# Methods for Evaluating Policies Techniques Decision Making (with Workshop on Research of Sources and Writing of Essay and Dissertation)

## Prof. Teodora Erika Uberti; Prof. Luca Stella

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course lasts 40 hours in the first semester and is supported by two workshops, *Workshop on Software Use (Excel and Stata)* and *Workshop on Research of Sources and Essay and Dissertation Writing*.

The course provides students with tools for quantitatively analysing policies, starting by introducing basic descriptive univariate and bivariate statistics before moving on to key econometric techniques.

The two workshops support the course at the practical level: the first one focuses on learning and improving the use of electronic spreadsheets (Excel for Win) and of the econometric software STATA; the second one focuses on research of sources and on essay and dissertation writing.

All three modules and the course will focus on supporting explanations with examples and exercises based on real data, taken from contexts within the fields of political and social sciences.

Although attendance is not mandatory for lectures and workshop, it is strongly recommended. A continuous study from week to week, constitutes a valid method of learning the content presented in the course.

*Knowledge and understanding*

Students will learn to use in combination all the techniques presented in this course and the next one (in semester 2), Methodologies 2, and to use them in contexts that are complex and varied in terms of objectives, missions and values.

*Ability to apply knowledge and understanding*

The applied component of the course will help students learn to:

– use quantitative analysis techniques, from collecting and managing data to reproducing appropriate empirical analyses;

– adequately set the research questions of a project (whether it is an essay or a dissertation);

– complete an empirical analysis from the research questions to the model estimation used to analyse the causal effects of interest for a policy evaluation;

– critically interpret quantitative analysis contained in the reports.

***COURSE CONTENT***

The course will first review some basic concepts of descriptive statistics and examine the nature of useful data to carry out quantitative analysis. Next, the course will:

– present single and multiple linear regression estimation with the OLS method;

– define and describe nonlinear models (such as polynomes and logarithmic forms);

– present nonlinear models such as linear models of probability, but also logit and probit estimation with the ML method.

Each model and method will be described from a theoretical and empirical point of view through the use of STATA. In particular students will have the opportunity to apply what explained in class and practice with *do files.*

***READING LIST***

In addition to lecture notes and workshop exercises, some selected chapters from the following text are recommended:

J.H. Stock-M.W. Watson, Introduzione all’econometria, Pearson, Prentice Hall, 2016, 4th edition (from chapter 1 to chapter 9; chapter 11, chapter 12).

Further information regarding the reading list and further supplemental readings will be communicated in class and made available on Blackboard. Therefore, students are strongly advised to check it regularly.

***TEACHING METHOD***

The course will be delivered by means of frontal lectures alternating theory and practice and practical classes.

Lectures will be delivered in presence. The slides prepared by the lecturer will be made available after presenting the topics and are considered as accessory material and do not replace the book. The study of slides only is not sufficient to pass the exam.

Workshop lessons are delivered online and alternate synchronous and asynchronous moments in order to favour a more personalised study according to each student’s needs and previous competences.

The Blackboard platform will be used to make these materials available.

The course is supported by a second workshop regarding research of sources and setting research questions appropriate for a scientific and/or a dissertation. Please see details of this second workshop below.

***ASSESSMET METHOD AND CRITERIA***

The final mark is the weighted average of the marks of the written test (67%) and of the project work (33%).

The first part of the exam is written and includes theoretical open-ended questions aimed to assess both students’ knowledge of econometric analysis techniques and their ability to read and interpret STATA output.

The second part of the exam is a project work aimed at testing students’ ability to use an Excel spreadsheet and STATA as learned during the workshop on software use (Excel and Stata). This project work must be submitted through Blackboard prior to the exam date on which students will take their written exam.

Detailed information on the workshop and on the content of the project will be provided at the beginning of the course.

The final mark can be increased by the evaluation of the Workshop on Research of Sources and Essay and Dissertation Writing. The acquired skills will be assessed through a series of brief self-assessment tests (on Blackboard) worth maximum 2 points (0; 0.5; 1; 1.5 or 2) to be added to the final mark of Methodology 1. These tests will be taken on specific dates remotely, after the relative topics are covered during the course.

The mark increase is possible only if the final mark is equal to or higher than 18.

From January 2023, students can register for the official exam on the iCatt portal to be able to take the written exam. Students who do not register for the exam via iCatt will not be allowed to take the exam.

Students are advised to take the exam as soon as possible, in order to start the semester-2 lectures with no gaps and with all the knowledge needed to facilitate understanding of the content of the course Methodology 2, for which this course serves as preparation.

***NOTES AND PREREQUISITES***

Students require basic knowledge of microeconomics and statistics to take this module. Students can either rely on knowledge acquired on their undergraduate degree programme or use the introductory Blackboard courses on Economic Policy and Statistics, including the final self-assessment tests.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching and assessment will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.

# Stata Workshop (Methods for Evaluating Policies Techniques Decision Making 1)

## Prof. Teodora Erika Uberti; Prof. Luca Stella

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The course aims to introduce students at first to use Excel, then toStata econometrics software. In particular, it will focus on data cleaning, simple/multiple linear regression model estimation, individual/aggregated data analysis, nonlinear progression model estimation, logit and probit models evaluation, and coefficient interpretation in a nonlinear progression model.

