



NUI MAYNOOTH
Ollscoil na hÉireann Má Nuad

**NUI MAYNOOTH – NIRSA / GEOGRAPHY GRADUATE RESEARCH
EDUCATION PROGRAMME – 2012-2013**

SPATIAL DATA & GIS (GY811) – 5 ECTS

(TWO 2-DAY WORKSHOPS, JUNE 13th/14th & 20th/21st)

INTRODUCTION

This GREP Module is aimed at providing interested postgraduates and other staff with an introduction to Spatial Data and Geographical Information Systems (GIS) more widely. It will be of interest to students who are likely to need to incorporate a range of spatial data (from publicly available and privately generated sources) into their theses. In addition, the module will be of interest to those students who wish to use GIS software to visualise and analyse self-generated data. It is aimed at a beginner level though students who have some GIS knowledge but feel they need a refresher may find it useful. The kinds of skills learned on this module will also assist attendees in a range of applied areas including; needs assessment, profiling, geo-demographics, policy support and social and environmental modelling.

AIMS & LEARNING OUTCOMES

The aim of the short course is quite simple, namely to introduce students to spatial data and GIS software over a short intensive time period. The learning outcomes will be to firstly allow students to gain knowledge of available sources of spatial data and to gather experience in assessing, downloading and doing some preliminary data management on such data sources. These sources will range from publicly available datasets like the Census but also other sources of public and privately stored data. The second core learning outcome will be to enable students to use basic GIS software and to be familiar with basic cartographic principles using ArcGIS as a mapping tool. A third learning outcome will be for students to become familiar with basic analytical routines within GIS to carry out problem-solving within a number of application areas. A final learning outcome will allow students to fully understand the connections between spatial data and GIS through a series of exercises whereby raw data are turned into professional maps.

ACADEMIC STAFF

The module will be team-taught by Dr. Ronan Foley (Geography/NIRSA) with some additional guest sessions.

PROPOSED CONTENT/PROGRAMME

The intention is to deliver the content as a set of 4 one-day workshops which will be a mix of taught and practical sessions with a greater emphasis on the latter. There will be morning and afternoon session in two-day blocks across two weeks early in the Autumn Term. In addition, the final workshop will concentrate on student learning and assessment. A rough listing of the workshop contents and probable dates are listed below.

Workshop 1:

Day and Date: Thursday, June 13th
Time: 10.00 am to 5.00 pm
Title: *Introduction to Spatial Data Sources and GIS Mapping*
Content: Brief introductory lecture on Spatial Data and GIS with an emphasis on sources, formats, availability and pre-processing. Very brief Introduction to ArcGIS software with Practical Laboratory exercises to familiarize students with a GIS.

Workshop 2:

Day and Date: Friday, June 14th
Time: 10.00 am to 5.00 pm
Title: *Introduction to GIS Software*
Content: Deeper Introduction to GIS software and basic cartographic principles. Particular emphasis will be on data entry and data creation. Practical Laboratory exercises to familiarise yourself with ArcCatalog, the ArcGIS database.

Workshop 3:

Day and Date: Thursday, June 20th
Time: 10.00 am to 5.00 pm
Title: *Introduction to GIS and Spatial Data Analysis*
Content: Further training on basic analytical and modeling options within ArcGIS. Practical training on how to get raw data into a GIS for subsequent mapping and analysis. Test exercises on local area profiling.

Workshop 4:

Day and Date: Friday, June 21st
Time: 10.00 am to 5.00 pm
Title: *Managing the Spatial Data Process*
Content: Practical training on how to get your own raw data into a GIS. Guided work on individual assignments with a focus on data of direct relevance to the student.

PROPOSED ASSESSMENT/CREDITS

It is not the intent to devise an onerous assessment scheme for the module but to focus instead on some direct benefit to the student. The likely assessment will be a documentation project wherein students identify and document how specific raw data sets of interest to themselves can be collated, converted and analysed within a GIS. The outcome will be a subject/dataset-specific working manual which will be useful for future students and add to collective knowledge.

The module is a 5-credit (ECTS) doctoral-level module.

ENROLLMENT

This module is open to all PhD students from NUI Maynooth as well as from any partner institution across the Irish Social Science Platform (ISSP) and the Dublin Regional Higher Education Alliance (DRHEA).

Please direct inquiries about the module and expressions of interest to Ronan.Foley@nuim.ie or to issplatform@nuim.ie.