



Geo-Planning for Advanced Development (GPAD) Training Center  
**Training on Fundamentals of Geographic Information System (GIS)**  
 Training Schedule for Batch -  
 Duration: - Hours

Date	Time	Module	Training Contents
	10:00		Orientation of Training Program <b>Introductory Session:</b> Knowing each other and preparatory works for the beginning of Training. What are the importance of GIS in Different Field
	10:30	Module 1	<b>History of Mapping:</b> Early history of mapping and cartography,
	11:00	Module 1	<b>Fundamental of GIS :</b> Concepts of GIS, History and Evolution of Geographic Information System, Benefits of Geo-spatial Data / GIS Data, Varied Application of GIS, Challenges and Future of GIS
	12:00		Installation ArcGIS desktop and Familiarize with ArcGIS components
	1:00		Prayer and Launch Break
	2:30	Module 1	<b>GIS Platforms &amp; ArcGIS:</b> GIS Platforms, Capabilities of different GIS platform, Facilities and Limitations of ArcGIS, Capabilities, Extensions,
	9:30	Module 2	<b>Introduction to ArcCatalog:</b> What and why ArcCatalog, Standard toolbar, Manu, Geography toolbar, Catalog Tree, personal geodatabases, Coordinate systems, Toolboxes, ArcCatalog search, Working with item descriptions and metadata
			Tea Break
	12:00		<b>Exercise 01:</b> Creating Shapefiles, organizing and metadata editing
	2:30	Module 3	<b>Introduction to ArcMap:</b> ArcMap function and components, ArcMap Menus, Toolbars, Extensions, Plug-Ins, views of ArcMap and the Catalog Window.
	3:40		<b>Exercise 02:</b> Editing shapefiles and attribute tables
	10:00	Module 4	<b>GIS Database and File Format:</b> ArcMap Supported database, Raster data, Vector data, advantages and disadvantages of different data format, Using geo-database, Advantages, types and limitations of Geo-database, Illustration of different files created by ArcGIS.
			Tea Break
			<b>Exercise 03:</b> Create geodatabase, feature dataset, feature class
			<b>Review Class</b>
	12:00	Module 5	<b>Map Projection:</b> Basic Map Projections, Commonly used projection systems, Difference of the map projection systems and Geo-referencing
			Tea Break
			<b>Exercise 04:</b> Project map in different projection system, Project JPEG map and high resolution Google Earth Satellite image, Define Project, Project Transformation among the common projection system(WGS84,BTM,UTM45,UTM46, BLCC) used in Bangladesh
	3:30		<b>Review Class</b>
	4:30		<b>Quiz Test</b>
	9:30	Module 6	<b>Preparing GIS Database (Digitization):</b> Digitizing features, Snapping, Editing and Advance editing
			Tea Break
	12:00		<b>Exercise 05:</b> Digitize a scan jpeg map or high resolution satellite images to develop landuse database of a selected area, Collect social facilities database from different secondary data sources (google map, wiki mapia, open street map etc)
	2:30	Module 7	<b>Preparing GIS Database (Attribute Database):</b> Attribute data input and editing, Spatial and Tabular error checking
			Tea Break

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	3:30		<b>Exercise 05:</b> Edit the attribute of a shape file, Search, Quarry, Definition Quarry, Select by attribute, select by location, export shapefiles with selected features, Shapefile create using XY coordinates / excel file
	10:00		<b>Individual Exercise Road/ Landuse / Social data preparation using Google Earth Image</b>
	12:00	Module 8	<b>Fundamentals of GPS:</b> Concepts and purpose of GPS devices, Use and limitations, Various models, Types (Hand-held, DGPS, RTK GPS), Software for GPS device,
	2:30		<b>Field (Practical) work with GPS device:</b> Checking Projection System in GPS Machine, Measurement Unit Fix up, Satellite Searching, Data Accuracy Level Checking, Data Collection (Point and route tracking).
			Tea Break
	3:30		<b>Data Download from GPS and use it in ArcGIS:</b> GPS Data files/ data file format, Software to be used/GPS software configuration, GPS Data Download, Reading, Editing and Saving, Data format/unit, Data Conversion to KML , Projections
	4:30	For Individual Assessment	<b>Case Study:</b> Participants have to complete a case study based on guideline to complete the training course successfully. <ul style="list-style-type: none"> <li>- Suitable Site Selection for a Landfill/School/Disaster Shelter</li> <li>- Specific map preparation using secondary sources (Landuse map, social risk or resources map, Location Map, Transportation System Network)</li> </ul>
			Tea break
	9:30	Module 9	<b>Introduction to Geoprocessing/Spatial Analysis:</b> ArcToolBox, System ToolBoxes, My ToolBoxes and Geo-processing, Analyst extensions, Clip, Buffer, Merge, Erase, Calculation, Tabular Join
			Tea Break
			<b>Exercise 06:</b> Using geo-processing tool, Basic Attribute Analysis: Area Calculation, Length Calculation, Spatial join, Join Attributes,
	12:00	Module 10	<b>GIS Data Visualization and Map Presentation in ArcGIS:</b> Categories, Quantities, Map color and labeling feature and using label toolbar, General Cartographic basics, Map Elements, preparing a map, Saving Map document, Export map, Map layout, Scale, North Sign, Grid and Graticules, Map Export in different format.
			Tea Break
			<b>Exercise 07:</b> Make your own map using exercise data
	2:30	Module 11	<b>Free Data:</b> GIS Data Sources, Free data sources
			<b>Review Class</b>
	3:00		General discussion, Q & A related to overall topics Evaluation of trainee
			Review of the training course
	4:30		Closing Ceremony and Refreshment