



## QGis (Duration: 40 Days) Course Curriculum

1. Course Introduction
  - 1.1. Foreword
  - 1.2. Preparing Exercise Data
2. Module: The Interface
  - 2.1. Lesson: A Brief Introduction
  - 2.2. Lesson: Adding your first layer
  - 2.3. Lesson: An Overview of the Interface
3. Module: Creating a Basic Map
  - 3.1. Lesson: Working with Vector Data
  - 3.2. Lesson: Symbology
4. Module: Classifying Vector Data
  - 4.1. Lesson: Attribute Data
  - 4.2. Lesson: The Label Tool
  - 4.3. Lesson: Classification
5. Module: Creating Maps
  - 5.1. Lesson: Using Map Composer
  - 5.2. Assignment 1
6. Module: Creating Vector Data
  - 6.1. Lesson: Creating a New Vector Dataset
  - 6.2. Lesson: Feature Topology
  - 6.3. Lesson: Forms
  - 6.4. Lesson: Actions
7. Module: Vector Analysis
  - 7.1. Lesson: Reprojecting and Transforming Data
  - 7.2. Lesson: Vector Analysis
  - 7.3. Lesson: Network Analysis
  - 7.4. Lesson: Spatial Statistics

## 8. Module: Rasters

- 8.1. Lesson: Working with Raster Data
- 8.2. Lesson: Changing Raster Symbology
- 8.3. Lesson: Terrain Analysis

## 9. Module: Completing the Analysis

- 9.1. Lesson: Raster to Vector Conversion
- 9.2. Lesson: Combining the Analyses
- 9.3. Assignment
- 9.4. Lesson: Supplementary Exercise

## 10. Module: Plugins

- 10.1. Lesson: Installing and Managing Plugins
- 10.2. Lesson: Useful QGIS Plugins

## 11. Module: Online Resources

- 11.1. Lesson: Web Mapping Services
- 11.2. Lesson: Web Feature Services

## 12. Module: QGIS Server

- 12.1. Lesson: Install QGIS Server
- 12.2. Lesson: Serving WMS

## 13. Module: GRASS

- 13.1. Lesson: GRASS Setup
- 13.2. Lesson: GRASS Tools

## 14. Module: Assessment

- 14.1. Create a base map
- 14.2. Analyze the data
- 14.3. Final Map

## 15. Module: Forestry Application

- 15.1. Lesson: Forestry Module Presentation
- 15.2. Lesson: Georeferencing a Map
- 15.3. Lesson: Digitizing Forest Stands
- 15.4. Lesson: Updating Forest Stands
- 15.5. Lesson: Systematic Sampling Design
- 15.6. Lesson: Creating Detailed Maps with the Atlas Tool
- 15.7. Lesson: Calculating the Forest Parameters
- 15.8. Lesson: DEM from LiDAR Data
- 15.9. Lesson: Map Presentation

## 16. Module: Database Concepts with PostgreSQL

- 16.1. Lesson: Introduction to Databases
- 16.2. Lesson: Implementing the Data Model
- 16.3. Lesson: Adding Data to the Model
- 16.4. Lesson: Queries
- 16.5. Lesson: Views
- 16.6. Lesson: Rules

## 17. Module: Spatial Database Concepts with PostGIS

- 17.1. Lesson: PostGIS Setup
- 17.2. Lesson: Simple Feature Model
- 17.3. Lesson: Import and Export
- 17.4. Lesson: Spatial Queries
- 17.5. Lesson: Geometry Construction

## 18. The QGIS processing guide

- 18.1. Introduction
- 18.2. An important warning before starting
- 18.3. Setting-up the processing framework
- 18.4. Running our first algorithm. The toolbox
- 18.5. More algorithms and data types
- 18.6. CRSs. Reprojecting
- 18.7. Selection
- 18.8. Running an external algorithm
- 18.9. The processing log
- 18.10. The raster calculator. No-data values
- 18.11. Vector calculator
- 18.12. Defining extents
- 18.13. HTML outputs
- 18.14. First analysis example
- 18.15. Clipping and merging raster layers
- 18.16. Hydrological analysis
- 18.17. Starting with the graphical modeler
- 18.18. More complex models
- 18.19. Numeric calculations in the modeler
- 18.20. A model within a model
- 18.21. Using modeler-only tools for creating a model
- 18.22. Interpolation
- 18.23. More interpolation
- 18.24. Iterative execution of algorithms
- 18.25. More iterative execution of algorithms
- 18.26. The batch processing interface
- 18.27. Models in the batch processing interface
- 18.28. Pre- and post-execution script hooks
- 18.29. Other programs
- 18.30. Interpolation and contouring
- 18.31. Vector simplification and smoothing
- 18.32. Planning a solar farm

- 18.33. Use R scripts in Processing
- 18.34. R Syntax in Processing scripts
- 18.35. R Syntax Summary table for Processing
- 18.36. Predicting landslides

#### 19. Module: Using Spatial Databases in QGIS

- 19.1. Lesson: Working with Databases in the QGIS Browser
- 19.2. Lesson: Using DB Manager to work with Spatial Databases in QGIS
- 19.3. Lesson: Working with spatialite databases in QGIS

Copyright 2023, Radiance Technology, Bhubaneswar  
Mob. No.: +91-9511781566 / 70381 72715, Email: [training@radiancetech.org](mailto:training@radiancetech.org),  
**Visit us At: [www.radiancetech.org](http://www.radiancetech.org)**