#### PREPARATORY COURSES

(academic year 2021-22)

The Faculty of Economics offers preparatory courses in Quantitative Methods and Economics addressed to all students starting the Master Program in Economics, Health Economics, and Finance and Insurance.

The preparatory courses are in english and their aim is to prepare students for profitably attending first year courses.

They start on September 13<sup>th</sup>, 2021 and will be held in remote mode using the Meet Platform at the following link:

https://meet.google.com/piu-bxjt-tqn

Participation is strongly recommended, particularly to students lacking a strong undergraduate background in quantitative methods and economics.

1) The preparatory course in Quantitative methods (Mathematics and Statistics)

will be taught by dr. Filippo Petroni (<u>filippo.petroni@uniroma1.it</u>) with the following timetable:

- Monday 13th September, 4 6 pm
- Tuesday 14th September, 4 6 pm
- Wednesday 15th September, 4 6 pm
- Thursday 16th September, 4 6 pm
- Friday 17th September, 4 6 pm
- Monday 20th September, 4 6 pm
- Tuesday 21th September, 4 6 pm
- Wednesday 22th September, 4 6 pm
- Thursday 23th September, 4 6 pm
- Friday 24th September, 4 6 pm
  - 2) The preparatory course in <u>Macro and Microeconomics</u>

will be taught by dr. Teresa Barbieri (<u>teresa.barbieri@uniroma1.it</u>) with the following timetable:

- Monday 13th September, 2 4 pm
- Tuesday 14th September, 2 4 pm
- Wednesday 15th September, 2 4 pm

- Thursday 16th September, 2 4 pm
- Friday 17th September, 2 4 pm
- Monday 20th September, 2 4 pm
- Tuesday 21th September, 2 4 pm
- Wednesday 22th September, 2 4 pm
- Thursday 23th September, 2 4 pm
- Friday 24th September, 2 4 pm

The preparatory courses will focus on the following topics:

## 1) Quantitative methods (Mathematics and Statistics)

#### *Mathematics*

Functions and limits
Derivatives, differentiable functions
Introduction to functions of two variables and partial derivatives
Elements of linear algebra (matrix algebra and operations)
Integrals

#### **Statistics**

Definition of probability; axioms Conditional probability and Bayes theorem Random variables Binomial distribution and Normal distribution Law of large numbers

# 2) Macro and Microeconomics

#### *Macroeconomics*

National accounts
Macroeconomic equilibrium in closed and open economy
Aggregate supply and demand
Monetary and fiscal Policy
Unemployment

### Microeconomics

Household consumption choice and market demand Production, cost minimization, profit maximization and market supply Market structure: perfect competition and monopoly General equilibrium and efficiency

For information and questions, please contact: <a href="mailto:epos@uniroma1.it">epos@uniroma1.it</a>
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<a href="mailto:barbara.vantaggi.uniroma1.it">barbara.vantaggi.uniroma1.it</a>
<a href="mailto:francesco.nucci@uniroma1.it">francesco.nucci@uniroma1.it</a>