*Intended learning outcomes*

At the end of the course, students will be able to:

– clean datasets using Excel ;

– sort, with a high degree of autonomy, datasets for Stata analysis;

– use Stata to estimate the simple/multiple linear regression model;

– know the key analytical elements for individual and aggregated data;

– estimate logit and probit models and interpret their coefficients.

***READING LIST***

C. Baum, *An Introduction to Modern Econometrics using Stata*, Stata Press.

### **TEACHING METHOD**

Practical activities based on the use of Stata software. Class attendance is strongly recommended.

***NOTES AND PREREQUISITES***

There are no prerequisites for attending the course.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching and assessment will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.

# Workshop on Research of Sources and Writing of Essay and Dissertation (Methodologies for Evaluating Policies 1)

## Prof. Alberto Aziani

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The workshop aims to introduce students to the understanding, design and writing of a scientific essay, thus also improving their ability to write a dissertation. The workshop will focus on the distinctive features of the main forms of scientific texts and will present the main conventions of academic writing, starting from the methods and styles of citation and management of a reading list. During the workshop, students will be guided through the process of setting up/drafting and writing sections of a scientific text. In addition to focusing on the formal structure of a scientific text, the workshop will guide/accompany students in thinking about concepts of knowledge gaps, research questions and hypothesis.

*Intended learning outcomes*

At the end of the workshop, students:

– will be able to independently reason on the relationship between existing literature, identifying knowledge gaps, developing a research question, and formulating a hypothesis;

– will be able to navigate among various types of scientific text and identify their main features and purposes;

– will know the fundamental elements for structuring a scientific text and their functions;

– will have acquired the aims of literature review and will have the basic skills to use software to manage it;

– will have acquired basic techniques of scientific writing, for managing and organising a text.

***READING LIST***

(texts and websites for in-depth study)

The following recommended readings complement classroom material distributed during the workshop. These readings are not mandatory to pass the workshop.

Cerruti, M., e M. Cini, *Introduzione Elementare Alla Scrittura Accademica*. Bari-Rome: Laterza, 2007

Dartmouth College, *Dartmouth Writing Program*, <https://writing-speech.dartmouth.edu/learning/materials>

Dell’Orso, F., *Citazioni bibliografiche,* <http://www.aib.it/aib/contr/dellorso1.htm>

Eco, U., *Come si fa una tesi di laurea: le materie umanistiche,* Milan: Bompiani, 1999

Hamilton College. 2015. “Writing Resources - Writing Center Handouts - Hamilton College.” <http://www.hamilton.edu/writing/writing-resources/writing-center-handouts>.

McAfee A., E. Brynjolfsson, *Big Data: The Management Revolution,* Cambridge, MA: Harvard Business Review, 2012, <https://hbr.org/2012/10/big-data-the-management-revolution>

Purdue University. 2015. “The Purdue OWL: Academic Writing.” <https://owl.english.purdue.edu/owl/section/1/2/>.

Ridgeway G., *Policing in the Era of Big Data,* The Annual Review of Criminology*:* 2018, <http://www.annualreviews.org/doi/pdf/10.1146/annurev-criminol-062217-114209>

Santambrogio, M., *Manuale Di Scrittura (Non Creativa)*. Bari-Rome: Laterza, 2006

Simon Fraser University, *Writing for University*, <http://www.lib.sfu.ca/slc/strategies/writing>

University of Oxford, *Developing Good Practice,* <http://www.admin.ox.ac.uk/edc/goodpractice/develop/>

University of Oxford, *Plagiarism*, <https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1>

University of Toronto, *Writing Center*, <http://utsc.utoronto.ca/twc/handouts-and-online-resources-writing>

University of Wisconsin, *The Writer’s Handbook*, <http://writing.wisc.edu/Handbook/index.html>

### **TEACHING METHOD**

Frontal lectures and practical activities based on writing exercises (also through the use of specific software). In addition, during the course, students will have access to short video tutorials on the use of writing software.

Class attendance is highly recommended.

***ASSESSMENT METHOD AND CRITERIA***

Blackboard-based test, taking place at the end of the workshop, in which students can get a maximum of 2 points (that is to say 0; 0,5; 1; 1,5; 2) that will be then added to the mark obtained in the Methodologies for Evaluating Policies 1 exam (passing score: 18/30).

The test will consist of multiple-choice, true or false, and fill in the blank exercises, and it will be based on the topics explained in class during the course.

The test will be available on Blackboard during specific timeframes, so students will be promptly notified. It can be taken only once.

*Assessment criteria*

The assessment will be based on the following criteria:

– the use of independent thinking skills applied to the structural elements of scientific texts and their function;

– the ability to be concise;

– the use of an appropriate terminology;

– the knowledge of the topics explained during the workshop.

***NOTES AND PREREQUISITES***

There are no prerequisites to attend the workshop.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching and assessment will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.