



DOCTORAL SCHOOL OF ECONOMIC POLICY

Quantitative Models for Policy Analysis (QMPA)

Urban Policy and Urban Planning (UPUP)



FONDAZIONE
DI PIACENZA E VIGEVANO



MAIN GOAL

The Economic Policy Doctorate School's program is made up of two well-defined tracks of research which complement each other in important ways. The first, **Quantitative Models for Policy Analysis (QMPA)**, aims to analyse different methodological tools useful for defining policy strategies at both the micro- and macroeconomic levels. In particular, this track will emphasise the use of:

- Micro- and macroeconometric models
- Computable general equilibrium models
- Input-output models
- Microsimulation models
- Calibration models
- Data analysis models

The QMPA track, while concentrating on the use of quantitative methods, also provides a solid foundation of economic and policy analysis, given that the fundamental aim of the program is to study and implement economic models which may help the policy decision making process at international, national, regional, local or sectoral levels.

In the first year, students will attend the following courses, which will be run over two semesters:

- Economic and policy analysis
- Mathematics for economics
- Econometrics I
- Econometrics II
- Statistics
- Applied quantitative methods

The second research track, **Urban Policy and Urban Planning (UPUP)**, aims at providing both the basic tools required for analysing problems related to the urban environment, and the specialist tools necessary for furthering the different areas of urban policy and methods for the planning and evaluation of these policies. This track involves quantitative and qualitative methodologies and is concerned with problems of urban planning and evaluation. Courses include theory lessons, analysis of case studies and experience in foreign bodies dealing with the above-mentioned topics using advanced and innovative techniques.

Main Courses which can be attended in addition and/or substitution with the QMPA courses:

- Land, town and environmental planning
- Urban infrastructures
- Administrative law
- Epidemiology
- Ecology
- Urban and regional economics
- Urban Design
- Political science and urban sociology
- Environmental evaluation

In the second year, students will start their thesis under the supervision of two supervisors, who are committed to report every six months to the Doctoral program Committee on the progress of the research project to which they are assigned.

Within the first two months of the second year, students will present a Thesis Proposal, which must be discussed and approved by the Doctoral Program Committee. Once the proposal has been approved, each PhD student has to give two annual seminars to report on the progress made in his/her research activity. A final oral examination will follow completion of the thesis.

Students are encouraged to spend 12 to 18 months abroad in one of the partner or other foreign institutions.

SYLLABUS

ECONOMIC AND POLICY ANALYSIS

- Introduction to dynamic macroeconomics
- A few methodological issues on the debate on the transmission mechanism of Monetary Policy
- Dynamic models of investment
- Dynamic theory of consumption and saving
- Business Cycle Theory
- Growth theory
- Overlapping Generation Models
- Topics in Welfare Economics

MATHEMATICS FOR ECONOMICS

- Topics in linear algebra
- Difference and differential equations
- Mathematical optimization
- Dynamic optimization
- Calculus of variations
- Theory of the optimal control
- Chaos and non linear models

ECONOMETRICS

- The workings of econometric modelling: an overview
- Model specification: from the classical linear model to simultaneous equation systems
- Structural, reduced, final form of econometric models and related matters (multipliers)
- Simulation, prediction and policy applications of econometric models
- Dynamic models in classical econometrics
- Classical vs. time-series econometrics. The role of units roots: integrated and cointegrated processes
- VAR modelling: meaning and use, analytical set-up, representation theorems
- Inference in unit-root econometrics

STATISTICS

- Analytical representation of a Statistical distribution. Statistical distributions of firm size.
- Methodologies for the international comparison programmes of UN
- Distances: a geometric approach
- Models of discriminant analysis

- Kernel approach for distributions
- Sampling
- Small area estimation techniques

POVERTY, INEQUALITY AND WELL-BEING: CONCEPTS, MEASUREMENT AND POLICY ANALYSIS

- Poverty and inequality analysis: theoretical matters
- Measuring income poverty and inequality: technical and measurement issues (identification and definition, aggregate indexes, decompositions, comparisons)
- Multidimensional poverty and well-being analysis
- Microsimulation tax models for assessing fiscal policies in developed countries
- Simulation models for poverty analysis in developing countries
- A dynamic model for assessing multidimensional quality of life in affluent societies

