DALARNA UNIVERSITY

Course Syllabus

Spatial Data and GIS 7.5 Credits*, Second Cycle

Learning Outcomes
Upon completion of the course, students will be able to:

- Manipulate spatial data both in R and in a GIS
- Use the software R and any GIS software for analysing and visualising various kinds of spatial data
- Combine data from different data sources in order to visualise spatial phenomena
- Produce maps in accordance with cartographical rules and conventions
- Present and distribute results from a spatial analysis
- Describe and use standards for publishing web maps and map services
- Handle large amounts of spatial data

Course Content
This course starts with an introduction to GIS (Geographic Information Systems) and the main characteristics of spatial data. This part of the course focuses on the construction of thematic maps, mapping conventions and map design.
The next part of the course covers techniques to handle, analyse and visualise spatial data in R. The results are presented in a report generated using R and other relevant applications. The last part of the course uses large spatial datasets and spatial statistics to solve locational problems. In connection with this type of analysis methodological problems related to levels of scale and aggregation of micro data will be discussed.

Assessment
Individual projects 7,5 Credits (U-VG). For assessment, students must actively participate in at least two thirds of the timetabled laboratories.

Forms of Study
Lectures and laboratories

Grades
The Swedish grades U–VG.

Prerequisites
30 credits second level within the Mainfield of Microdata Analysis

* 1 Credit = 1 ECTS

Subject:
Microdata Analysis

Group of Subjects:
Other Interdisciplinary Studies

Disciplinary Domain:
Natural Science, 100%

This course can be included in the following main field(s) of study:
1. Microdata Analysis

Progression Indicator within (each) main field of study:
1. A1F

Approved:
Approved 17 October 2019
Valid from 8 January 2020