Course Descriptions

1. Leveling Courses

Mathematics for Economists (Nivelamento de Matemática)

Statistics (Nivelamento de Estatística)

2. Core Courses

Econometrics I

Econometrics II

Macroeconomics I

Macroeconomics II

Microeconomics I

Microeconomics II

3. Applied Courses

Applied Macroeconomics (Macroeconomia Aplicada ao Brasil)

Applied Microeconomics (Microeconomia Aplicada ao Brasil)

4. Field Courses (Regular and Sporadic)

Asset Pricing

Bayesian Macroeconometrics

Behavioral Economics

Behavioral Finance

Computational Methods in Empirical Finance I

Computational Methods in Empirical Finance II

Corporate Finance

Development and History

Development Economics

Dynamic Coordination

Dynamic General Equilibrium with Limited Commitment

Econometrics III

Econometrics IV

Economic Growth

Economics of Crime

Economics of Education

Empirical Asset Pricing

Empirical Industrial Organization

Financial Econometrics

Forecasting

International Finance

Labor Economics

Macroeconomics III

Macroeconomics IV

Microeconometrics I

Microeconometrics II

Microeconomics III

Microeconomics IV

Political Economy

Public Economics

Spatial Econometrics

Stochastic Calculus

Theory and Quantitative Methods in International Trade

Topics in Macroeconomics: Liquidity and Financial Intermediation

Topics in Political Economy

Trade Policy

Urban Economics

Leveling Courses

Mathematics for Economists

Credits: 0	Workload: 30 hours	Summer

This course presents the basic mathematical tools for economists: basic set theory, real sequences, real functions, metric spaces, linear algebra, convexity, and differential calculus. This course is mandatory for both the master's and doctoral programs.

Statistics

Credits: 0	Workload: 30 hours	Summer

This course covers the main notions of probability theory and statistical inference. The first part develops the fundamentals of probability theory with a focus on random variables in Euclidian spaces. The second, and final, part applies the concepts of probability theory to the problem of statistical inference. This course is mandatory for both the master's and doctoral programs.

Core Courses

Econometrics I

Credits: 2	Workload: 30 hours	First Quarter

This course is an introduction to Econometrics. The first part of the course covers the basics of ordinary least squares: correlation versus causality, bivariate and multivariate regression, and hypothesis testing. It then moves to the basics of instrumental variables. The second part of the course provides a more advanced treatment of the material covered in the first part. This course is mandatory for both the master's and doctoral programs.

Econometrics II

Credits: 2	Workload: 30 hours	Second Quarter

This course is the second course in the Econometrics track. The course starts with a discussion of extreme estimators, their consistency, asymptotic normality, and hypothesis testing. It then moves to a discussion of the generalized method of moments (GMM). This part begins with a discussion of instrumental variables and then considers the general approach to GMM, its asymptotic properties, and hypothesis testing. The course concludes with a discussion of discrete response models—Probit and Logit—and censored and truncated regression models. This course is mandatory for both the master's and doctoral programs.

Macroeconomics I

Credits: 2	Workload: 30 hours	First Quarter

This course covers the main components of macroeconomic models: consumption and savings, investment, external sector, sticky prices, coordination failures, monetary policy, and time inconsistency. It is mandatory for both the master's and doctoral programs

Macroeconomics II

Credits: 2	Workload: 30 hours	Second Quarter

This course cover topics in Labor Economics, Monetary Economics and Financial Economics. The course starts with an analysis of models of equilibrium unemployment in frictional labor markets. It then proceeds to study a wide array of models of financial frictions. It concludes with the study of rational bubbles and inefficient credit booms. This course is mandatory for both the master's and doctoral programs.

Microeconomics I

Credits: 2	Workload: 30 hours	First Quarter

This course presents the basic elements of Microeconomic Theory. It begins with an introduction to nonlinear programming, followed by an exposition to preferences and choice, classical demand theory, and choice under uncertainty. This course is mandatory for both the master's and doctoral programs.

Microeconomics II

Credits: 2	Workload: 30 hours	Second Quarter

This course is an introduction to competitive General Equilibrium Theory. It begins with the Arrow-Debreu competitive equilibrium in a static environment and the Welfare Theorems. It then moves to dynamic models with rational expectations, Radner equilibrium, complete and incomplete markets, financial markets, non-arbitrage pricing, and asset pricing. This course is mandatory for both the master's and doctoral programs.

