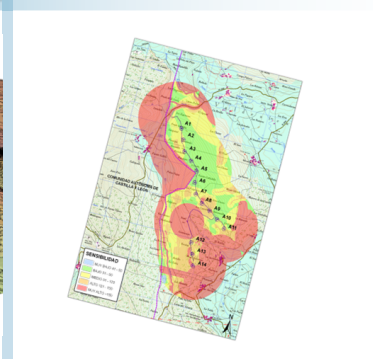
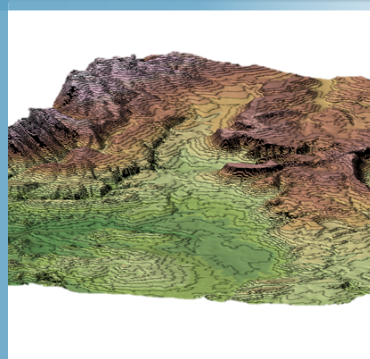
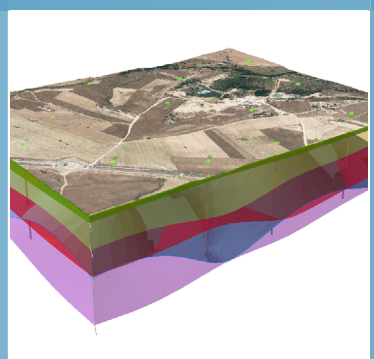
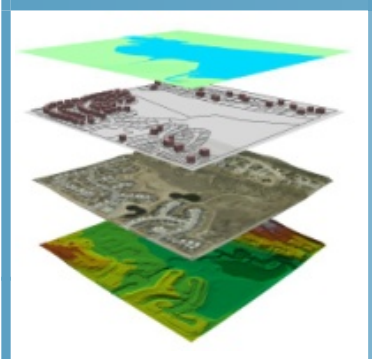
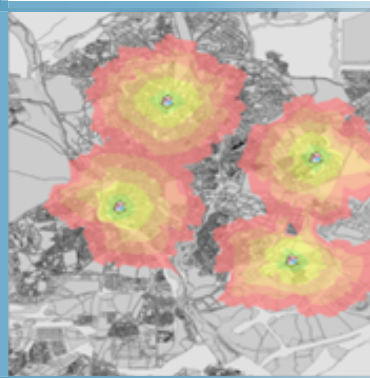
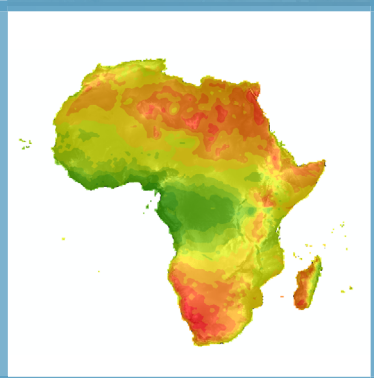
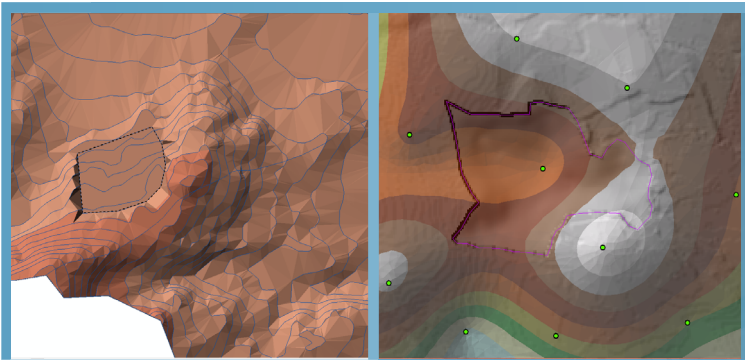


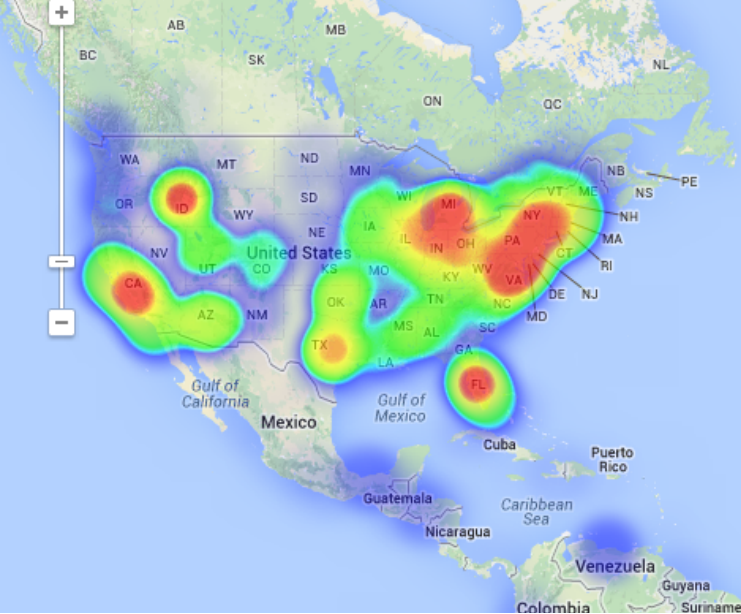
DIGITAL MAPPING COURSE WITH ARCGIS PRO AND AUTOCAD MAP 3D



