

# How To Apply - PhD School Economics

To apply to the Ph.D. program you must:

1. Follow the instructions in art. 3, 4 and 5 (if applicable) of the Bando (in Italian) or of the announcement (in English) at the website

<http://www.uniroma1.it/didattica/offerta-formativa/dottorati>

2. Submit the following documents before the deadline indicated in the “Bando”. All documents must be in **PDF format** (Please Download the Templates in Word)

## Download templates

- Application Form (download the Template)
- CV (download the Template)
- Publications (if any)
- Letters of reference (optional)
- Project proposal (about 2 pages)

3. Collect all the required documents in a single zipped file.  
The zip file should be named:

**“Econ35\_Surname.zip” .**

The zip file must be sent by e-mail to the address:

**[phdschooleconomics@uniroma1.it](mailto:phdschooleconomics@uniroma1.it)**

Please indicate "35Phdapplication" as the object of the mail.

**IMPORTANT.** We will not be able to accept applications after the deadline. Applications must be completed with all required documents.

Admissions will be processed by the PhD Admission Committee.

The list of the applicants admitted to the interview will be posted on September **10<sup>th</sup>, 2019.**

For further information please refer to: [phdschooleconomics@uniroma1.it](mailto:phdschooleconomics@uniroma1.it)

## SELECTION PROCEDURE

Applications are approved on the basis of the required documents. Approved candidates will be invited to a 30 minutes interview, in English or in Italian, aiming to assess their skills, knowledge and attitudes toward research within the PhD School’s main fields: Economics and Finance, Mathematics, Statistics, and Economic Geography.

The Appendix contains a description of minima prerequisites required for each of the 4 fields. The candidate must meet the requirements of at least one field. During the interview the candidate will be assessed in the field of expertise and she/he will be asked to discuss her/his research proposal and personal academic objectives.

The interview is scheduled at **9:30 a.m.** on **September 13, 2019** in “Aula Marrama” at the 6<sup>th</sup> floor of the Economics Faculty Building, Via del Castro Laurenziano, 9 – Roma.

Candidates who do not reside in Italy may be granted the opportunity to conduct the interview via video conference. A formal, motivated request must be submitted by email to [phdschooleconomics@uniroma1.it](mailto:phdschooleconomics@uniroma1.it) not later than September 11<sup>th</sup>, 2019.

The list of candidates selected for the PhD program will be posted on line by September 16, 2019.

### **PHD AMMISSION COMMITTEE**

The members of the PhD Admission committee will be appointed immediately after the deadline for application.

### **ASSESSMENT CRITERIA**

Candidates will be assessed based on a number of criteria, the highest ranking candidates will be invited to the interview with the PhD admission committee.

Each candidate will be assessed on the basis of the information provided in the required documents.

The number of points that can be appointed is:

- 1) The awarded degree and the final grade: up to 10 points
- 2) Publications: up to 10 points
- 3) Previous research experience: up to 5 points
- 4) The project proposal: up to 35 points

A maximum of 60 points can be appointed. To be eligible for the interview the candidate must get a minimum of 40 points.

Up to 60 points can be assigned to the interview's result. To be eligible for the grant a minimum of 40 points must be assigned.

## APPENDIX

### PREREQUISITES FOR THE INTERVIEW

#### 1. Economics

##### Microeconomics

Consumer theory. Production theory. Market structures and externalities

##### Macroeconomics

The IS-LM model. The AD-AS model. Phillips curve. Ramsey model.

##### Economic Policy

The normative model of economic policy. Fiscal policy. Monetary policy.

##### Finance

Basics principles in mathematical finance and financial markets.

Introduction to different kind of risks (interest rates, credit risk, inflation and exchange risk).

Present value, maturities, interest rates. Valuation under certainty. Annuities. Internal rate of return for financial assets.

##### Financial Markets

Value of an investment and market price. Term structure of interest rates, Volatility indices.

Theory of term structure. Arbitrage valuation in a floating rate context.

##### References

Varian H. R., Microeconomic Analysis, Norton & company.