Applied Courses

Applied Macroeconomics

Credits: 2	Workload: 30 hours	First Quarter

This course covers recent research topics in economic growth and development, emphasizing the role of institutions and financial development on growth and economic development. The course discusses applications to Brazil. This course is mandatory for both the master's and doctoral programs.

Applied Microeconomics

Credits: 2	Workload: 30 hours	Fourth Quarter

This course discusses recent advances in the micro-development literature and their application to the study of social, educational, and labor market policies in Brazil. This course is mandatory for both the master's and doctoral programs.

Field Courses

Asset Pricing

Credits: 2	Workload: 30 hours	Third Quarter

This course presents asset-pricing models based on the problem of representative agents. The course starts with the canonical Consumption CAPM model and discusses how it fails to capture the main empirical features of stocks returns. It then discusses the modifications introduced to reconcile theory with data. These include external habit and Epstein-Zin preferences, consumption processes subject to rare disaster shocks and long-run risks, consumption of durable goods and housing, models with incomplete markets and heterogeneous agents, models of incomplete information and learning, models that deal with different conditioning variables, and, finally, models that look at the cross-section of value-growth stock.

Bayesian Macroeconometrics

Credits: 2	Workload: 30 hours	Second Quarter

This course presents an introduction to modern macroeconometrics using Bayesian techniques. It covers the estimation, inference, and evaluation of Bayesian vector autoregressive models and linearized dynamic stochastic general equilibrium models. While the course presents the theoretical foundations of Bayesian estimation, its focus is on applications and implementation issues.

Behavioral Economics

Credits: 2	Workload: 30 hours	Third Quarter

This course presents experimental evidence on behavioral biases, discusses how these biases affect individual decision-making and the working of markets and policy, and presents empirical evidence that such biases are economically relevant. It covers the following topics: Prospect theory, self-control and time inconsistency, social preferences, preference formation, non-standard beliefs (overconfidence, projection bias, law of small numbers) and non-standard decision-making.

Behavioral Finance

Credits: 2	Workload: 30 hours	Fourth Quarter

This course discusses the empirical facts that challenge the traditional paradigm in financial markets, which assumes that investors have rational beliefs, optimize expected utility, and there are no limits to arbitrage. It then discusses how the field has tried to model and to deal with these facts. The course covers the following topics: Prospect theory, framing and mental accounting, limited attention, non-standard beliefs and decision-making, and limits to arbitrage.

Corporate Finance

Credits: 2	Workload: 30 hours	Second Quarter

This course focuses on how firms should and do manage their financing activities. The objective is to understand what determines the choice of firm capital structure, whether it can be optimized or not, and how the interactions of owners, managers and creditors affect that choice. The course discusses theoretical and empirical papers, so that the student can prepare for doing research in this area.

Development and History

Credits: 2	Workload: 30 hours	First Quarter

This course assesses the causes of economic development, conversion and diversion in the last two hundred years. It reviews the literature on the major drivers of growth and inequality: institutions, the state, finance, geography, globalisation, and war. The course also addresses some noteworthy cases: 18th and 19th century UK, the USA in the turn of the 20th century, the USSR, post-war Europe, Latin America and East Asia.

Development Economics

Credits: 2	Workload: 30 hours	Second Quarter

This course covers classic topics of research at the intersection of development, labor, and demographic economics. It is both theoretical and empirical, intercalating canonical models with the associated empirical evidence. The first part discusses family decisions regarding investments in children and fertility, and highlights their relevance for understanding the evolution of inequality and the historical processes of demographic transition. The final part of the courses discusses labor market discrimination and the empirical challenges associated with understanding and measuring it.

Dynamic Coordination

Credits: 1	Workload: 15 hours	Winter

This course presents the literature on dynamic coordination models. After a brief visit to the 'global games' literature, the course presents the basic framework of the dynamic coordination model with timing frictions, shows theoretical results about equilibrium and welfare in this framework, and develops tools that are used in applications. After this theoretical part, the course studies applications such as the choice between products with network externalities (Facebook or Google+), the effect of coordination failures in macroeconomics, among others.

Dynamic General Equilibrium with Limited Commitment

Credits: 2	Workload: 30 hours	First Quarter

This course proposes an introduction to dynamic general equilibrium theory with a special focus on models with self-enforcing debt and collateral constraints.

