EPOG JOINT MASTER

SYLLABUS

Name of the course:	Quantitative Methods			
Teacher:	Michalis Nikiforos			
University / organisation:	University of Geneva			
Language of teaching:	English			
ECTS:	6			
Semester (S1, S2, S3 or S4):	☑ S1	☐ S2	☐ S3	☐ S4
Teaching method(s):	☐☑ Lecture courses		☐ Flipped classroom	
	Other:			
Type(s) of evaluation:	☐☑ Sitting exam		☐ Written report	
	☐ Oral defence		☐ Group project	
	Other / comments:	Attendance to courses and tutorials is mandatory **There will be two assignments and a final exam that will contribute to the final grade as follows:** • **Final Exam: 50%** • **Assignments: 40% (20% each)** **The remaining 10% will be determined by tutorial evaluation (based on attendance and class activities).**		
Expected deadline(s) for the evaluation(s)	Two assignments during the semester Exam mid-January			
Expected date of final results:	End of January			
Summary of the content:	The course provides an introduction to the use -and misuse- of quantitative methods for the study of economic and social issues. Students will familiarize themselves with the basic theoretical underpinnings of the most common statistical and econometric techniques. A lot of time during the classes and the tutorials will be devoted to hands-on applications of these techniques with the use of statistical software (STATA). At the same time, there will be a discussion of the limitations and the methodological presuppositions of using quantitative methods in social sciences.			
Indicative list of lectures:	**1) Review of Probability Theory and Mathematical Statistics** 1.1) Introduction to probability theory 1.2) Introduction to mathematical statistics **2) Regression Analysis with Cross-Sectional Data** 2.1) The Simple linear model, assumptions and properties of estimator			

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	2.2) Multiple regression analysis: estimation, inference, asymptotics, functional forms 2.3) Dummy variables 2.4) Data issues and some solutions to data issues 2.5) Causality 2.6) Instrumental variables and 2SLS 2.7) Randomized Experiments **3) Panel Data and Differences-in-differences** **4) Regression Analysis with Time Series Data** 4.1) Basic time series data regression 4.2) Data and model issues when using time-series data **4) A critical evaluation of the quantitative methods and econometrics**
Short bibliography:	**Main Textbooks:** 1. Jeffrey M. Wooldridge, 2019, *Introductory Econometrics: A Modern Approach*. 7th edition Cengage Learning. 2. Richard A. Berk, 2004, *Regression Analysis: A Constructive Critique*, Sage Publications. **Additional textbooks:** 1. Marno Verbeek, 2017, *A Guide to Modern Econometrics*. 5th edition John-Wiley & Sons. 2. Joshua Angrist and Jörn-Steffen Pischke, 2008, *Mostly Harmless Econometrics*. Princeton University Press. 3. Gujarati Damodar and Porter Dawn, 2008, *Basic Econometrics*. McGraw-Hill. 4. William H. Greene, 2011, *Econometric Analysis*. Prentice Hall. **Other readings:** Other readings include papers published in peer reviewed journals or books.