



UNIVERSITA' CATTOLICA DEL SACRO CUORE

DOCTORAL SCHOOL OF ECONOMIC POLICY

Contents

1. Introduction.....	2
2. Objectives and General Presentation of the Programme.....	2
3. Useful Information.....	3
4. Lectures.....	6
5. Research.....	8

1. INTRODUCTION

Welcome to the Economic Policy Doctorate School. This booklet describes the structure of the PhD programme and outlines main features and deadlines of your research activities. It contains most of the information that you will need to get started, and we hope that can help you to plan your time schedule and to develop your research project in the most fruitful manner.

The primary activity of a research student is to complete a thesis that contains original and interesting analysis. However, other activities are also important, such as teaching assistantships, involvement in other research activities and participation to programme in foreign universities through master or visiting programme.

For further information the address of the School website is:

http://www3.unicatt.it/pls/unicatt/consultazione.mostra_pagina?id_pagina=5161&id_lingua=4

I wish you all successful time studying in our PhD programme.

Prof. Luigi Campiglio
Director of the Doctorate School

2. OBJECTIVES AND GENERAL PRESENTATION OF THE PROGRAMME

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.

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 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. Course includes theory lessons, analysis of case studies and experience in foreign bodies dealing with the above-mentioned topics using advance and innovative techniques. Main courses which can be attended in addition and/or substitution with the QMPA courses are:

- Risk assessment e risk management
- Urban planning and environmental impact assessment

3. USEFUL INFORMATION

Finding Your Way Around

Seminar, lectures and any research and teaching activities take usually place at:

- Catholic University, Faculty of Economics, L.go Gemelli 1, 20123 Milan
- Catholic University, Department of Economic and Social Sciences, via Emilia Parmense 84, 29100, Piacenza, Italy

Administrative Offices are located at the

Università Cattolica, Ufficio Dottorati, via Lanzone 29, 20123 Milano, tel. 02 7234.2992

Who's Who?

The following staff has responsibility for the PhD programme:

- Director of the Doctoral School of Economic Policy and Chair of Economics Department, Prof. Luigi Campiglio (campiglio.universita@unicatt.it)
- Coordinator for QMPA track: Prof. Maurizio Bussola, Catholic University, Department of Economic and Social Sciences, Piacenza (maurizio.baussola@unicatt.it)
- Coordinator for UPUP track: Prof. Maria Cristina Treu, Department of Architecture and Planning (DIAP) (treu@mail.polimi.it)
- Administrative Manager of the Doctoral School: Dr. Boscolo (dottorati.ricerca@unicatt.it; tel. 02 7234.2992)
- Administrative Coordinator: Luciana Rezoagli (rezoagli.luciana@unicatt.it)

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

Dott. **Fernando Bignami** - 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

Dott. **Riccardo Groppali** - 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

Dott. **Paolo Rizzi** - Università Cattolica del Sacro Cuore

Prof. **Jeffery Round** - University of Warwick

Prof. **Paolo Sabbioni** - Università Cattolica del Sacro Cuore
Prof. **Steinar Ström** - Università di Torino e Oslo
Prof.ssa **Renata Targetti Lenti** - Università degli Studi di Pavia
Prof.ssa **Maria Cristina Treu** - Politecnico di Milano
Prof.ssa **Maria Zoia** - Università Cattolica del Sacro Cuore

Supervisors

Each student should refer to one supervisor (eventually two), usually chosen by the student and/or assigned on the basis of his/her research interest at the end of the first year (see “Research” section). They are there to help students with any problem they may have and they will supervise their research project. Each student should get to know his/her supervisors and always respond to invitations to see them – they can help more effectively if they know how their students are progressing, so they will be asked to see them regularly, particularly in the second and third year. Any problems students might have that are specific to any teaching module should, in the first instance, be taken up with the lecturers responsible for the module. In the event of any difficulties that cannot be resolved by consulting your Supervisor or PhD Course Director.

Lecturers

Some courses are organized by sub-modules involving more lecturers. Nonetheless, the responsibility for assignments, exams or any further teaching aspect is usually assigned to the main lecturer to whom each student should address for any problem.

