Become a QGIS professional

The OSGIS Academy QGIS online course program

2019 Edition
Introduction and background

The OSGIS Academy is an initiative to provide the most comprehensive, structured and efficient online course programs in open-source GIS solutions. Primary focus is on QGIS, the leading free open-source GIS solution.

The OSGIS Academy online QGIS course program consists of two modules. Module 1 for beginners who need an easy, step-by-step introduction on how to get started, import data, perform typical GIS analysis and present their data and analysis. Module 2 is for more advanced professionals who want to perform more complex GIS analysis and learn how to automate their work with the QGIS Graphical Modeller, Python processing scripts, PostGIS databases and Spatial SQL.

Both modules are featuring QGIS versions 3.4 and 3.6.

Module 1

The OSGIS Academy QGIS course Module 1 is designed to give beginner-level participants an understanding of the possibilities within QGIS and the practical ability to:

- Import, connect and explore geographic information of various formats
- Create and edit geographic information
- Query and analyse geographic information
- Convert, export and present geographic information

With the aim of taking you from novice to productive in the most efficient and understandable way, this course has a clear hands-on how-to approach. Although designed for beginners with no or little experience in QGIS, it is assumed participants already have a basic conceptual understanding of what a geographic information system is and why you may want to apply it in your profession. Hence, less time in this course is spent on explaining the basic concepts and theoretical aspects of GIS, mapping and computing in general. This is QGIS in practice.

Learn to import, connect and combine various map formats and services (WMS, WFS, Vector files, Raster files, CSV lists, database connections).

Learn to define, register and edit your own data.
Detailed content, Module 1

1. Getting started
   - Download and installation
   - User interface
   - Settings
   - Project files
   - Coordinate system

2. Data connection, import and creation
   - WMS
   - WFS
   - Vector files (including symbology and thematic map presentation)
   - Raster files
   - Databases (connecting to a PostGIS database)
   - Creating user-defined datasets
   - Data registration and editing

3. Data selection and conversion, queries and analysis
   - Selecting features in the map
   - Data conversion
   - Query attribute data
   - Generating buffer zones
   - Overlay analysis

4. Data export and presentation
   - Export to Excel
   - Export to Google Earth
   - Print layout
   - 3D presentation and animation

Learn to perform spatial GIS analysis, such as vector overlay analysis (for example address points within flood risk zone polygons).

Learn to search, query and select features based on attribute information.

Learn to perform geoprocessing, for example generating buffer zones around selected features.
Learn to create map print layouts.

Learn to work with terrain models and create 3D presentations and animations.

Learn to connect to geospatial databases, for example PostGIS.

Convert and export data to Google Earth or other various formats and systems.

Learn to edit symbology.

Learn to create thematic maps based on attribute values.
Module 2

The OSGIS Academy QGIS course Module 2 is designed to give participants an understanding of the more advanced possibilities in QGIS and the practical ability to:

- Perform classical vector geoprocessing and analysis
- Perform raster calculation and terrain analysis
- Building QGIS processing models and edit QGIS Python processing scripts
- Working with PostGIS databases, QGIS Database Manager and building Spatial SQL queries

It is assumed participants already have some knowledge about GIS in general and basic skills in QGIS similar to what is taught in the OSGIS Academy Module 1 course. Practical exercises based on example cases is an essential part of Module 2.
Detailed content, Module 2

1. Spatial analysis in QGIS, introduction
   - Vector analysis
   - Raster analysis
   - Processing toolbox

2. Exercise A: Population within horizontal and driving distance from a planned Hospital location
   - Table join
   - Buffer processing
   - Intersection Overlay analysis
   - Driving-distance isochrone map calculation
   - Statistics

3. Exercise B: Terrain analysis and terrain classification of a forest
   - Elevation analysis with raster calculator
   - Slope analysis
   - Aspect analysis
   - Raster to vector conversion
   - Vector overlay analysis
   - Field calculator

4. Automated geoprocessing
   - QGIS Graphical Modeler
   - Python processing scripts
   - Batch-processing
   - PostGIS and QGIS Database Manager
   - Spatial SQL

Learn to combine raster and vector analysis and raster to vector conversion.

Learn to calculate driving-distance coverage maps.

Learn to present, convert and export analysis results.
Learn to increase your efficiency with batch-processing.

Learn to install, setup, create and work with PostGIS databases.

Learn to create and edit QGIS Python processing scripts in the easiest and most efficient way.

Learn to automate, standardize and document your GIS analysis with the QGIS Graphical Modeller.

Learn to utilize the power of Spatial SQL.

Load and present your PostGIS Spatial SQL queries and analysis in QGIS.
How to do the course

The OSGIS Academy QGIS course program is a self-paced course you download, keep and take when you want.

- Download the course (immediately available after purchase).
- Download and install QGIS on your own computer (guidance is given).
- Start with the course booklet and work through the given instructions with the provided example data on your own QGIS installation.
- Use the quick and to-the-point demonstration videos as support to the step-by-step course booklet illustrations. There are one video for each specific chapter in the course booklet.
- When working through the course and with the principal examples given, perhaps try to think how you can utilize the same principal functionality concretely in your field of profession.
- Keep your course for as long as you like and as many repetitions you want.
- You should typically estimate about one working day to complete each module, but this is a self-paced course you take when you want and as fast/slow you prefer.

Course material included, Module 1

- Quick course guidance document
- 88 p. course booklet with step-by-step how-to illustrations and instructions
- To-the-point demonstration videos, one for each course chapter
- All required example data to follow the course and practice on your own computer
- Opportunity to ask course instructor questions relating to the course via email
- Module 1 certificate

Course material included, Module 2

- Quick course guidance document
- 98 p. course booklet with step-by-step how-to illustrations and instructions
- To-the-point demonstration videos, one for each course chapter
- PostGIS installation and setup guide for Windows
- All required example data to follow the course and practice on your own computer
- Opportunity to ask course instructor questions relating to the course via email
- Module 2 certificate

Course certificate

A course certificate is included for each module documenting in detail what you have been taught and written in your name (which you register in the purchasing process).

Download the OSGIS Academy QGIS course program from www.osgis.academy today

There is a lot of free information on QGIS on the web, however by taking a proper course you will gain your knowledge and abilities in a quality assured, structured and most efficient way. The OSGIS Academy QGIS course program is based on years from teaching QGIS to a wide variety of professionals.
About

The OSGIS Academy QGIS online course program is an independent initiative from the Norwegian registered entity Strutz Mapmatix and Christopher Haakon Strutz.

Christopher has more than 20 years of experience within GIS from amongst others the Norwegian National Mapping Agency, NavTech/HERE, Asplan Viak Internet and has been teaching QGIS to a wide range of professionals for the last several years. Christopher is also a co-founder of the QGIS local user group in Norway.