Data Editing and Analysis
	Lesson 4	Map Production

Duration : 2 Days

WORKING WITH ArcGIS SPATIAL ANALYST

Training code: GL3-01

OVERVIEW

This course will provide participants with the means to produce and control raster data using Spatial Analyst. It is designed for experienced ArcGIS users who wish to create raster data and work with them to identify spatial relationships. Participants will be exposed to a variety of surface creation techniques such as hillshade, cost distance, shortest path analysis, etc. It will also cover map algebra, mathematical functions and operators using the raster calculator

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand the Spatial Modeling concepts.
- Understand the Spatial Analyst Extension environment.
- Understand the essential module components.
- Be able to use Spatial Analyst Extension to examine spatial modeling.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop
- Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction to Spatial Analyst
	Lesson 2	Raster Analysis
Day 2	Lesson 3	Surface Analysis

Duration : 2 Days

WORKING WITH ArcGIS 3D ANALYST

Training code: GL3-02

OVERVIEW

This course will provide participants with the means to produce both surface and vector data in a 3D model. It is designed for those who want to apply three-dimensional-visualization and analysis techniques to their spatial data. They will create realistic models by draping aerial photographs over surfaces and displaying ordinary 2-D features such as rivers, roads and buildings in 3 dimensions. They will also perform 3-D geographic analysis such as finding the steepest path, determining inter-visibility between locations on surfaces and calculating volumes.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand surfaces, shapes and models
- Create raster surfaces from points using interpolation and TIN surfaces from vector data.
- Create contour lines from raster and TINs.
- Understand and calculate slope, aspect, visibility, line of sight, viewshed, and 3D profile.
- Reset the 3D visualization model through 3D analyst functions.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software

COURSE CONTENTS

Day 1	Lesson 1	What is ArcGIS 3D Analyst?
Day 2	Lesson 2	Practical : <ul style="list-style-type: none"> • Browsing 3D Data Using ArcCatalog • Wells and Plum Relationship • 3D Point Features • Selecting Features by Attributes • Create TIN • 3D Profile

Duration : 2 Days

INTRODUCTION TO GIS ANALYSIS AND MODELING

Training code: GL3-03

OVERVIEW

GIS analysis is one of the major GIS functions. It involves heavy duty GIS processing to produce additional and analytical spatial information using various GIS analysis tools. The participants will be exposed to the various disciplines in problem identification, derive model solutions, identify GIS tools with which to execute the application models, and generate and study the result of the analysis. Participants will then examine both vector and raster data models and their impact on the GIS analysis model and the output of the analysis. They will relate GIS analysis models to on-the-job application through exploring and brainstorming sessions among the participants and tutors as appropriate.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand GIS Analysis for both vector and raster data models.
- Understand the GIS analysis problem solving life cycle.
- Model the problems of some sample applications and perform analysis using ArcGIS desktop and Spatial Analyst extension.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software

COURSE CONTENTS

Day 1	Lesson 1	What Is GIS Analysis
	Lesson 2	Vector and Raster GIS Model
	Lesson 3	Vector GIS Analysis
	Lesson 4	Raster GIS Analysis
Day 2	Lesson 5	GIS Analysis Problem Solving Life Cycle
	Lesson 6	Practical on Vector GIS Analysis
	Lesson 7	Practical on Raster GIS Analysis

Duration : 2 Days

INTRODUCTION TO ORACLE SQL *Plus

Training code: DBL1-01

OVERVIEW

This course covers the concepts of relational databases and the powerful SQL programming language. Participants will learn to create and maintain database objects and to store, retrieve and manipulate the data stored in the database. The course will consist of both theory and practice to enhance the participants understanding of the language.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Construct SQL queries.
- Create database objects such as tables, views and more.
- Understand database users and privileges so as not to compromise database security.
- Know the Oracle Data Dictionary.

