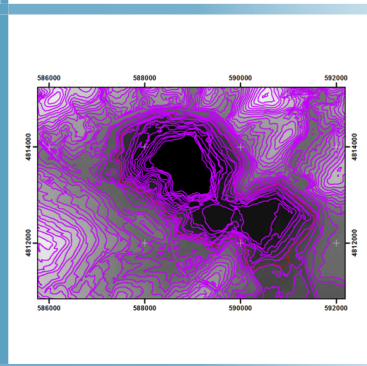
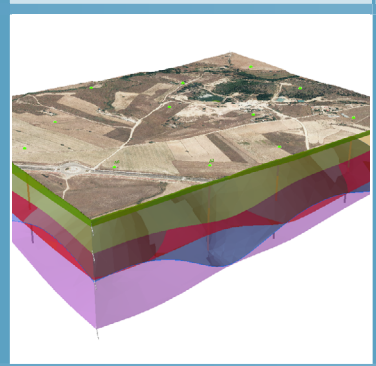
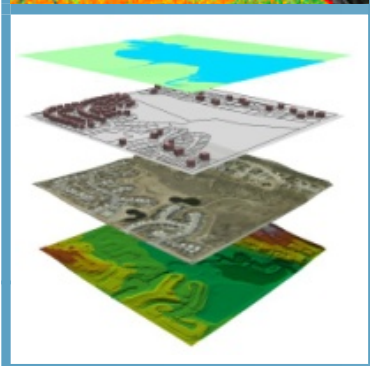
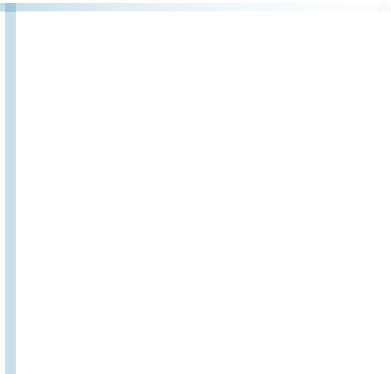
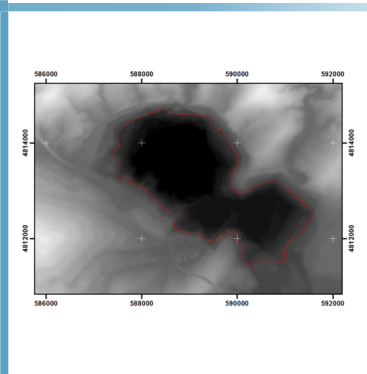
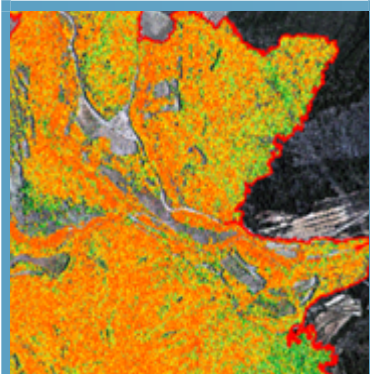
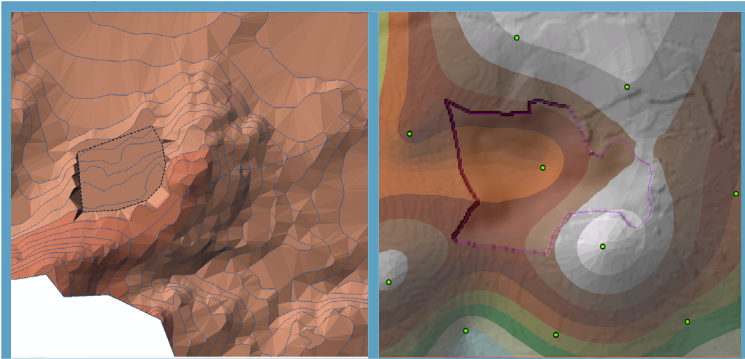


# ARCGIS COURSE, BEGINNER LEVEL ONLINE TRAINING







## ONLINE FORMAT METHODOLOGY

The online format uses the online learning and technological platform Moodle, a telematics tool that works through the internet. It is a learning platform that provides students access to the training course content, fulfill the practical cases and consult the teaching staff, as well as availability to the resources and help at any moment.