2. LECTURES FOR QMPA TRACK

Most teaching activities are distributed along two terms in the first-year of the PhD programme (usually October-December and January-June). PhD students must attend core modules in:

- Economic and policy analysis
- Mathematics for economics
- Econometrics
- Statistics
- Applied quantitative methods (SAM, CGE, poverty and inequality measurement, microsimulation models)

There are on average 40 hours of lectures in each core module and the attendance is compulsory in order to take the exams or to deliver the assignments. Lectures are often complemented by seminars that can also be very helpful for addressing the research project: thus attendance is compulsory because seminar topics can be part of the exams and/or assignments.

All modules will be assessed through a combination of examinations and assignments. Usually, a three-hour exam for core module will take place at the end of each term while assignments can be required for sub-modules.

Grades for passing the exams and the assignments are: A,B,C and Fail

Candidates who reach a satisfactory level in the examinations at the end of the first year will be permitted to proceed to the second year of the PhD course and will be required to prepare a research proposal to be defended normally in the first term of the second year (no later than December). Students who do not reach a satisfactory level in the examination(s) must resit the exams according

to the coordinator decisions. Resits will usually occur in September/October and before submitting the PhD outline. Further attempts are generally not allowed.

Core Modules

Term one: from October to January

Economic and Policy Analysis
Mathematics for economics (I)
Econometrics (I)
Statistics

Term two: from January to June

Mathematics for economics (II)
Econometrics (II)
Applied quantitative methods:
 Poverty, Inequality and Well-Being. Concepts, Measurements and Policy Analysis
 Computable General Equilibrium Models with Gams
 The SAM Approach to the Multisectoral Modelling

Further information about the structure of each term can be found at:

http://www3.unicatt.it/pls/unicatt/consultazione.mostra_pagina?id_pagina=10201&id_lingua=4

Syllabus

ECONOMIC AND POLICY ANALYSIS

Course Coordinator and Lecturer: Marco Mazzoli marco.mazzoli@unicatt.it

Hours: 28 hours

Assessment: written exam

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

Course Coordinator: Anna Agliari anna.agliari@unicatt.it

Lecturers: Anna Agliari, Carla Peri, Fernando Bignami

Hours: 48 hours

Assessment: assignment on theoretical aspects

Dynamical models

Prof.ssa Anna Agliari (16 Hours), anna.agliari@unicatt.it

- Topics in linear algebra
- Linear difference and differential equations
- Outline of nonlinear dynamical model theory

Static Optimization

Prof.ssa Carla Peri (16 Hours), peri.carla@unicatt.it

- Tools of linear algebra
- Static optimization of real functions of several real variables.

Dynamic Optimization

Prof. Fernando Bignami (16 Hours), fernando.bignami@unicatt.it

- Dynamic optimization
- Calculus of variations
- Theory of the optimal control

ECONOMETRICS

Course Coordinator: Prof. Mario Faliva

Lecturers: Mario Faliva, M. Grazia Zoia, Giorgio Pederzoli

Hours: 30 hours

Assessment: written or oral exam

Econometrics

Prof. Mario Faliva and Prof.ssa M.Grazia Zoia (18 Hours), mario.faliva@unicatt.it

- Dynamic models in classical econometrics:
- Structural, reduced, final form of econometric models and related matters (multipliers)
- Simulation, prediction and policy applications of econometric models
- Dynamic models in time series econometrics
- The estimation problem in VAR models.
- Unit-roots and co-integration tests.
- The estimation of trend-cycle of economic time series.
- Parametric and non parametric methods.
- The Kalman filter.

Optimization

Prof. Giorgio Pederzoli (12 Hours), giorgio.pederzoli@unicatt.it

- Linear programming models
- Solution techniques
- Duality theory
- Sensitivity testing and postoptimality Analysis
- Extensions: integer-nonlinear-stochastic
- Non-cooperative games
- Cooperative games
- Applications to public policy

STATISTICS

Course coordinator:

Lecturers: Giorgio Pederzoli, Enrico Fabrizi

Hours: 36 hours

Assessment: assessment (statistics) and exam (sampling)

Statistics

Prof. Giorgio Pederzoli (20 Hours), giorgio.pederzoli@unicatt.it

- Univariate and multivariate random variables
- Decision problems
- Choice criteria
- Utility functions
- Prior and posterior distributions
- Subjective probabilities
- Information values
- Bayesian strategies

Sampling

Prof. Enrico Fabrizi (16 Hours), enrico.fabrizi@unicatt.it

- Basic probabilistic sampling designs: simple random, stratified, cluster, two stages designs
- Estimators: Horwitz-Thompson, generalized regression, calibration
- Introduction to the Small Area Estimation problem

