



UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Quantitative Methods – Applied Agricultural and Food Economics

Prof. PAOLO SCKOKAI

COURSE AIMS

The course aims to introduce students to some basic econometric tools applied to food and agricultural data. Special attention will be given to those models that can be applied in a business environment.

COURSE CONTENTS

TOPICS	CFU
The multiple regression model. Review of the two-variable regression model. The multiple regression model. The use of dummy variables. F-tests on model specification.	1.0
Heteroscedasticity and serial correlation. Definition, test and correction for heteroscedasticity. Definition, test and correction for serial correlation.	1.0
Forecasting. Use of the regression model for forecasting. Forecast error, forecast error variance and confidence intervals. Forecasting with serially correlated errors.	0.5
Models of qualitative choice. Definitions: binary and multiple choice models. Binary Linear Probability Model, Probit Model and Logit Model.	1.0
Panel data models. OLS estimation on panel data. Fixed-effects models: definition and estimation problems.	0.5
Instrumental Variable estimation. Correlation between explanatory variables and error term. IV estimation, endogeneity and 2SLS estimation.	0.5
Estimation of systems of equations. Simultaneity, OLS estimation and the identification problem. Seemingly unrelated regressions (SUR) and Three-stage least squares (3SLS).	0.5
Tutorial computer sessions	1.0

SCHEDULE

Spring semester



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TEACHING METHOD

The course consists of five credits of lectures and one credit of tutorial computer sessions.

COURSE REQUIREMENTS

It is strongly recommended to attend classes.

CREDITS

6 ECTS

ASSESSMENT METHOD

The exam is structured in two parts: one final written exam and two computer-based exams.

The final written exam lasts 120 minutes and it is structured with open questions and exercises concerning applications of econometric models to agricultural and food economic data. The score attached to each question may change depending on the test. The assessment is intended to provide a sufficiently precise measure of the student's learning and to offer to the instructor a grasp of the student's reasoning skills and abilities to use econometric tools.

The two computer-based exams will refer to the content of the tutorial computer sessions and will ask the students to carry out econometric analysis of agricultural and food economic data using a specific econometric software.

Further information can be found on the instructor's webpage or on the Faculty notice board.

COURSE READINGS AND MATERIALS

Selected readings from the following textbooks:

WOOLDRIDGE J.M. - Introductory Econometrics: A Modern Approach, 5th ed., South-Western Cengage Learning, 2013.

RS PINDYCK-D.L RUBINFELD, Econometric Models and Economic Forecasts, 4th ed., McGraw-Hill, 1998.

Further readings on specific topics will be provided by the instructor.

NOTES

Prof. Paolo Sckokai is available to meet with students after class in the SMEA offices or by appointment (tel. 0523-599290; email paolo.sckokai@unicatt.it).



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INSTRUCTOR BIO

Prof. Paolo Sckokai

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