



SLUkurs

Syllabus

PNGo093 A short introduction to Geographic Information Systems (GIS) with a focus on making choropleth maps, 3.0 credits

Syllabus approved

2020-12-18

Subjects

Other Social Science/Agricultural History/Rural Development/Landscape Architecture/Landscape Planning/Environmental Communication

Education cycle

Third cycle

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

Admittance to a PhD program.

Objective, including learning outcomes

Upon completion of the course, the student should:

- have a basic understanding of different kinds and uses of geographic information and cartographic principles, including a critical perspective on how maps intersect with power interests;
- be able to produce choropleth maps, taking into account various potential sources of error and controlling for potential misrepresentation of the underlying geographic information;
- be able to interpret and critically analyze choropleth maps, and explain if/when a choropleth map is appropriate given the data and the issue being explored.

Content

This course will focus on making choropleth maps, which are popular thematic maps where statistical information that is tied to administrative and/or territorial units is represented through different shading, color combinations or symbols. Such maps are useful for visualizing the geographic spread and variability of a particular, often, socio-economic, phenomenon. Choropleth maps are relatively easy to make, but require careful thought and execution to avoid misrepresenting data.

This course will also include lectures introducing basic concepts in Geographic Information Systems (GIS) (raster and vector data, map projections), the basic principles of cartography, questions on data management (including ethical questions related to data), and explaining choropleth maps and how they are used. The way in which maps are political technologies, i.e. how they simultaneously reflect and promote particular power relations, even as they may conceal these commitments, will also be discussed in this course.

The course will include exercises, where the creation of choropleth maps will be explained. These exercises will also demonstrate the various steps in preparing or "wrangling" data to be used in choropleth maps, in particular joining data from different sources according to a common key. Finally, the exercises will illustrate basic cartographic principles for making a print-ready map. Students will then receive an assignment to make their own choropleth map(s). Student maps will be presented, discussed and assessed in a seminar format at the end of the second week of the course.

Requirements for examination

Seminar presentation of own maps explaining the purpose of the map and why it is important and an account of the different steps taken to produce the map, and how potential sources of error were avoided.

Additional information

The primary software applications used in this course will be QGIS, which is free and open source, and Microsoft Excel. QGIS works on all computer platforms (Microsoft, Apple and Linux), with the possible exception of literally the very latest Apple computers that are coming out in December 2020.

The course is offered by the research school Society and Landscape (SL) at the Department of Urban and Rural Development, SLU.

Responsible department

Department of Urban and Rural Development