

DATA VISUALIZATION AND MAPPING
TERM II

Dr. Sara Caramaschi (sara.caramaschi@gssi.it)
Postdoctoral fellow in Social Sciences, Gran Sasso Science Institute

Prof. Filippo Celata (filippo.celata@uniroma1.it)
Professor of Economic Geography, University of Rome La Sapienza

Prof. Rachel Franklin (rachel.franklin@ncl.ac.uk)
Professor of Geographical Analysis, Newcastle University

Objectives - The course will enable students to develop visual communication and mapping skills. It will provide an overview on the variety of tools and techniques adopted over time to convey data and information by means of visuals (charts, timelines, maps, etc.). Students will familiarise themselves with the best software for data mapping and visualization.

Structure - The course is organised in 7 lectures and a final lab. Dr. Sara Caramaschi will introduce a variety of general issues concerning visual methods and data (of various kinds), presenting examples, tools and techniques adopted over time to convey information in research. Prof. Rachel Franklin and prof. Filippo Celata will teach spatial analysis, GIS, and introductory cartography, with a pedagogic orientation towards policy applications and the social sciences and humanities. During the final lab, a one-day workshop, students will elaborate an independent map.

Kind of Lecture	Lecturer	Topic/s
Lecture 1: Class (2 hours)	Dr. Sara Caramaschi	Encountering the visual in social science research
Lecture 2: Class (2 hours)	Dr. Sara Caramaschi	Making the visual: toward a more seeing research
Lecture 3: Class (2 hours)	Dr. Sara Caramaschi	Making sense of data and communicating data in research
Lecture 4: Class (4 hours)	Prof. Rachel Franklin	GIS for Regional Science & Economic Geography Applications Importing and visualizing data GIS Functionality Basic Cartography
Lecture 5: Class (3 hours)	Prof. Filippo Celata	Conventional and unconventional geodata sources Spatial scales, geometries and partitions. Georeferencing and geocoding
Lecture 6: Class (3 hours)	Prof. Rachel Franklin	Common GIS Methods and Tools Creating Spatial Variables Density Measures Exploratory Spatial Statistics
Lecture 7: Class (4 hours)	Prof. Filippo Celata	Point processes and spatial clustering Spatial autocorrelation Introduction to spatial interpolation and regressions
Final Lab	Caramaschi, Celata, Franklin	Independent Data Mapping and Visualization