FACILITIES

- LCD Projector
- Personal Computer
- Oracle Software

COURSE CONTENTS

Day 1	Lesson 1	Selecting Rows
	Lesson 2	Limiting Selected Rows
	Lesson 3	Single Row Functions
	Lesson 4	Displaying Data from Multiple Tables
Day 2	Lesson 5	Group Functions
	Lesson 6	Subqueries
	Lesson 7	Creating Tables
	Lesson 8	Oracle Data Dictionary
	Lesson 9	Manipulating Data
Day 3	Lesson 10	Altering Tables and Constraints
	Lesson 11	Creating Views
	Lesson 12	Controlling User Access
	Lesson 13	Summary of SQL and SQL *Plus

Duration : 3 Days

Oracle DATABASE : ADMINISTRATION

Training code: DBL2-01

OVERVIEW

This course provides participants with the background and skills to create, maintain and control an Oracle database. Participants will gain a thorough conceptual understanding of the Oracle database architecture, and how the architectural structures of an Oracle database.

Prerequisites :

Taken Introduction to Oracle SQL*Plus course or equivalent experience.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understands the Oracle database server architecture and its main component
- Manage Oracle objects, users and database security
- Basic backup and recovery method & strategy

FACILITIES

- LCD Projector
- Personal Computer
- Oracle Software

COURSE CONTENTS

Day 1	Lesson 1	Oracle Database Architecture Components
	Lesson 2	Getting Started with the Oracle Server
	Lesson 3	Managing Oracle Instance
	Lesson 4	Oracle Net Services
Day 2	Lesson 5	Database Storage Structure
	Lesson 6	Managing User Data
	Lesson 7	Managing Users & Database Security
Day 3	Lesson 8	Performance Monitoring & Pro-Active Maintenance
	Lesson 9	Oracle Database Backup
	Lesson 10	Oracle Database Recovery

Duration : 3 Days

MySQL : ADMINISTRATION

Training code: DBL2-02

OVERVIEW

This course prepares new MySQL users to implement a MySQL Community Server. Participants will learn how to build a MySQL server & gain the basic knowledge necessary to administer a MySQL database. They will learn how to install MySQL on Windows OS and Linux OS (such as Fedora Core & CentOS), common queries and backup & recovery.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Install & Uninstall a MySQL Server
- Manage the user accounts
- Understand MySQL files, directory structure and table types
- Use MySQL common queries
- Initiate standard backup and recovery

FACILITIES

- LCD Projector
- Personal Computer
- MySQL Software
- VM Ware Server Console
- Fedora Core Or CentOS

COURSE CONTENTS

Day 1	Lesson 1	Introduction To MySQL
	Lesson 2	MySQL Installation
	Lesson 3	Manage the Users Account
Day 2	Lesson 4	MySQL Files & Directories Structure
	Lesson 5	MySQL Common Queries
Day 3	Lesson 6	MySQL Table Types
	Lesson 7	Backup & Recovery

Duration : 3 Days

MS SQL Server : ADMINISTRATION

Training code: DBL2-03

OVERVIEW

This course provides participants with the basic knowledge and skills required to install, configure and administer the client-server database management system of Microsoft® SQL Server.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Plan for a SQL Server installation, and then install an instance of SQL Server.
- Manage files and databases, including determining resource requirements.
- Choose a login security method, configure login security, plan and implement database permissions.

FACILITIES

- LCD Projector
- Personal Computer
- Microsoft SQL Server Software

COURSE CONTENTS

Day 1	Lesson 1	SQL Server Overview
	Lesson 2	Planning to Install SQL Server
Day 2	Lesson 3	Managing Database Files
	Lesson 4	Managing Security
Day 3	Lesson 5	Working with Transact-SQL
	Lesson 6	Basic Backing Up and Restore Databases