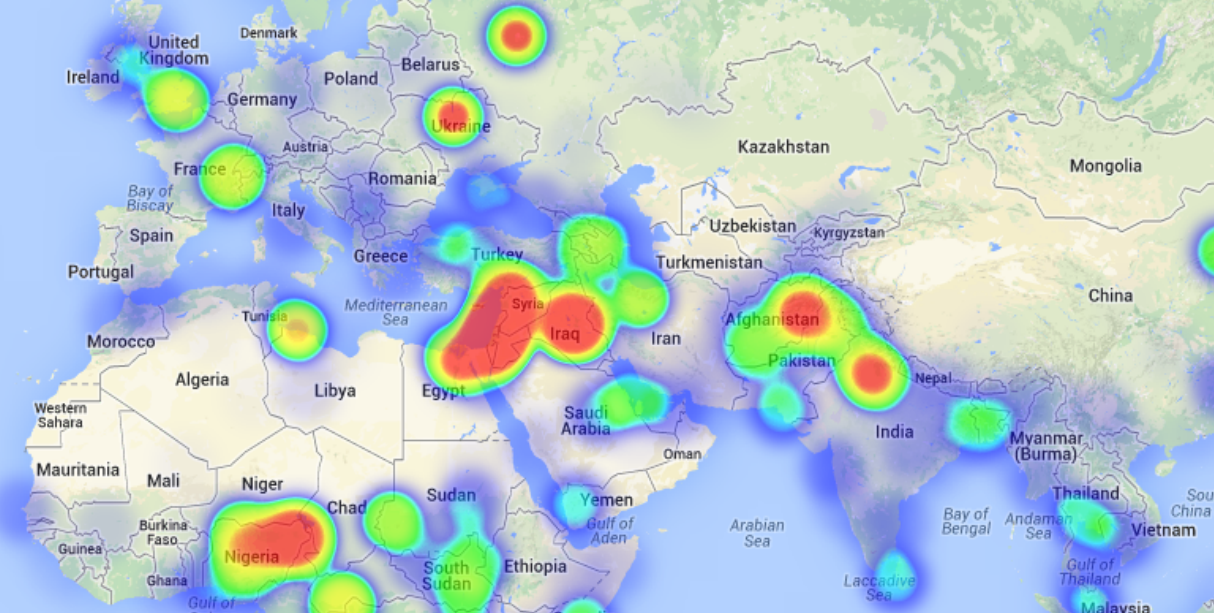
AUTODESK
MAP 3D



GIS
Course.com



North Atlantic Ocean



TRAINING OVERVIEW



Apart from learning how to use ArcGIS PRO and Autocad Map 3D separately, the course will concentrate on data migration possibilities between these two software. Students will learn to select the most adequate solution in their GIS projects, depending on the nature of their data and project needs.

The course is divided in three parts:

Part I – Introduction in ArcGIS PRO. The training material will be focused on vector and raster data models, their relationship within a geodatabase and on how to develop final cartographic products and maps.

Part II – How to migrate GIS data to CAD through the advanced use of a geodatabase.

Part III – AutoCAD Map 3D, introduction to AutoCAD, from basic concepts about how this software works, to the creation and editing of objects, the use of geospatial tools and the generation of maps.

GOALS



- Highlight the importance and utility of a Geographic Information System (GIS), its integration and applicability in a variety of professional sectors.
- Learn about the new ArcGIS Desktop release, ArcGIS PRO.
- Learn about AutoCAD key tools for designing basic and complex drawings, in order to create plans.
- Understand all the essential concepts needed for an advanced use of ArcGIS PRO, together with AutoCAD.
- Manage correctly vector information and elaborate complex spatial analysis with the help of geoprocessing tools.
- Integrate AutoCAD Map 3D with ArcGIS PRO and combine the geospatial tools provided by both software.
- Acquire the knowledge and gain experience in data preparation, layout development, map creation and high quality products delivery.



ONLINE FORMAT METHODOLOGY

Enrolled students in this online course will have access to our virtual e-learning platform (which is available 24 hours), where they will find the content of the course, practical exercises, forum discussion and additional content. One of the advantages of this online platform, is that students can benefit of real time support and assistance offered by the instructor (2 hours per week), whom they can contact via direct messages, regarding course related issues, at any moment. They can also contact the instructor via email.