Econometrics III

Credits: 2	Workload: 30 hours	Third Quarter

This course is an introduction to time-series methods in Econometrics. It covers the following topics: stationary series, aspects of trend behavior, detrending mechanisms and their properties, unit roots, and cointegration. The course also discusses prediction of stationary processes, introducing students to the theory of Hilbert spaces for this purpose. The focus is on time-domain methods, but the course also discusses frequency-domain methods. This course is mandatory only for the doctoral program.

Econometrics IV

Credits: 2	Workload: 30 hours	Fourth Quarter

This course presents the main econometric methods for panel data analysis. It encompasses both theory and empirical applications. This course is mandatory only for the doctoral program.

Economic Growth

Credits: 2	Workload: 30 hours	Fourth Quarter

This course covers a number of key issues in the broad literature of economic growth and human capital accumulation. There will be an emphasis to human capital formation and economic development, including, but not limited to: human capital and international diffusion of ideas and technology, financing of human capital, occupation choices, location choices and income distribution.

Economics of Crime

Credits: 2	Workload: 30 hours	Fourth Quarter

This course analyzes crime through an economics perspective. It covers both theory and empirics. The course first introduces the rational choice model of crime and uses it to analyze standard topics in the study of criminal justice systems (incarceration, policing, and deterrence versus incapacitation). It then moves to a discussion of the following topics: drugs and economics, the relationship between violence and social factors (poverty, education, inequality, social programs, among others), behavioral economics and crime, the geographic analysis of crime and the economics of corruption.

Empirical Asset Pricing

Credits: 2	Workload: 30 hours	Fourth Quarter

This course aims to familiarize students with the main empirical stylized facts in asset pricing and to prepare them to do research in the topic on their own. The course discusses and critically evaluates empirical work in asset pricing and provides students with tools to carry out research in the area.

Empirical Industrial Organization

Credits: 2	Workload: 30 hours	Second Quarter

This course presents two main areas of Empirical Industrial Organization: estimation of production functions and demand equations. These models are the foundation of most applied structural work in economics, marketing, health economics and international trade. The course will cover both technical details (specification, estimation strategy, identification and economic interpretation) and applications.

Financial Econometrics

Credits: 2	Workload: 30 hours	Third Quarter

This course covers topics in financial econometrics. It presents linear and non-linear models for conditional means and conditional variances, extreme value theory, the theory of copulas, and some additional topics (such as models for high-frequency data and continuous time models).

Forecasting

Credits: 2	Workload: 30 hours	Fourth Quarter

This course is a topics course in forecasting. It covers the following topics: forecasting with linear models, automated model selection, model misspecification, forecasting with dynamic models, forecasting evaluation and combination, forecasting time-series models, forecasting non-linear models, and forecasting in large data sets and volatility.

International Finance

Credits: 2	Workload: 30 hours	Third Quarter

This course covers models of currency crises, debt crises and banking crises. It starts with the classical models of the literature and reaches the most recent developments. These include the role of beliefs in crises, self-fulfilling expectations, multiple equilibria, equilibrium selection, the role of public information, herd behavior, moral hazard and crises, quantitative analyses of debt crises, and international lending of last resort.

Labor Economics

Credits: 2	Workload: 30 hours	First Quarter

This course examines topics in labor economics. The emphasis is on the driving forces of supply and demand for labor. The course concludes with a discussion of labor market policies.

Macroeconomics III

Credits: 2	Workload: 30 hours	Third Quarter

This course introduces techniques and methods for analyzing macroeconomic questions, with focus on computational methods. The topics covered in the course include approximation of stochastic processes, function approximation techniques, linear methods, Blanchard-Kahn conditions and quasi-linear methods. The course introduces students to value and policy function iterations and methods for analyzing models with heterogeneous agents. This course is in the set of mandatory disciplines only for the doctoral program.

Macroeconomics IV

Credits: 2	Workload: 30 hours	Fourth Quarter

This course provides an overview of recent developments in monetary economics, with special emphasis on models with nominal rigidities and their implications for monetary policy. The course first introduces the classical real business cycles model and discusses the neutrality of monetary policy in this framework. It then discusses extensions of the classical model with imperfect competition and price rigidities, leading to the canonical New Keynesian (NK) model. The course then studies monetary policy rules in the NK framework. The course also covers discretion and commitment in monetary policymaking, the interaction between fiscal and monetary policies, and the open economy dimension of monetary policy. This course is in the set of mandatory disciplines only for the doctoral program.