Blanchard, O.J., Macroeconomics, Pearson 5th edition

Acocella, N. Fondamenti di Politica Economica, Carocci (English Ed.: The Foundations of Economic Policy, Cambridge University Press)

Stiglitz, J. , Economics of the Public Sector, Norton & Company

Castellani, G. De Felice M., Moriconi, F., Manuale di Finanza, Vol. 1, Il Mulino

Luenberger D., Investment Science, Oxford University Press

Hull, j. Option, Futures and other derivatives, Prentice Hall, 2018 (10<sup>th</sup> edition).

#### 2. Mathematics

##### Mathematics and Mathematics for Economics

Basic notions of calculus. Implicit functions, homogeneous functions. Free or constrained maxima and minima. Elements of utility theory. Pareto optimality problems.

Notions of linear algebra. Ordinary Differential Equations: first order ordinary differential equations, linear differential equations of any order, systems of linear differential equations.

Dynamical systems: equilibrium and stability.

## **Probability Theory**

Set theory, Random Variables; Convergence Theorems, Central Limit Theorem, Law of Large Numbers.

## **References**

- Guerraggio, A. - Salsa, S., *Metodi matematici per l'economia e le scienze sociali*, Giappichelli, 1997.
- Simon, C. – Blume, L.E., *Matematica per l'Economia e le Scienze Sociali*, Università Bocconi Editore (trad. it. a cura di A. Zaffaroni) 2002.
- Ross, S., *Calcolo delle probabilità*, Apogeo 2004.
- Chang, A. and Wainwright (1967) *Fundamental Methods of Mathematical Economics* ( free available on-line).
- Peccati, L., Salsa, S. and Squellati, M. *Mathematics for Economics and Business*, EGEA, 2008
- Intriligator, M.D. , *Mathematical Optimization and Economic Theory*, Prentice Hall Series in Mathematical Economics 1971.
- Takayama, A., *Mathematical Economics*, Cambridge University Press 1985.
- Blitzstein, J.K., Hwang, J. (2019) *Introduction to Probability*, Second Edition, CRC Press.

## **3. Statistics**

Sampling distributions, estimators, sufficient statistics.

Linear models, OLS theory.

Index numbers, national income models, income, consumption and productivity measurement,

Time series analysis, panel data analysis, regression and causality.

## **References**

Wood, S. *Core Statistics*, CRC Press, 2014.

Azzalini A. *Inferenza Statistica*, Springer Italia, 2001.

Di Ciaccio A., Borra S., *Statistica: metodologie per le scienze economiche e sociali*, McGraw Hill 2007.

Stock J., Watson M., *Introduction to Econometrics*, Pearson 3rd edition.

Guarini R., Tassinari F., *Statistica Economica*, Il Mulino, 2000.

Angrist J., Pischke J.S., *Mostly Harmless Econometrics*, Princeton University Press, 2009.

Dekking, F.M., Kraaikamp, C. , Lopuha H.P. and Meester L.E , *A Modern Introduction to Probability and Statistics: Understanding Why and How*, Springer 2005

## **4. Economic Geography**

Regional development theories; the spatial behaviour of firms; spatial agglomeration and regional specialization; regions and regionalization; local and regional production systems; the environment and sustainable development; innovation, technology and space; the geography of development and underdevelopment; urban and regional policies; basics in traditional and digital cartography; foundations of statistical methods for geography and spatial analysis.

### **References**

- Barnes T.J., Peck J., Sheppard E., *The Wiley-Blackwell Companion to Economic Geography*, Wiley-Blackwell, 2012.
- Coe N.M., Kelly P., Yeung H.W., *Economic Geography. Introduction to Contemporary Perspectives*, Blackwell, 2007.
- Cumbers A., MacKinnon D., *An Introduction to Economic Geography: Globalization, Uneven Development and Place*, Prentice Hall, 2007.
- Leyshon A. et al., *The SAGE Handbook of Economic Geography*, Sage 2011.
- Martin R., *Economy: critical essays in human geography*, Ashgate, 2008.
- Rogerson P.A., *Statistical methods for geography: a student's guide*, Sage, 2006.
- Williams, K. et al., *The Oxford Handbook of Economic Geography*, Oxford University Press, 2003.