REC 0317 – GEOGRAPHICAL INFORMATION SYSTEMS

COURSE DESCRIPTION:

This course starts as a general introduction to the basics of Geographic Information Systems and Science. It covers several major developments along the history of Geoinformation and it also provides hands-on experience to ultimately achieve fundamental skills on the use of a Desktop GIS software. Hence, it is a theoretical and practical course, where students will learn both the basics and applications of GIS in different fields, and with particular focus in the Galapagos habitats, where fieldwork will be carried out.

SPECIFIC LEARNING OUTCOMES OF THE COURSE:

- Start to think spatially (Basic)
- Understand the importance of a GIS methodology to handle spatial data (Basic)
- Define the components of a typical GIS, and differentiate among different types of spatial data (Intermediate)
- Gain understanding and experience in the use of Global Positioning Systems (Intermediate)
- Infer a general vision of the role of GIS in local and global societies (Advanced)

COURSE CONTENTS:

- Thinking spatially is especially important
- What is GIS, its origins, components and capabilities
- Understanding spatial data and creating information, in GoogleEarth
- GPS basics and hands-on experience in Puerto Baquerizo
- Vector and Raster Data formats
- Geoprocessing tools in ArcGIS
- Acquiring spatial data for an environmental project in El Junco
- Creating an StoryMap with ArcGIS Online
- Georeferencing, Geocoding
- Coordinate Systems and Projections
- Final Project workshop
- Presentations