Study Plan

School: School of Social Sciences
Degree: Master
Course: Monetary and Financial Economics (cód. 592)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ECN11906M	Macroeconomics	Economy	6	Semester	156
ECN11907M	Econometrics	Economy	6	Semester	156
GES10951M	Investiments in Financial Assets	Management	6	Semester	156

*** TRANSLATE ME:Disciplinas Alternativas ***

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ECN11908M	Microeconomics	Economy	6	Semester	156
ECN11909M	Foundations of Economic Analisys	Economy	6	Semester	156

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
GES10950M	Corporate Financial Management	Management	6	Semester	156

Group of Free Options

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ECN11910M	Monetary Economics and Monetary Policy	Economy	6	Semester	156
ECN11911M	International Financial Economics	Economy	6	Semester	156
ECN11913M	Research Methodologies	Economy	6	Semester	156

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
GES10952M	Futures and Options	Management	6	Semester	156
MAT10217M	Advanced Financial Calculus	Mathematics	6	Semester	156
ECN11912M	Economic and Financial Modelling	Economy	6	Semester	156

Group of Free Options

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Dissertation					
Report					
Project Work					

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Dissertation					
Report					
Project Work					

Conditions for obtaining the Degree:

*** TRANSLATE ME:

Para aprovação na componente curricular deste Mestrado, é necessário a aprovação (através de avaliação ou creditação), das seguintes unidades curriculares:

1.º Semestre

- 4 UC Obrigatórias num total de 24 ECTS

- 1 UC Optativa ou 1 UC Optativa Livre num total de 6 ECTS

2.º Semestre

- 3 UC Obrigatórias num total de 18 ECTS

- 2 UC Optativa, 1 das quais poderá ser UC Optativa Livre num total de 12 ECTS

3º e 4º semestre

Dissertação, Relatório de Estágio ou Trabalho de Projecto, no total de 60 ECTS ***

Program Contents

Macroeconomics (ECN11906M)
1-Demand management policies in a open-economy framework.
2 – Government deficit and public debt.
3- The labor market, the Phillips curve debate and the dynamic aggregate supply
4- The complete model
5- The business cycles: the new Keynesian economics and the Theory of Real Business Cycles.
6- The long run: from neoclassical growth models to the endogenous growth.
7- New frontiers for macroeconomics

Econometrics (ECN11907M)
I. Linear Regression Model: Specification, Estimation and Inference; Endogenous Regressors.
II. Nonlinear Models: Estimation and Inference; Models with discrete dependent variable
III. Panel Data Models: Fixed and Random Effects Models; Dynamic Models.
IV. Time Series Models: Univariate and Multivariate Models; Unit roots and Cointegration.

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Investiments in Financial Assets (GES10951M)

1) Portfolio Theory
a) Portfolio characteristics
b) Diversification
c) Combination curve
d) Efficient portfolios
e) Decision under uncertainty
f) Optimal portfolio choice
g) Factor models

2) Capital Market Equilibrium Models
a) Capital Asset Pricing Model (CAPM)
b) CAPM extensions
c) Arbitrage Pricing Model APT
d) Relationship between CAPM and APT
e) Empirical tests of the equilibrium models
f) Tests of market efficiency

3) Stocks Valuation
a) Gordon-Shapiro Model
b) Multiple growth model
c) Estimation of future earnings and dividends

4) Bonds Valuation
a) Spot and forward interest rates
b) Bond Prices and spot rate
c) The term structure of interest rates
d) The risk structure of interest rates

Microeconomics (ECN11908M)

1. Individual consumption and production choices
2. Equilibrium in competitive markets
3. Market failures: externalities and public goods; information asymmetries; market power
4. Game theory

Foundations of Economic Analisys (ECN11909M)

1. Introduction
2. Fundamental notions of algebra and topology
3. Equations, inequalities, derivatives and integrals
4. Differential equations and equations for differences
5. Linear Algebra
6. Statistics
7. General and partial equilibria
8. Game theory

Corporate Financial Management (GES10950M)

Monetary Economics and Monetary Policy (ECN11910M)
Foundations of monetary theory; Theory of interest rates; Fiscal discipline as the guarantor of monetary stability; Transmission channels of monetary policy; Rules versus discretion in monetary policy; Objectives, indicators and instruments; Monetary policy strategies; The Monetary Policy of the European Union

International Financial Economics (ECN11911M)
1 – Introduction
2 – Historical aspects and the current context of international finance
3 – International financial flows and the balance of payments
4 – The foreign exchange market
5 – Theories of foreign exchange determination
6 – Techniques of foreign exchange forecasting
7 – International investments
8 – Financial crises

Research Methodologies (ECN11913M)
1. THE METHODOLOGY OF THE RESEARCH PROCESS: Theoretical Aspects

1.1. Science and the Scientific Method: general aspects
1.2. Brief Analysis of the Evolution of Scientific Method: the particular cases of Economics and of Public Policies and Projects

2. THE METHODOLOGY OF THE RESEARCH PROCESS: Practical Aspects

2.1. Academic Research: objectives, types and general characteristics
2.2. Brief Reflections on the Writing and Graphic Styles
2.3. The Choice of the Theme and Supervisor(s) of the Dissertation: some recommendations
2.4. The Usual Components of a Research Project
2.5. The Operationalisation of the Research Project
2.6. A Proposed Structure for a Master's Dissertation
2.7. The Presentation / Defence of the Dissertation

3. THE METHODOLOGY OF THE RESEARCH PROCESS: Examples of Application

Futures and Options (GES10952M)

Advanced Financial Calculus (MAT10217M)
Module1: Introduction to Stochastic Differential Equations and applications:
Wiener Process and diffusions.
Martingales, adapted processes.
Stochastic integrals, sketch of the construction of the Itô integral, and use of Itô's Theorem.
Existence and Uniqueness theorem for Stochastic Differential Equations.
Strong and weak solutions
Formula of Feynman-Kac.

Module2: Financial Applications of Stochastic Differential Equations
Model of Cox-Ross-Rubinstein.
European e american options of buying and selling. Generalization of the methodology to other financial assets.
Statement and interpretation of Girsanov's theorem, transition to the risk-neutral probability.
Derivation of the Black-Scholes formulas.
The model of Black-Scholes at the stock exchange, implicit volatility.

Economic and Financial Modelling (ECN11912M)
1. Microeconometric applications: limited dependent variable models, count data models.
2.Time Series Analysis: ARMA models and auto-regressive vectors; multivariate cointegration; ARCH and GARCH models for volatility in financial data.

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