multisoft
Systems

Quantum GIS (QGIS) Training

COURSE CONTENT

GET IN TOUCH

Multisoft Systems
B - 125, Sector - 2, Noida

(+91) 9810-306-956

info@multisoftsystems.com

www.multisoftsystems.com

About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

Quantum GIS (QGIS) Training by Multisoft Systems is a comprehensive, hands-on program designed to build strong geospatial analysis and mapping skills for professionals across industries. QGIS is one of the most powerful open-source Geographic Information System platforms, widely used for spatial data visualization, map creation, geoprocessing, environmental analysis, land management, and location-based decision-making.

Module 1: Fundamentals of GIS: Basic Spatial concepts

- ✓ GIS
- ✓ Why GIS?
- ✓ Why prefer QGIS (Open-source vs Licensed GIS sources)?
- ✓ QGIS installation and interface
- ✓ Different data types and data formats
- ✓ Geographic and Projected coordinate systems, UTM Zone and EPSG
- ✓ The concept of Georeferencing and its importance in real life applications
- ✓ The concept of ground control points, their importance and Transformation settings
- ✓ The concept of Digitization and Topology
- ✓ The concept of mapping and map layers
- ✓ The process of map making, storytelling and data visualization
- ✓ Datum, map scale, map rotation etc.

Module 2: Learn about QGIS Graphic User Interface (GUI)

- ✓ Menu toolbar
- ✓ Project toolbar/Side toolbar
- ✓ Layers panel
- ✓ Browser Panel
- ✓ Locator toolbar
- ✓ Status bar
- ✓ Map canvas and Map
- ✓ Navigation Toolbar

Module 3: Practically understand the data type and format loading using different ways/methods in the QGIS workspace and create a “Map”

i. Data types

- ✓ Vector
- ✓ Raster
- ✓ Delimited text
- ✓ GeoPackage Database
- ✓ WMS/WMTS

ii. Data Formats

- ✓ Shapefiles layer
- ✓ GeoPackage layer
- ✓ Temporary scratch layer
- ✓ Keyhole Markup Language (KML)

Module 4: Get acquainted with Raster data

i. Loading Raster ii. Raster Data Formats

ii. GeoTIFF, JPEG, SRTM etc.

iii. Create beautiful raster maps through

- ✓ Raster symbology
- ✓ Raster enhancement
- ✓ Blend effects
- ✓ Raster calculation
- ✓ Contour Polygons
- ✓ Histogram computation
- ✓ Raster shading (combined to multidirectional) and rendering

iv. Georeferencing raster: Scanned/raster georeferencing using

- ✓ Point to Point
- ✓ image to map
- ✓ georeferencing by shape

Module 5: Raster and terrain analysis

- ✓ Query Raster
- ✓ Merge Raster
- ✓ Clip Raster
- ✓ Project Raster
- ✓ Conversion to vector
- ✓ Extraction
- ✓ Hillshade
- ✓ Slope
- ✓ Aspect
- ✓ Relief
- ✓ Contouring
- ✓ Reclassify

Module 6: The process of data visualization through changing the “Symbology and its structure”

i. Simple Fill (for each vector type, ex., Polygon, Polyline and Point features)

- ✓ Scale-based visibility
- ✓ Add Symbol layers
- ✓ Order Symbol levels

ii. Vector data classification

- ✓ Understanding of Layer Styling panel
- ✓ Simple Labels and Double labels
- ✓ Style Classification mode
- ✓ Categorized
- ✓ Graduated
- ✓ Rule-based
- ✓ Heat map

- ✓ Sized points

iii. Vector data Creation

- ✓ Create polygon, polyline and point features
- ✓ Feature topology
- ✓ Snapping
- ✓ Convert one feature to another feature
- ✓ Vector editing/delete
- ✓ Split features
- ✓ Merge features
- ✓ Clip features

iv. Vector conversions to raster and other formats

Module 7: Interactive mapping and hands-on training through

i. Vector feature analysis

- ✓ Geoprocessing Tools (Clip, dissolve, Union etc.
- ✓ Geometry Tools (Count points, Nearest neighbor etc.
- ✓ Spatial Join, Query
- ✓ Analysis Tools
- ✓ Research tools
- ✓ Data management tools

ii. Vector data transformations and projections from geographic coordinate system to projected coordinate system

- ✓ Create your own Coordinate reference system
- ✓ Adding functionality with plugins
- ✓ Digital elevation models

Module 8: Detailed map composing or layout generation using through editing process of

- ✓ Legend and Patch
- ✓ Grids
- ✓ North arrow
- ✓ Label
- ✓ Scalebar