**Macroeconomics**

Prof. Giuseppe Cinquemani; Prof. Riccardo M. Masolo

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

This course will expose the fundamental features of popular macroeconomic models. We will present analytical tools that apply beyond the models considered in class. They will enable students to fruitfully use macroeconomic models for independent projects.

At the end of the course a student should be able to:

1. use some of the tools underlying modern dynamic macroeconomic analysis,
2. understand the logical structure of macroeconomic simulations,
3. understand some recent scientific contributions in the field,
4. have command of the tools necessary for courses in Monetary and International economics, as well as for a dissertation in the field.
5. develop an appropriate technical language.

***COURSE CONTENT***

Module I (36 lectures): *Prof. Riccardo M. Masolo*

– Introductory examples of dynamic models in macroeconomics.

– Rational Expectations, policy ineffectiveness and the Lucas’ critique.

– Growth Theory: the Solow model, the AK model and the neoclassical growth model with optimizing agents.

– Real-Business-Cycle Theory.

– New Keynesian Economics: monopolistic competition, “Calvo” pricing and the New Keynesian Phillips Curve.

Module II (24 lectures): *Giuseppe Cinquemani*

– Computational and statistical tools for applied macroeconomic analysis.

– Dynamics in empirical macroeconomic models. Forecasting, from static regressions to ARDL model and its applications to expectations, long run relations, leading indicators.

– Empirics of macroeconomics time series: trend, cycles, filters and expectations.

– Multivariate structural models and the identification problem.

– Applications of calibration and estimation to traditional and New Keynesian models of business cycle.

***READING LIST***

For the first module, teaching material will be available on *Blackboard*.

The following textbooks will be useful for some of the topics:

J. Garìn-R. Lester-E. Sims, *Intermediate Macroeconomics,* (available online at <https://www3.nd.edu/~esims1/gls_textbook.html> )

B. Heijdra, *Foundations of Modern Macroeconomics,* Oxford University Press, 2017.

D. Romer, *Advanced Macroeconomics,* McGraw-Hill, New York, 2006, 5th Edition.

For the second module, teching material will be available on *Blackboard*.

The following textbook will be useful to cover some of the topics:

E. Gyhsels-M. Marcellino, *Applied Economic Forecasting using Time Series Methods,* Oxford University Press, 2018.

J. Miao, *Economic Dynamics in Discrete Time*, MIT Press, 2020.

***TEACHING METHOD***

Classroom lectures.

***ASSESSMENT METHOD AND CRITERIA***

Students will be evaluated on the basis on a written exam, which will comprise both theoretical questions and analytical exercises. The exam will be administered jointly for both Modules at the end of the Course. The exam for the second module can be substituted by a short essay on a topic to be agreed upon with Prof. Cinquemani during the classes.

The answers to the questions aimed at testing the understanding of fundamental theoretical issues will be evaluated by looking at the extent of the candidate’s knowledge, as well as at her/his ability to convey key messages in conceptually consistent ways through a clear and precise exposition. All problems will be designed in a way to effectively test the analytical and problem solving skills of the candidate.

All questions and problems will be analytically evaluated out of thirty points; the student’s final grade will be determined as the average of the marks obtained in each of the questions composing the exam.

Written exams can possibly be followed by an oral examination, which has a residual value only and can imply an increase or decrease of up to a maximum of three points of the grade obtained in the written examination.

Further information will be posted on the lecturers' web pages.

***NOTES AND PREREQUISITES***

*Initial requirements*: the student should have attended a course in Basic Macroeconomics during her/his B.A., a course in Mathematics for economists, covering (linear) difference/differential equations, optimization, linear algebra and matrix manipulation and a course in Statistical Inference covering basic probability theory, estimation and testing.

As for the preliminary understanding of introductory macroeconomics, the list of useful textbooks includes:

O. Blanchard, *Macroeconomics,* Prentice Hall, 2012, or

O. Blanchard-D.R. Johnson, *Macroeconomics-Global Edition*, Pearson, 2020, or

O. Blanchard-A. Amighini-F. Giavazzi, *Macroeconomia: una prospettiva europea,* Il Mulino, 2016.

As for the preliminary understanding of Statistics, the list of useful references includes:

G. J. Kerns*, Introduction to Probability and Statistics Using R,* <https://cran.microsoft.com/snapshot/2019-03-14/web/packages/IPSUR/vignettes/IPSUR.pdf>

Further information can be found on *Blackboard*.

Students who wish to write their final essay in Macroeconomics are encouraged to meet the lecturers during their office hours.