# QGIS Training required

CapeNature requires a custom QGIS training course to train the CapeNature GIS Team on the following aspects:

## Data formats supported by QGIS

* Vector layers
* Raster layers, images.
* Grid layers, i.e. DEMs, land-covers etc.

## CRS system

* How the system works and -on-the-fly projection.
* Defining projections for layers, both vector and raster.
* Define projections using batch processing.
* Setting custom CRS, in particular TM19, TM21 & TM23.
* Reprojecting layers, both vector and raster.
* Reprojecting layers using batch processing.

## Data querying

* Labelling, both simple and advanced.
* Layer display, both simple and advanced (categories, ramping, transparency, etc.).
* Saving layer display settings.
* Querying the layer attribute table.
* Using the data calculator in the table view – including geometry (area, length etc) calculations
* Data selection including select by location

## Data creating and editing

* Creating data layers
* Simple digitizing of points, lines & polygons
* Advanced digitizing using snapping to other layers
* Data editing by splitting, appending & subtracting (doughnuts)
* Data cleaning including basic topology

## Vector data analysis

* Union
* Intersection
* Clipping
* Merging
* Buffering features (points, lines & polygons).
* Buffering polygons, both inside and outside.

## Raster data analysis

* what is possible, if anything

## Data importing / exporting.

* Importing coordinates from spreadsheets or GPS.
* Importing and exporting from and to KMLs and other vector and raster formats.

## Image editing

* Basic principle on georeferencing images.
* How to georeference images in QGIS.
* Image compression.

## Layouts

* Creating layers.
* Use of the scale bar.
* Grids or graticule
* Adding inserts into layers, i.e. locality maps.
* Creating layout templates.

## Plugins

* Using the extensibility functions of QGIS particularly for spatial analysis / GRASS introduction

The course is to be presented at CapeNature Jonkershoek to a group of approximately 10 people who are familiar with the basics of GIS. Therefore GIS principles need not be covered but rather the focus should be on QGIS functionality.

The course should not be longer than two days and must take place before end November 2013. CapeNature will supply the computers, software. Catering should not be included in the quote as it will be provided by CapeNature. Please submit your proposals and costing for presenting training to Andrew Turner aaturner@capenature.co.za by 30 September 2013.