Microeconometrics I

Credits: 2	Workload: 30 hours	Third Quarter

This course is the first part of a two-course sequence that presents econometric methods for impact evaluation. The first part discusses the problem of causal inference, the use of randomized experiments, and methods of selection on observables. The course discusses theoretically the methods and presents empirical applications with microdata.

Microeconometrics II

Credits: 2	Workload: 30 hours	Fourth Quarter

This course is the second part of a two-course sequence that presents econometric methods for impact evaluation. The second part focuses on identification and estimation under failure of the selection on observables assumption. The course discusses theoretically the methods of difference in differences, synthetic control, regression discontinuity design and quasi-natural experiments, among others. Additionally, it presents empirical applications with microdata.

Microeconomics III

Credits: 2	Workload: 30 hours	Third Quarter

This course is an introduction to game theory and information economics. The course begins with the study of games (static and dynamic) of complete information. It then proceeds to the study of games of incomplete information. The course concludes with an introduction to adverse selection, signaling, and screening. This course is mandatory for both the master's and doctoral programs.

Microeconomics IV

Credits: 2	Workload: 30 hours	Fourth Quarter

This course presents the basics of Economics of Information, which is the study of asymmetric information. This course is mandatory only for the doctoral program.

Political Economy

Credits: 2	Workload: 30 hours	Second Quarter

This course presents students to the political economy literature. The goal is to familiarize them with the central themes and techniques used in theoretical and empirical work in the field.

Public Economics

Credits: 2	Workload: 30 hours	First Quarter

This course provides a general overview of the modern literature on public economics. The main topics that the course covers are optimal taxation and public provision of goods addressing issues such as redistribution, health, education, and sanitation policies.

Spatial Econometrics

Credits: 2	Workload: 30 hours	First Quarter

This course presents some of the main results in modern statistical inference for spatial data, emphasizing the practice of data analysis and model estimation using the freely available software R. The course also investigates the interaction of the spatial and temporal dimensions of data, and reviews some of the main strategies for modeling this type of data.

Stochastic Calculus

Credits: 2	Workload: 30 hours	Winter

This course proposes an introduction to stochastic calculus as a tool for continuous time finance. The required mathematics background consists of calculus and calculus-based probability. This course develops stochastic calculus (Brownian motion and Itô's integral), martingales and risk-neutral pricing all in continuous time. We provide precise statements of results, plausibility arguments, and even some proofs, but more importantly intuitive explanations.

Theory and Quantitative Methods in International Trade

Credits: 2	Workload: 30 hours	First Quarter

This course studies recent developments in the field of international trade. It mixes theory with empirics, focusing on quantitative general equilibrium models of trade and on "structural" empirical studies. The course covers several topics, including the effects of trade on labor markets, welfare gains from trade, trade and technological differences, and gravity equation estimation.

Topics in Macroeconomics: Liquidity and Financial Intermediation

Credits: 2	Workload: 30 hours	Second Quarter

This course covers a selection of papers dealing with the real effect of liquidity shortages. Some of these papers discuss the public provision of liquidity, while others focus on the private provision of liquidity. The course pays particular attention to the underlying frictions that make liquidity an economically relevant issue.

Topics in Political Economy

Credits: 2	Workload: 30 hours	Third Quarter

This course provides an overview of the empirical and theoretical literature on political institutions and constitutions. We study how different institutional arrangements affect economic, political and social performance, taking into account the fact that institutions are themselves determined in equilibrium. The purpose of this course is to both familiarize students with the current political economy literature and help them develop the ability to apply empirical methods and construct simple theoretical models to address questions in economics and politics.

Trade Policy

Credits: 2	Workload: 30 hours	Winter

This course covers the economics and the political economy of trade policy and of international trade agreements, from a theoretical and an empirical perspective. It starts with a discussion of the instruments of trade policy and the political economy factors that shape them. The course then moves to the driving forces and the consequences of multilateral and preferential trade agreements.

Urban Economics

Credits: 2	Workload: 30 hours	Second Quarter

This course explores theoretically and empirically a range of topics related to the economics of cities. The course begins with a discussion of the modeling and estimation of agglomeration economies. It then discusses models of housing markets and housing policy, with a focus on topics that are relevant to the urbanization of developing countries, such as the understanding of the causes and consequences of slums. Additional themes covered in the course are local labor markets, land use regulations and place-based policies. The course will discuss how urban economics relates to other areas, such as public, development, labor and regional economics.