



Syllabus

Academic Year	2022/2023
Program	Politics: Philosophy and Economics
Course	Lab of Data Analysis for Economics and Political Sciences
Term	Annual
Year	2
SSD	SECS-S/01
Credits	6

	<p>The main aim is to endow students with the following abilities: ability to collect and process data, ability to interpret findings and to communicate results useful not only to formulate critical judgments on the economic, social and political issues behind the working of a real economic system; but also to communicate information, ideas, problems and solutions to both specialists and non-specialists audiences. These abilities match the Dublin Descriptors no. 3 independent ability of judging: to gather and interpret relevant data usually within their field of study to inform judgments that include reflection on relevant social, scientific or ethical issues; no. 4 communicative skills: to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.</p>
INSTRUCTIONAL GOALS	<p>The methodological approach consists of empirical analysis based on real data at a national (regional and provincial) and international level, drawn from official databases (ISTAT, EUROSTAT, OECD, IMF, WTO, World Bank, etc.) and processed in order to carry out both spatial benchmarking and time series analysis. The teaching method is interactive and involves the use of a pc by the students to manage data by means of Microsoft Office Excel and other statistical/econometrics packages. The final objective is to provide expertise referring to Excel Advanced and the Digital Competence Framework DIGCOMP 2.0 with reference to Area 1-Information and data literacy and Area 3- Digital content creation. These areas correspond to the following ECDL (European Computer Driving Licence) modules: Computer Essentials; Online Essentials; Word Processing; Spreadsheets. Regarding Area 3 (Digital content creation), the Laboratory focuses mainly on the sub-themes of the ECDL Advanced Spreadsheets and Advanced Database modules.</p>
INTENDED LEARNING OUTCOMES	<p>Knowledge and understanding: Ability to collect and process data, to interpret findings and to communicate results to formulate critical judgments on the economic, social and political issues behind the working of a real economic system.</p> <p>Applying knowledge and understanding:</p>
They describe what a learner is expected to know, understand and	



be able to demonstrate after completion of a learning path.

Starting from topics related to current events in economic policy field, ability to identify the proper data source from official statistics providers, to export data in the available format (Excel, csv or others), to process data using advanced Microsoft Excel functionalities or other statistical tools, to interpret findings and to communicate results through charts, tables and dashboards and technical report.

Making judgements:

Ability to manage the whole data processing, from collection to presentation of most significant findings, makes students independent in developing an analysis of the socio-economic political topic they face. They can express opinions and support a thesis on the basis of real data, according to a scientific approach, so favoring the development of the making judgements.

Communications Skills:

Ability to communicate results useful not only to formulate critical judgments on the economic, social and political issues behind the working of a real economic system, but also to communicate information, ideas, problems and solutions to both specialists and non-specialists audiences.

Learning skills:

With respect to political, economics and social issue, ability to identify, in an independent manner, data sources, tools and carrying out statistical analysis to find information. Ability to technically understand the current news about political, economics and social issues.

Pre-requisites

Basic knowledge of statistics and familiarity with Microsoft Office Excel would be beneficial but in any case the basic elements shall be repeated at the beginning of the course.

Course content

Every lesson faces topics related to current events in economic policy field starting from real data processed by means of techniques of applied statistics to a workbook created in Excel using commands, formula and functions (sum, average, max-min, standard deviation, standardization, correlation, regression, logic function “e”, “o”, “if”, etc.) and other statistical/econometrics software (GRET). The approach consists in empirically verify for the real Italian economy the key theoretical macroeconomics themes addressed in the course books of Macroeconomics and Economic Policy with a twofold degree of analysis: national with regional and provincial detail; international (OECD, G7, Advanced and Emerging countries, etc.) with a particular attention to the European Union (EU) benchmarking.

Every lesson endows student with the following skills of Excel Advanced: apply advanced formatting options such as conditional formatting and customized number formatting and handle worksheets; use functions such as those associated with logical, statistical, financial and mathematical operations; create charts and apply advanced chart formatting features; work with tables and lists to analyze, filter and sort data; validate and audit spreadsheet data; enhance productivity by working with macros; use linking, embedding and importing features to integrate data. <http://ecdil.org/about-ecdil/advanced-spreadsheets> Moreover, the student acquires digital skills recognized by The Digital Competence Framework DIGCOMP 2.0 with reference to Area 1-Information and data literacy: to articulate information needs, to locate and retrieve digital data, information and content; to judge the relevance of the source and its content; to store, manage, and organise digital data, information and content. Specifically, the skills developed are: 1.1 browsing, searching and filtering information and digital content; 1.2 evaluating data, information and digital content; 1.3 managing data, information and digital content.