The platform is available 24 hours a day, through which the student will be able to ask for help at any given moment. Instructors will reinforce the student's autonomy during its training process, supporting and clarifying any possible doubts that may arise along the course.

Therefore, the course is carried out through different areas available on the online platform and where the student can search for training material, download information, complete the practical exercises and take assessments to verify the assimilated knowledge. The teachers will offer progressively the basic information needed to work towards the completion of a final practical case

## INSTRUCTOR



### Santiago Pardini Herranz

With a Bachelor's degree in Environmental Sciences and a Specialist certificate in Geographic Information Systems from the Universidad Politecnica de Madrid (Spain), Santiago has more than 5 years experience as a GIS Consultant / Technician.

He has experience in the development of GIS studies for diverse types of projects: hydraulic infrastructures, lineal structures, wind and photovoltaic installations, mining activities, land use zoning, fauna studies, etc.



## STUDENT PROFILES



This course is aimed at students and professionals related to engineering, architecture, biology, geography, geology and environmental sciences interested in the applications of geographic information systems in their present or future professional activities.



## 1 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

Introduction.

Definition and basic concepts.

Applications and uses of Geographic Information Systems.

Geographic information: vector data models, raster data models and other data models (CAD, TIN, etc.). Main features of each data module, advantages and disadvantages.

Introduction to ArcGIS Desktop: ArcMap, ArcCatalog, ArcToolbox, ArcScene and ArcGlobe.

Arcmap interface, extensions and tools.

Verification of the correct functioning of the software and assessment.

## 2 - VECTOR DATA MODEL. INFORMATION DISPLAY

Information layers: how to add layers, features and attribute tables.

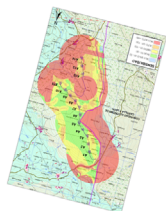
Tools to examine data: search and queries.

Selection tools: selection per feature, selection by spatial location and capture information.

Symbology layers: simple symbology, by category, by quantity and through graphics.

Other display options: labelling and transparencies.

Practical exercises (load layers, types of selection, symbology) and assessment.



## 3 - COORDINATE SYSTEMS, PROJECTIONS AND GEOREFERENCING

Introduction to Coordinate systems and projections.

Definition of Coordinate Systems.

Coordinate system transformation. ED50 or ETRS89 geographic database reprojection.

Georeferencing of images, layers and CAD files.

Practical exercises (define, project, image georeferencing and CAD) and assessment.

## 4 - VECTOR DATA MODEL. EDITING AND CREATING INFORMATION

Creation and editing of spatial data.

- Creation of spatial data: Editing tools bar. Digitization techniques.

- Exporting and importing spatial information files from different formats (CAD, DGN, Shp, ASCII, etc.). Create layers from CAD files.

- Modify existing layers.

- Creation of layers from coordinates.

Creation and editing of data in the attribute table:

- Structure of the Attribute table.

- Types of data included in an attribute table.

- Modify information from a table.

- Calculate geometric information (Surface, perimeter, length, etc.).

- Creation of statistics from the table.

- Export tables to Excel and other formats. Creation of reports and graphics.

Practical exercises (create layers, digitize, modify attribute tables, add fields, geometric calculations, field calculator) and assessment.

## 5 - DATABASE MANAGEMENT

Design of a database.

Joins with Access databases and Excel files. (Table relations).

Spatial joins. Obtain statistics from database information and spatial position of the elements creating the layer.

Practical exercises (join database and spatial relations) and assessment.

## 6 - SPATIAL ANALYSIS. MOST COMMON GEOPROCESSING TOOLS.

Extract Toolset (Clip, Split).

Overlay toolset (intersect, union).

Proximity toolset (buffer analysis, Thiessen polygons).

Multi-criteria analysis. Obtaining optimal areas according to several criteria.

Practical exercises (spatial analysis) and assessment.

## 7 - MAP PRODUCTION

Adjusting the size and type of sheet.

Inserting cartographic elements: north, scale bar, numeric scale, map legend.

Including other elements: images, graphs and tables.

Adding several data frameworks

Creation and use of templates.

Printing options

Creation of a cartographic annex for a Project.





# GIS Course.com

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