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

Course Coordinator and Lecturer: Enrica Chiappero-Martinetti, enrica.chiappero@unipv.it

Hours: 16 hours

Assessment: assignment of usually 10-12 pages is required

- 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

Course Coordinator and Lecturer: Marco Missaglia, marco.missaglia@unipv.it

Hours and credits:

Assessment: written/oral exam or assignment (# of pages)

- How to implement a basic partial equilibrium model with GAMS (General Algebraic Modelling System)
- 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

Course Coordinator:

Lecturer: Francesco Timpano, Renata Targetti-Lenti,

Seminars: Jeffrey Round (University of Warwick)

Hours: 16 hours

Assessment: an assignment of usually 10-15 pages is required

First Part: Prof.ssa Renata Targetti Lenti (8 Hours), targetti@unipv.it

The Social Accounting Matrix (SAM) as an accounting framework

- The Social Accounting Matrix (SAM) as a comprehensive, disaggregated, consistent and complete data system.
- A basic SAM: flow diagram of SAM transactions.
- The SAM and the macroeconomic balances: a Keynesian macro framework
- The appropriate criteria in the selection of the SAM taxonomy (classification scheme) and the data required in the construction of a SAM.
- The household income distribution matrix: micro and macro variables.

The SAM for modelling. The multiplier approach.

- The SAM multiplier analysis: some introductory notes.
- Endogenous and exogenous accounts in a simplified SAM.
- The derivation of SAM multipliers.
- The multiplier matrix as a “structural measure” of inequality in personal income distribution.

Second Part: Prof. Francesco Timpano (8 hours), Francesco.timpano@unicatt.it

TV APPROACH TO SAM-BASED MODELLING

- Multisectoral models as a tool for economic policy
- The TV approach to CGE modelling based on SAMs
- Economy-wide models in TV form
- Closure rules in SAM-based models

3. RESEARCH

Research Period abroad

Students are warmly encouraged to spend from 6 to 12 months or more abroad in one of the partner or other foreign institutions. Current partnerships involve the following Universities and Institutions among others:

Sussex University
University of Genève
IMF
FAO
OECD
European School of Business, Reutlingen, Germany
Federal University of Espirito Santo, Brasil

Other Universities and Institutions can be suggested by the supervisors, the PhD programme Director or be selected by students themselves on the basis of their research interests. Students are required to provide information and eventually to first approach foreign Universities/Institutions. Supervisor and PhD programme director will support this plan sending letters of recommendation and/or providing more formal links with the host institution if required.

Research Supervision

Each research student is assigned to one supervisor at the end of the first year who is committed to report every year to the Doctoral program Committee on the progress of the research project to which they are assigned.

During the first year, students will have the opportunity to know all the lecturers and thus to choose their supervisors according to the research interests. A different or an additional supervisor could eventually be requested or assigned on the basis of your research outline (students might need supervision in more than one area). At least one supervisor(s) is a member of the Doctoral programme committee while an external supervisor is allowed.

Each Phd student should meet his/her supervisor(s) regularly (every few weeks on average is reasonable but circumstances can dictate more or less frequent meetings).

The Research Proposal

As already mentioned during the first term of the second year (no later than December), students are required to arrange a PhD outline. This involves the preparation of a draft that outlines the research project and which has to be presented and approved by the Doctoral program Committee.

The PhD outline should be no longer than 25 double spaced A4 pages and be structured as follows:

1. **Introduction**
(Motivation of the research project and its organization)
2. **Literature survey**
(Critical review of the relevant literature, which must emphasise the underlying crucial issues)
3. **The original contribution of the research project**
(The contribution of the thesis must be clearly stated and underlined)
4. **The methodology**
(The methodology must be clearly explained)
5. **Data description**
6. **Expected results**
7. **References**
8. **Timing of intermediate reports**

The research proposal offers a chance for students to focus on their projects and to receive comments and help concerning their research strategies. The proposal should thus be as specific as possible so that Doctoral program Committee can give detailed comments.

If the presentation and discussion is positive, students are invited to continue to their second-year of the PhD programme. A different and/or an additional supervisor can be assigned by the Committee if required (see above).