Moreover, the student will acquire also digital skills related to the Area 3-Digital content creation (DIGCOMP 2.0) set out in: a) the ECDL Advanced Spreadsheets module (Apply advanced formatting options such as conditional formatting and customised number formatting and handle worksheets; Use functions such as those associated with logical, statistical, financial and mathematical operations; Create charts and apply advanced chart formatting features; Work with tables and lists to analyse, filter and sort data. Create and use scenarios; Validate and audit spreadsheet data; Enhance productivity by working with named cell ranges, macros and templates; Use linking, embedding and importing features to integrate data; Collaborate on and review spreadsheets; Apply spreadsheet security



features); b) Advanced Database (Understand key concepts of database development and usage; Create a relational database using advanced table creation features and complex relationships between tables; Enhance productivity by working with macros and use linking and importing features to integrate data).

Being a Laboratory the range of topics can stay “in progress”. So it is important to be ready to deviate from what previously planned in the syllabus, when a specific requirement encountering general interest should emerge from the audience or topical economic issues should make it necessary to look into more deeply. Having said that, of course a formula is a formula, whatever it is used for.

Reference Books

REFERENCE READING

Istat <http://dati.istat.it/>

Eurostat <http://ec.europa.eu/eurostat/data/database>

Commissione europea https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en

OCSE <http://stats.oecd.org/>

FMI <http://www.imf.org/en/data>

Banca Mondiale <http://data.worldbank.org/>

UNESCO <http://data.uis.unesco.org/>

ISTAT Rapporto sulla competitività dei settori produttivi - Edizione 2017
<http://www.istat.it/it/archivio/197346>

ISTAT Benessere equo sostenibile <http://www.istat.it/it/benessere-e-sostenibilit%C3%A0>

ISTAT NOI Italia - Edizione 2016 <http://noi-italia.istat.it/>

European Commission Regional Competitiveness Index RCI
http://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/

OECD Education at a Glance 2016: OECD Indicators http://www.oecd-ilibrary.org/education/education-at-a-glance-2016_eag-2016-en

OECD Government at a glance, 2015 <http://www.oecd.org/gov/govataglace.htm>

World Bank Doing Business 2017 - Understanding Regulations for Small and Medium-Size Enterprises <http://www.doingbusiness.org/>

UNIONCAMERE ATLANTE della competitività delle province e delle regioni
<http://www.unioncamere.gov.it/Atlante/index.htm>

WEF The Global Competitiveness Report 2016 - 2017
<https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1>

Teaching Methods

The teaching method is interactive because implies the simultaneous use of a pc by the teacher and students to manage data in excel and in other statistical/econometrics packages. The lesson scheme foresees an input that is to say an assertion about an economic phenomenon inspired by the topical economic issues drawn from a media, tv and radio broadcasting, newspaper or on line official press release from any organization committed to provide statistics. The range of themes covered by the course aims at explaining: the way in which the whole economic system functions through the analysis of all economic operators (households, enterprises, government, private institutions) and their corresponding functions (consumption, production of goods and services, investment, international trade); how the recently implemented policy measures could



affect the real economy by taking into account the relationship between macroeconomic variables (i.e. Okun law, Phillips curve, etc.).

The lesson scheme foresees also an output consisting of the following steps: 1st step – problem formulation for the phenomenon of interest; 2nd step – data searching; 3rd step – data gathering through access to databases; 4th step – data extraction; 5th step – data analysis and depiction with tables/graphs; 6th step – interpretation and description of the results.

The elaboration phase involves the application of specific statistical devices both basic and advanced such sum, average, ratios, index of dispersion, deflators, percentage variations, linear regression (OLS), standardization, seasonal adjustment, trend-cycle analysis. The teacher and the students carry out jointly each step and in case of difficulty the teacher will assist the student until he/she will be able to manage the task independently.

Assessment

The final eligibility will be released after passing an empirical test with tasks to be performed individually by each student on the PC. The students enrolled in the final exam are requested: 1. to gather data; 2. to process data using statistical or logical functions; 3. to represent the findings of the elaboration by means of charts and tables; 4. to interpret and comment the main findings. The topic will be chosen by the teacher among the material already taught during the course (see ex post files in LUISS e-learning platform <http://learn.luiss.it>). During the practice test, all students are also requested to show how to download dataset in excel format from the main on line databases such as ISTAT, OECD, EUROSTAT, IMF, UNITED NATIONS, WORLD BANK.

Alternatively, an optional teamwork (3/4 students at most) could be opted-in. The teamwork consists of a mini-report in word structured as follows: a) short theoretical overview of the subject; b) data gathering and description; c) statistical methods applied to process data; d) interpretation and comment of the findings; e) concluding remarks; f) References and webliography. For students who opt-in the mini-report the topic of the final examination will be the same as the one chosen in the mini report. The final report in word and the workbook in excel containing the raw data, the elaborations and the results have to be sent to the teacher by e-mail. The deadline for the final report is one week before the exam session chosen.