Duration : 3 Days

WORKING WITH CRYSTAL REPORTS

Training code: DBL2-04

OVERVIEW

This course is for participants who need to quickly become proficient in creating and modifying reports. Participants will gain extensive experience in using Crystal Reports to connect to databases, retrieve raw data, format data, and create and present reports for widespread distribution.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Develop reports using Crystal Reports to transform data into meaningful information
- Create advanced graphical and crosstab reports
- Analyze database structures and extract the data needed to meet reporting needs

FACILITIES

- LCD Projector
- Personal Computer
- Crystal Reports Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction to Crystal Reports
	Lesson 2	Learning how to create a report
	Lesson 3	Record Selection
	Lesson 4	Sorting, Grouping and Totaling
Day 2	Lesson 5	Multiple Section Reports
	Lesson 6	Formatting
	Lesson 7	Parameter Fields
	Lesson 8	Cross-Tab Objects
	Lesson 9	Charting

Duration : 2 Days

WORKING WITH ArcSDE USING ArcInfo

Training code: DBL3-01

OVERVIEW

This course introduces the detailed architecture and fundamental concepts of the ArcSDE software and storage. Participants will use and load data into ArcSDE and gain an understanding of how ArcSDE works and is utilized in ArcGIS. They can view and query layers in the ArcSDE database using ArcCatalog and ArcMap. They will create new ArcSDE layers by loading existing file-based geographic data sources such as shapefiles and images into the server. They will also learn to perform multi-user editing of geodatabase feature classes and much more.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand how ArcSDE works and how it is utilized in GIS.
- View and query layers in an ArcSDE database using ArcCatalog and ArcMap.
- Create new ArcSDE layers by loading existing, file-based geographic data sources into an ArcSDE server.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software
- ArcSDE Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction to ArcSDE using ArcInfo
	Lesson 2	Spatial Data Formats
	Lesson 3	ArcSDE Software and Storage Architecture
Day 2	Lesson 4	Working with ArcSDE using ArcInfo
	Lesson 5	Multi-user Editing
	Lesson 6	Data Integrity Versioning

Duration : 2 Days

ArcSDE ADMINISTRATION FOR ORACLE

Training code: DBL3-02

OVERVIEW

This course introduces the fundamentals of configuring Oracle to support ArcSDE. It also includes installation and configuration of ArcSDE. Participants will come to understand how ArcSDE software interacts with Oracle and learn solid strategies for maintaining and managing an enterprise GIS database. They will also learn how to monitor access to their ArcSDE database by using ArcSDE and DBMS tools.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand the Oracle RDBMS and ArcSDE architectures
- Understand what geodatabase and storage structure is.
- Understand the use of SDE service and files.
- Understand pausing, resuming and shutting down ArcSDE service.

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Desktop Software
- ArcSDE Software
- Oracle Software

COURSE CONTENTS

Day 1	Lesson 1	Overview
	Lesson 2	Introduction to Oracle RDBMS
	Lesson 3	Geodatabases
	Lesson 4	Introduction to ArcSDE
Day 2	Lesson 5	Creating ArcSDE Service
	Lesson 6	Configuring ArcSDE Service
	Lesson 7	Managing ArcSDE Service
	Lesson 8	Monitoring ArcSDE Service

Duration : 2 Days

INTRODUCTION TO ArcGIS SERVER

Training code: WGL1-01

OVERVIEW

This course teaches participants to install, configure, and use GIS services as both administrators and consumers. The participants will learn how to publish maps, globes, and geoprocessing models that are optimized for performance. Participants will gain the experience to create out-of-the-box Web applications using Manager and learn how to use GIS services in both Web applications and ArcGIS Explorer.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Understand the client and server components of the ArcGIS Server architecture
- Configure the ArcGIS Server system
- Administer the GIS Server and GIS services
- Optimise the performance of GIS services
- Build Web applications that consume GIS services

FACILITIES

- LCD Projector
- Personal Computer
- ArcGIS Server

COURSE CONTENTS

Day 1	Lesson 1	ArcGIS Server Overview
	Lesson 2	Map Services
	Lesson 3	Globe and 3D Services
	Lesson 4	Geoprocessing Services
Day 2	Lesson 5	Editing in a web mapping application
	Lesson 6	Customisation overview
	Lesson 7	Administration and Optimisation