STUDENT PROFILES



This course is aimed at students and professionals related to engineering, biology, geology and environmental sciences interested in the application of Geographic information Systems to its professional activities.

Important note: this course doesn't require previous ArcGIS Desktop knowledge.

INSTRUCTOR



Santiago Pardini Herranz

With Bachelor's degree in environmental sciences from Almeria University and master in engineering and environmental management from escuela de organización industrial (EOI), Santiago is a professional in the GIS consultancy sector and remote sensing at TYC GIS Integral Solutions.

Santiago has diverse specialist courses in geographic information systems, remote sensing, CAD and BIM.

He has more than 7 years experience in application of those technologies in environmental consultancy, diverse engineering companies, Geomarketing, spatial planning, etc.



Alfonso Martínez Pérez

With a Bachelor's Degree in Biology by the Universidad Complutense of Madrid (Spain), Environmental area specialization, Alfonso is the Technical Director at the consulting firm Persea Environmental Solutions (Persea Soluciones Ambientales). With specialised training in Autocad and Autocad applied to environmental management, he has extant experience in the development of cartography in GIS and CAD as well as in environmental impact studies and environmental integration for linear infrastructure projects, wind and photovoltaic installations, mining activities, spatial planning, fauna studies, etc.





PART I - ARCGIS DESKTOP

1 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

Introduction.

Definition and basic concepts.

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 and ArcGIS Pro

Arcmap interface, extensions and tools.

Guided exercise: Verify the functionality of the software.

2 - VECTOR DATA MODEL. INFORMATION DISPLAY

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

Data tools: search and queries.

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

Layer symbology: basic symbology, by category, by quantity and through graphics.

Other display options: labelling and transparencies.

Guided exercise: (load layers, types of selection, symbology) and assessment.

3 - COORDINATE SYSTEMS, PROJECTIONS AND GEOREFERENCING

Introduction to Coordinate systems and projections.

Defining Coordinate Systems.

Coordinate system transformation. Reprojection of ED50 or ETRS89 geographic databases.

Image, layer and CAD files georeferencing.

Guided exercise: (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

Designing databases.

Joining and relating databases.

Spatial joins. Obtain statistics from database information and spatial position of elements in a layer.

Guided exercise: (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 optimum areas according to several criteria.

Guided exercise: (spatial analysis) and assessment.

7 - MAP PRODUCTION

Adjusting the size and type of sheet.

Inserting 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

Guided exercise: Creation of a map.





PART II - FROM ARCGIS TO AUTOCAD

1 - GEODATABASE CREATION

Geodatabase: uses and advantages.

Geodatabase types, creation and management.

2 - EXPORT ARCGIS DATA TO AUTOCAD

Exporting GIS files to CAD (DWG,DGN and DXF) on an advanced level.

Exporting notes or tags from GIS to CAD.

Practical exercise (connect data bases and spatial relations) and assessment.



AUTODESK
MAP 3D

PART III - AUTOCAD MAP 3D

1 - FUNDAMENTALS AND BASIC USE OF AUTOCAD

User interface.

General concepts. Coordinates, layers, objects and properties.

Creating drawings. Basic drawing tools.

Guided exercise: Designing and elaborating simple drawings

2 - EDITING OBJECTS, LAYERS AND EXTERNAL REFERENCES

Editing commands in 2D.

Texts and annotations.

Working with layers.

Managing external references.

Guided exercise: Creation and editing of complex drawings.

3 - GEOSPATIAL TOOLS I: FUNDAMENTALS AND VECTOR ELEMENTS

Autocad Map and Geographic Information Systems.

Create maps.

Vector elements.

Data tables.

Guided exercise: Elaboration and composition of 2D maps, and editing vector elements.

4 - GEOSPATIAL TOOLS II: RASTER ELEMENTS AND 3D MANAGEMENT

Raster elements.

Working with Digital Terrain Models.

Applied 3D management.

Guided exercise: Creating 3D maps.

5 - PLANS LAYOUT, PRESENTATION AND DELIVERY

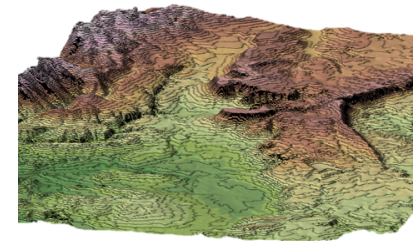
Paper space (layout). Interaction, view option and scale.

General organization, clean layers and display order.

Final presentation. Adding a plot stamp, legend and page setup to plans.

Delivering plans. E-transmit, pdf and plotting.

Guided exercise: Presentation and layout of a complete collection of plans.





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