

COURSE - GEOSPATIAL ANALYSIS FOR SOCIAL AND POLITICAL SCIENCES

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This 20-hours course introduces key concepts and techniques in the use and application of geospatial analysis for political science research.

No prior experience with statistical computing is required or presumed.

Designed for those new to geospatial analysis, the content of the course covers essentials such as software, programming languages and libraries for geospatial analysis, location analysis, basic thematic mapping techniques, multi-layer mapping, geoprocessing, and an introduction to exploratory spatial data analysis.

The first 4 hours of the course are devoted to introducing the basic elements of the geospatial analysis. The goal of this session is to increase participants awareness about thinking spatially and geographic problem solving.

Participants who want to get an idea of what geospatial analysis consists of can attend only this module.

The rest of the course is a ‘hands-on’ workshop where participants will be installing software on their own computers, working with a variety of political data sets, and creating maps and associated geographic visualizations.

17 May - 15 June 2022
Computer Lab
NASP Graduate School
via Pace 10 - Milan

Candidate participants are kindly requested to fill in the [application form](#) by May 9, 2022, specifying whether they want to attend only the first module or all modules.

Faculty members are all welcome as observers.

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Methodology MeMa seminars Matters

PROGRAM

Session 1: Thinking spatially - 17-18 May, h. 16.30-18.30

The goal of the first session is to increase participant awareness about thinking spatially and geographic problem solving. Exercises introduce the fundamentals of R, the tidyverse, and spatial data.

- ♦ Why the spatial is special?
- ♦ Tools of the trade: maps, statistical computing v. GIS, and R and the Tidyverse
- ♦ Exercise #1: How many Italies?
- ♦ Exercise #2: Making democracy work

Session 2: Geospatial Data Management

The focus of this session is to provide participants an overview of essential features of geospatial data. Exercises provide training on working with different data types and table joins.

- ♦ Raster or vector? Points, lines or polygons?
- ♦ Coordinates, tables, and tables of coordinates.
- ♦ Exercise #3: Selection & Queries - Where are...?
- ♦ Exercise #4: Distance and point pattern analysis - How far?

Session 3: Geospatial Political Analysis 1

Building upon the first two sessions, this session covers basic geoprocessing techniques and exploratory spatial data analyses.

- ♦ How to ask geospatial questions
- ♦ Exercise #6: Mapping elections
- ♦ Exercise #7: The politics of health - SARS-CoV-2 across Italy

Session 4: Geospatial Political Analysis 2

Building upon the first three sessions, this session covers spatial autocorrelation and exploratory spatial data analyses.

- ♦ What is spatial autocorrelation and why does it matter?
- ♦ Exercise #6: Detecting and assessing spatial autocorrelation
- ♦ Exercise #7: Spatial regression techniques

The classes of sessions from 2 to 4 will be held in the following dates and hours:

26/5 h. 10.30-13.30

27/5 h. 10.30-12.30

8/6 h. 14.30-16.30

9/6 h. 10.30-12.30

10/6 h. 10.30-14.30

15/6 h. 14.30-18.30

The course schedule can also be consulted on the [NASP calendar](https://www.nasp.eu/calendar)