COMPUTABLE GENERAL EQUILIBRIUM MODELS WITH GAMS

- How to implement a basic partial equilibrium model with GAMS
- How to implement the simplest computable general equilibrium model (the core model) in GAMS
- How to insert input-output flows and nested production functions
- How to insert more advanced utility functions
- How to insert savings and investment in a static model
- How to insert unemployment in a computable general equilibrium model
- How to introduce the government in a computable general equilibrium model
- How to introduce the Rest of the World in a computable general equilibrium model
- Extensions: imperfect competition, recursive dynamics and intertemporal dynamics

THE SAM APPROACH TO THE MULTISECTORAL MODELLING

- The social accounting matrix as accounting framework: from input-output*approach to SAM approach
- Multisectoral models based on SAMs: accounting multipliers and fixed-price multipliers
- The transaction values approach to CGE modelling
- Models, closure rules and homogeneity in the TV approach to SAM-CGE models

DOCTORAL SCHOOL COMMITTEE

Prof. Luigi Campiglio - Università Cattolica del Sacro Cuore, School Director

Prof.ssa Anna Agliari - Università Cattolica del Sacro Cuore

Prof. Antonio Ballarin Denti - Università Cattolica del Sacro Cuore

Prof. Maurizio Baussola - Università Cattolica del Sacro Cuore

Prof. Enrico Ciciotti - Università Cattolica del Sacro Cuore

Prof.ssa Enrica Chiappero - Università degli Studi di Pavia

Prof. Mario Faliva - Università Cattolica del Sacro Cuore

Prof. Piero Ganugi - Università Cattolica del Sacro Cuore

Prof. Steinar Ström - Università di Torino e Oslo

Prof. Jeffery Round - University of Warwick

Prof.ssa Renata Targetti Lenti - Università degli Studi di Pavia

Prof.ssa Giuseppina Malerba - Università Cattolica del Sacro Cuore

Prof. Domenico Marino - Università degli Studi Mediterranea di Reggio Calabria

Prof. Marco Mazzoli - Università Cattolica del Sacro Cuore
Prof.ssa Scira Menoni - Politecnico di Milano
Prof. Marco Missaglia - Università degli Studi di Pavia
Prof. Stefano Pareglio - Università Cattolica del Sacro Cuore
Prof. Giorgio Pederzoli - Malson School of Business - Montreal
Prof. Paolo Sabbioni - Università Cattolica del Sacro Cuore
Prof.ssa Maria Cristina Treu - Politecnico di Milano
Prof.ssa Maria Zoia - Università Cattolica del Sacro Cuore
Dott. Fernando Bignami - Università Cattolica del Sacro Cuore
Dott. Riccardo Groppali - Università degli Studi di Pavia
Dott. Paolo Rizzi - Università Cattolica del Sacro Cuore

Application forms

Application forms can be downloaded from the website in advance of the deadline for applications

APPLICATIONS

Entrance requirements

Admission to the Doctoral program is conditional upon passing an entrance examination, which is held in October each year (details are available from the web site <http://www.unicatt.it/dottorati/modelpolec/eng>).

Scholarships

The Doctoral program awards 5 scholarships on a merit basis; each scholarship is for approx.10.600 gross per year. However, the study grant is increased by 50% (for a maximum of eighteen months) for time spent by the student abroad.

Location

The Economic Policy Doctorate School's program is held at the Catholic University, Faculty of Economics, L.go Gemelli 1, 20123 Milano and via Emilia Parmense 84, 29100, Piacenza, Italy.

Facilities

Students have access to dedicated study areas, computer laboratories and library facilities.

Partnerships

Sussex University

University of Genève

IMF

FAO

OECD

European School of Business, Reutlingen, Germany

Federal University of Espirito Santo, Brasil

For any further information please contact: maurizio.baussola@unicatt.it



Università Cattolica del Sacro Cuore
Dipartimento di Scienze Economiche e Sociali
Tel. +39.0523.599.342 (310)
e-mail: dises-pc@unicatt.it
<http://www.unicatt.it/dottorati/modelpolec/eng>