Duration : 2 Days

ArcGIS SERVER ENTERPRISE ADMINISTRATION FOR ORACLE

Training code: WGL2-01

OVERVIEW

This course prepares Oracle database administrators to implement an enterprise geodatabase. Participants will learn how to build an individual ArcSDE server & gain knowledge of ArcSDE architecture. They will learn how to configure Oracle to support ArcSDE, install & configure ArcSDE, and identify & troubleshoot connection types and issues. The course covers managing storage settings for loading vector & raster data and teaches techniques for maintaining geodatabase performance in an editing environment. The course explains how ArcSDE interacts with Oracle databases and presents solid strategies for maintaining and managing an enterprise geodatabase.

OBJECTIVE

Upon completion of the course, participants will be able to:

- Configure Oracle to support ArcSDE
- Create multiple ArcSDE workspaces
- Customise storage for spatial data
- Implement data management strategies for vector and raster data
- Maintain performance of a multiuser geodatabase

FACILITIES

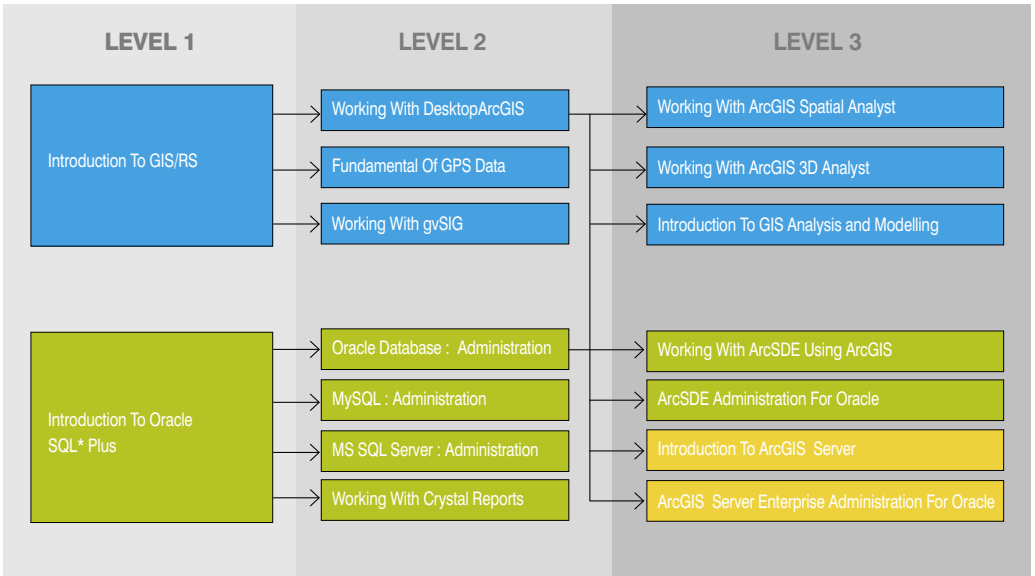
- LCD Projector
- Personal Computer
- ArcGIS Server
- Oracle Software

COURSE CONTENTS

Day 1	Lesson 1	Introduction to ArcSDE Enterprise Geodatabase
	Lesson 2	Configuring Oracle for ArcSDE
	Lesson 3	Installing ArcSDE
	Lesson 4	Undertaking ArcSDE Components
Day 2	Lesson 5	Exploring ArcSDE Architecture and Connections
	Lesson 6	Managing Vector Storage
	Lesson 7	SQL Spatial Types
	Lesson 8	ArcSDE Log Files
	Lesson 9	Managing Raster Storage
	Lesson 10	Geodatabase Editing

Duration : 2 Days

GEOMATICS TRAINING PATHWAY



- GIS
- Database
- Web-based GIS

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