



**Maynooth
University**
National University
of Ireland Maynooth

**MAYNOOTH UNIVERSITY GEOGRAPHY/ NIRSA GRADUATE RESEARCH
EDUCATION PROGRAMME: 2015-2016**

SPATIAL DATA & GIS (GY811) – 5 ECTS

(THREE DAY SHORT COURSE, MAY 17th - 19th, 2016)

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 focus on students who are likely to need to incorporate a range of spatial data (from publicly available and privately generated sources) into their theses or applied research work. In addition, the module will assist those students/staff 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 - should still find it useful. The kinds of skills learned on this module will also assist attendees in a range of applied areas including but not restricted to; needs assessment, profiling, geo-demographics, policy support, historical research 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 taught by Dr. Ronan Foley (Geography/NIRSA).

PROPOSED CONTENT/PROGRAMME

The intention is to deliver the content as an intensive three day workshops which will be a mix of taught and practical sessions with a much greater emphasis on the latter. There will be morning and afternoon session in across three days in early May. A rough listing of the workshop contents and probable dates are listed below.

Workshop A:

Day and Date: Tuesday, May 17th
Time: 9.30 am to 5.30 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: Wednesday, May 18th
Time: 9.30 am to 5.30 pm
Title: Introduction to GIS: Data Entry & Management
Content: Deeper Introduction to GIS data entry and data creation. Practical Laboratory exercises to familiarise yourself with digitizing and using ArcCatalog, as well as with basic data entry and conversion techniques.

Workshop 3:

Day and Date: Thursday, May 19th
Time: 9.30 am to 5.30 pm
Title: Introduction to GIS and Spatial Data Analysis
Content: Basic training on basic vector analytical and modeling options within ArcGIS. Test exercises on local area profiling. 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.

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 & CONTACT

This module is open to all PhD students from Maynooth University as well as from any partner institution across the Irish Social Science Platform (ISSP).

Please direct inquiries about the module and expressions of interest to Ronan.Foley@nuim.ie, nirsa@nuim.ie or geography.department@nuim.ie.