What You Can Expect From Your Supervisors

Supervisors are expected to meet with their students on a regular basis. During these meetings, students should present their research ideas and receive advice on possible directions that they can take or on fruitful extensions that they can make. A supervisor should also be able to suggest the appropriate literature that to read. It is useful to prepare written documents at an early stage and to continue to polish and extend those documents. This can help the students to organize their ideas and give their advisors a better feel for what they are doing.

Supervisors are expected to comment on what each student has written and to make suggestions for improvement. Supervisors should also indicate to the Doctoral Programme Committee when the research is sufficiently advanced so that each student can defend it. Finally, they are expected to write letters of recommendation when phd awarded students will be going to the job market.

Students should follow comments and suggestions of their supervisors and prepared to defend their arguments.

Work in progress

Each year, research students are asked to report on the progress made in his/her research activity. This should be done in consultation with your supervisors. Also supervisors should prepare a report valuating the performance and the research work of their Phd students.

The work in progress of PhD thesis should be presented to the Doctoral programme Committee and the other students, through three PhD seminars. Following this timetable, usually a seminar is scheduled at the end of the second year. During the third year, other two presentations, one during each term, should be held for all PhD students.

At the end of the process, the Doctoral Programme Committee will deliberate if the thesis can be submitted to the external commission for the final defence and eventually for the designation of “European doctorate” brand (see below). If each student’s research work is not completed or not satisfying, one-year extension can be asked. During this additional year students need to complete their research project: further presentation seminars are required and they must regularly refer to their supervisor to be able to conclude their thesis according to the required standard (be careful, because no further extensions are allowed ant thus this will be your last chance)

A final oral examination will follow the completion of the thesis (see below).

PhD Thesis Features and Structure

According to standard international requirements, the PhD candidate is expected to carried out independent research and to give a substantial contribution to the chosen research field.

The thesis must be an original work that incorporates the results of the research done during the programme and might provide a substantial theoretical or empirical contribution (or both) to the research topic chosen.

Two alternative formats can be chosen and approved after discussion with the supervisors:

1. a monography structured into introduction, chapters, conclusions and bibliography. The introduction should describe the relevance of the topic, clearly identify the research questions and the aims of the thesis; conclusions should summarize the main achieved results
2. three different papers, each of them appropriately structured (introduction, sections, conclusions and bibliography) and an overall introduction aimed to describe the topic and the contribution given by each paper.

In both cases a review literature is required.

Final oral examination

Three hard copies and three electronic versions (cd/dvd) of the phd thesis must be hand in at the Administrative Offices together with the “Dichiarazione di conformità della tesi” at the end of the third year and usually before the 30 of November.

An external commission will be appointed and Phd candidates will defend their thesis in a public discussion. If the examination will be successful, the Phd title will be awarded.

European PhD (Doctor Europaeus)

This designation can be added to a national doctorate conferred by European Universities which is obtained fulfilling four conditions:

- a) the Phd thesis defence will be accorded if at least two professors from two higher education institutions of two European Countries, other than the one where the PhD thesis will be defended, have given their judgement concerning the manuscript
- b) at least one member of the jury should come from a higher education institution in European Countries, other than the one where the PhD thesis will be defended
- c) part of the defence must take place in one of the official languages, other than the one of the country where the PhD thesis will be defended
- d) the Phd thesis must partly have been prepared as a result of a period of research of at least one trimester spent in another European Country

The decision to submit the PhD thesis to the procedure required for the Doctor Europaeus designation is expressed by the Doctoral Programme Committee.

Miscellaneous

A number of people have written articles and books about doing research that you might find useful. These include:

- Dan Hamermesh’s “Young Economists Guide to Professional Etiquette” — published in *Journal of Economic Perspectives*, Winter 92;
- William Thompson’s “Young Person’s Guide to Writing Economic Theory” in *Journal of Economic Literature*, 99;
- Bill Goffe’s web site <http://www.rfe.org>.
- Enrica Chiappero’s website http://www.unipv.it/webdept/p_8.htm

PHD Programme Time-Table

Time	Terms	Activities	Exams	and
------	-------	------------	-------	-----

			Assignment
First Year	First Term (Oct-Dec.)	Lectures	(Dec-Jan)
	Second Term (Jan-June)	Lectures	(June-July)
Second Year	First Term	Research	Phd Outline (end of December)
	Second Term	Phd Seminar (I paper)	
Third Year	First Term	Phd Seminar (II paper)	
	Second Term	Phd Seminar (III paper)	
		Thesis (November at the end of the Third Year)	
		Final oral examination with external jury	