Libera Università Internazionale
degli Studi Sociali Guido Carli

LUISS

Syllabus

Academic Year	2020/2021
Program	Policies and Governance in Europe
course	Data Analysis for Social sciences
Term	II semester
Year	1
SSD	SECS-S/03 - Statistica economica
Credits	6

INSTRUCTIONAL GOALS	Quantitative empirical analysis has become increasingly an important part of political science research – and social sciences in general – and public policy debates. The results of statistical analysis or quantitative data, such as opinion polls, election results, and government spending, can be seen in many research articles and books on political science and various reports on policy issues published by governments, think-tanks and news media. Ability to properly understand and critically assess the results of quantitative statistical analysis has become an invaluable asset for any social scientists. This course introduces important foundations of these quantitative empirical studies.
INTENDED LEARNING OUTCOMES	**Knowledge and understanding**: The participants are expected to know some basic principales in social sciences methodologies and to have a minimal knowledge in descriptive statistics. The level of mathematical formalisation of the course is moderate. More important than the formulas, the learner is expected to understand the methodological issues and empirical tools applied to political science and public policy questions. **Applying knowledge and understanding:** Whether you think they should or they should not, numbers, data, and quantitative methods matter to today's public policy and political analysis. Policymakers, political analysts and administrators use numbers to support their arguments. They also use quantitative data analysis to predict and evaluate the success or failure of new policies, analyze trends in public opinion or to develop empirical measurement. This course will help students in engaging in evidence-based political and policy analysis and will provide them the solid grounds to either practice quantitative methods or read publications based on it. A particular emphasis will be given to examples based on public policy case studies in areas of direct interest to the Policies and Governance in Europe program (cultural policies for instannce) **Making judgements:** There are two main necessary ways to gain autonomy, independence and critical thinking in quantitative methods : one is by reading texts presenting the applications of methods in substantive fields (this provides an intellectual incentive to study the techniques); the other is by practice and doing it yourself. An optimal combination of the two is by replicating with real data the results of a published papers. This gives confidence in quantitative skills and produce an “open-the-gate” effect

	: it reduces the "black box"aspect of the methods. The course will ofer several opportunities to practice and/or to read/replicate published results. C**ommunications Skills:** How to "speak quantitative methods"? One of the most important objective of a quantitative class for social scientists is to learn how to communicate the (sometimes) tricky vocabulary and results of advanced quantitative methods and techniques. An important aspect of the course will be to lean the participants the necessary vocabulary of quantitative methods and also the techniques of graphical displays that may help to communicate the results of quantitative methods. **Learning skills:** The course will be close to a seminar/workshop where students receive practical and methodological teaching with examples and some replications of papers. The objective is to "push" ahead the students in empirical and practice direction. The empowerment of the students in making them users of quantitative methods is important. A very important achievement will be that the students can use the learned techniques for their other academic activities of LUISS.
Pre-requisites	There are no formal prerequisites for this course. Basic knowledge of descriptive statistics and a basic background in the use of the statistical software (like Stata, SPSS, R) are helpful but not formally required.
Course content	Beyond the basic techniques and principles of statistical reasoning, the objective is to train students in methods of multivariate quantitative analysis frequently used in political and policy analysis. The course will run from simple and bivariate analysis to multivariate statistical models techniques. The regression analysis and its different forms (linear, nonlinear, binomial and multinomial logit analysis, loglinear analysis) will be covered by several sessions, going from the first basic recalls about linear model to more specialized topics. The course will also introduce shortly to geometrical data analysis (principal components and correspondence analysis) and to public policy evaluation techniques (for causal inference).
Reference Books	Alan Agresti, Barbara Finlay. Statistical methods for social sciences. Prentice Hall, 4th edition Paul Kellstedt, Guy Whitten. The fundamental of political science research. Cambridge, Cambridge University Press, 2nd edition, 2013
Teaching Methods	Teaching methods will be lectures/examples and group project works
Assessment	Midterm exam and project works