**Macroeconomics**

Prof. Andrea Boitani

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

The course aims to introduce the main stylised facts of Macroeconomics and, at the same time, the techniques required to analyse macroeconomic models. Particular attention is paid to the analysis of growth and fluctuations, with emphasis on the role of market imperfections in the short, medium and long run and the role played by expectations. The main topics of the macroeconomic policy debate are also addressed: from unemployment to inflation, from public debt to international competitiveness, from technological innovation to human capital growth. The course includes both lectures and tutorials. The latter are aimed at enabling participants to acquire the ability to work with the models set out in the theoretical lectures through the guided exercises.

At the end of the course, participants will be familiar with the basic macroeconomic models and their use for economic policy purposes and interpretation of recent economic facts and will be able to assess the effects of macroeconomic outcomes and policies on the choices made by economic and financial agents. Participants will also have acquired the ability to identify sources and select the data needed to "read" the main macro-economic facts.

***COURSE CONTENT***

Learning objectives that the student must have achieved before entering the course

Before entering the course, the student must:

- have a good knowledge of elementary Microeconomics; in particular, the theory of choice, the production, cost and profit functions, the equilibrium in perfect competition, in monopoly and in Cournot oligopoly;

- know and be able to use the main concepts of descriptive statistics (means, variance and covariance, time series, correlation coefficient);

-knowing how to solve systems of two linear equations in two unknowns; knowing elementary series and successions; knowing how to calculate the derivatives of functions of several variables and compound functions; knowing how to calculate the total differential; knowing how to identify the free and constrained maxima and minima of a function of several variables; knowing how to perform the logarithmic transformation of elementary functions and how to apply the fundamental properties of logarithms.

Those who have not achieved the aforementioned training goals in previous years must do so before the start of the course.

Sills that the student will acquire in the course:

 *Macroeconomic quantities*

After completion of the topic, the student will be able to:

-know the basic elements of national accounts.

-calculating the GDP of a simplified economy from elementary data, using the income, expenditure and value-added methods.

-building a country's balance of payments.

-calculating the 'degree of openness of an economy';

-building the supply and uses table.

-calculating price index numbers and the implicit GDP deflator.

-know the five basic 'rates' of economics (unemployment rate, inflation rate, GDP growth rate, interest rate and nominal and real exchange rate);

-calculate each of the above rates from elementary data.

-understand the significance of the development of these rates over time, in an international comparative perspective.

-know monetary aggregates and the meaning of monetary base.

-know the relationship between the amount of money in circulation and the operations of banks.

-calculate the multiplier of bank deposits and credit.

-using the quantitative money equation.

-know the basic components of the public budget.

-calculating public debt dynamics and the relationships between debt, primary surplus, interest rate and growth rate.

-proceeding to detrending a variable with elementary methodologies.

-understand the elementary methodology of growth and business cycle analysis and the distinction between analysis with fixed, flexible or sticky prices.

2. *The long run*

Upon completion of the course, the student will be able to:

-use the quantitative equation to construct the aggregate demand (AD) curve.

-know the relationships between market structure and macroeconomic equilibrium in the long run, using the distributional equilibrium scheme.

-solve a simple long-run macroeconomic model in a closed economy.

-understand the interactions between different 'imperfections' in goods and labour markets.

-understand the role of institutions (from the power of competition authorities to market entry costs to the tax wedge) in influencing the long-run macroeconomic equilibrium.

-graphically construct the long-run aggregate supply function (AS) from the distribution equilibrium and to be able to perform elementary comparative statics exercises.

-know the macroeconomic functions of savings, investment and net exports and be able to solve a simple long-run funds market model.

-use the quantitative theory of money to calculate the inflation rate; understand the supply and demand determinants of inflation, starting with the distributional conflict and the public finance situation.

-calculate the lordship, inflation tax and fiscal drag; determine the average inflation rate from productivity dynamics differentiated by sector.

3. *The short term*

Upon completion of the course, the student will be able to:

-interpreting the short term from an AD-AS model with fixed prices.

-know the Keynesian function of consumption in the short run.

-solve an income-expenditure model in the presence of the public sector and calculate expenditure and tax multipliers.

-understand the paradox of thrift.

-understand the meaning and know how to calculate the effects of 'automatic stabilisers' of GDP with fixed prices.

-know the function of investments and liquidity preference and understand their role in short-term equilibrium.

-use the interest rate rule employed by the central bank to determine the short-term equilibrium.

-knowing how to analyse the short-term equilibrium of an open economy with perfect capital mobility.

-solving open economy models when the exchange rate is fixed and when it is flexible.

-understand the different effects of fiscal policy and monetary policy in different exchange rate regimes.

-understand the propagation mechanisms of financial crises.

4. *The medium term*

Upon completion of the course, the student will be able to:

-know what the Phillips curve is and how to derive it analytically from a simple monetary wage adjustment law.

-know the effects of changes in productivity, firms' and workers' market power on the Phillips curve.

 -construct the Phillips curve from the available data on inflation and unemployment.

-understand the role of inflation expectations in the translation of the Phillips curve.

-construct graphically and analytically the dynamic medium-term aggregate supply (AS) curve;

-knowing the concept of Nairu and the steady state.

-calculate the medium-term effects of supply and demand shocks under the assumption of extrapolative expectations and calculate convergence to the steady state.

***BIBLIOGRAPHY***

A. Boitani, *Macroeconomics,* Il Mulino, Bologna, 2023.

Supplementary material will be made available on the course's *Blackboard* site.

***Teaching method***

Classroom lectures and tutorials (20 hours).

***ASSESSMENT METHOD AND CRITERIA***

**Intermediate written test (1 hour) and final written test (1 hour for those who have passed the intermediate test; 2 hours for those who have not). Both tests consist of closed true/false questions and open exercises to be completed in the classroom (2 hours). A short oral examination is required for those aiming at excellent grades (27/30 and above).**

***NOTES AND PREREQUISITES***

In accordance with the Faculty's regulations, the propaedeutic examinations are: Mathematics, Statistics and Microeconomics.

*Office time*

Prof. Andrea Boitani receives students at the Department of Economics and Finance (via Necchi 5) according to a timetable that will be communicated on the lecturer's webpage and posted on the notice board.