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| **Date** | **Sections** | **Main study topic** | **Software** | **Main data type** |
| First | QGIS entry operations | Importing the spatial data to GIS, displaying an attribute table, styling a symbol, using a plugin, layout the map. | QGIS | V |
| Downloading the GIS data | Downloading the free data from the Web site and converting to shapefile from xml using FGDV. | QGIS FGDV | V |
| Merging and correction of spatial data | Creating the vector data such as points, lines and polygons.  Merging the raster data and creating contour line from the DEM. | QGIS Ecoris DEM converter | V, R |
| Second | Spatial data conversion | Conversion of the spatial coordinates. | QGIS | V |
| Basic spatial analysis | Measurement of features and processing an overlay analysis such as clip, union, intersect. | QGIS | V |
| Network analysis | Shortest route searching between 2 points. | QGIS | V |
| Region analysis | Buffering from vector features. | QGIS | V |
| Third | Point data analysis | Visualization of points density using grids and boundary polygons | QGIS | V |
| Raster data analysis | Visualization of the topographic data and Calculating slope degree, slope direction, hill shade and terrain profile from DEM | QGIS Ecoris DEM converter | R |
| Watersheds analysis | Extraction of rivers and basins. | QGIS GRASS GIS | R |
| Spatial interpolation | Spatial interpolation using TIN and IDW methods | QGIS | V,R |