MA Economics – Ashoka University

List of Electives

ECO 6100: Topics in Microeconomic Theory

The course will focus on issues related to Economic and Social networks.. The design of the course takes into account the fact that First year MA students will be studying game theory during this semester. Some elementary graph-theoretic concepts will also be used, but no prior knowledge will be assumed. The basic textbook for the course is

Matt Jackson : Social and Economic Networks

Students are also strongly recommended to browse through Jackson's second book The Human Network. This is a non-technical discussion of many of the main topics of current research. I will also mention other references as we go along.

The main topics to be discussed are the following:

1.   Introduction : why study networks; graph-theoretic concepts

2.   Measures of centrality and Power

3.   Strategic Network Formation

4.   Games on Networks

5.   Learning on networks

6.   Diffusion

7.   Networks in Some Specific Contexts

ECO 6101: Asymmetric Information Models

This is an advanced course in microeconomics. Knowledge of basic game theory will be assumed. The objective of this course is to equip the students with the tools to build and analyse models of strategic behaviour in environments with asymmetric information. We will then take these tools and apply them to study real life problems. Specific topics include Bayesian equilibrium, Sequential equilibrium, models of moral hazard and adverse selection, and applications to microfinance, media bias and advertising.

ECO 6103: Organizational Economics

The course aims to develop and deepen the understanding of how the internal organization of firms works. One may imagine a firm as a web of social and economic ties in which several players make many decisions day in day out. For instance, workers decide how much effort to put in their work, managers decide who to promote and hire, firm owners decide whether to give managers any decision- making power, etc. In this course, we will look at these decisions through the lens of an economist. Doing so will help us gain insight

into the behavior of these individuals in a unique economic setting. The course helps prepare students for a wide range of careers in which they will face the challenge of advising or managing firms. Such professions include positions in the management of firms themselves or management consulting firms.

We will discuss both classical contributions and more recent developments (such as leadership, innovation and creativity, and discrimination and preferential treatment). We will cover topics ranging from personnel economics to the theories of the boundaries of the firms. While we will predominantly discuss theoretical studies, we will also look at some relevant empirical and experimental literature.

A basic grasp of game theory (and games of incomplete information) is a prerequisite.

ECO 6105: Decision Theory

We will focus on two prominent areas of decision-theoretic research: (i) decisions under uncertainty; and (ii) theories of behavioral choices.

For the first topic, we will begin by looking at the question of the foundations of subjective probabilities and Bayesianism. We will study the classic approaches of De Finetti, Savage and Anscombe-Aumann to this question. Thereafter, we will focus attention on the large and impressive literature on decision making under ambiguity that has emerged in the last three decades or so. Ambiguity, here, refers to decision settings in which a decision maker perceives " . . . uncertainty about probability, created by missing information that is relevant and could be known" (Frisch and Baron, 1988). That such decision settings exist was pointed out by Ellsberg (1961). His work showed how ambiguity represents a normative criticism of the subjective expected utility framework of Savage (1954) and, by extension, of the Bayesian paradigm. It was David Schmeidler's work in the late 1980s that revived interest in this area of research. We will cover important models like Schmeidler's Choquet expected utility, Gilboa and Schmeidler's maxmin expected utility, Klibanoff, Marinacci and Mukerji's smooth model of ambiguity, and Siniscalchi's vector expected utility

For the second topic, we will, first, look at the case against rational choice theory. Thereafter, we will focus on a selected set of topics which will be proposed as responses to the descriptive (and at times normative) limitations of rational choice theory. Amongst them will be Kahneman and Tversky's heuristics and biases program, along with a discussion of dual process theories of cognition. We will also look at prospect theory and the theme of reference dependent preferences, more generally. Other topics that will be covered are theories of temptation and self-control, sequential choice procedures featuring multiple rationales, choice theories featuring limited consideration and theories of social influence.

Prerequisite: ECO 5102 (Microeconomics II)

ECO 6200: Monetary Economics

In this course we will explore how fiat money emerges endogenously, why intrinsically worthless tokens or pieces of paper have value, why fiat money and credit coexist, and other substantial issues in monetary economics. To achieve this objective we will start with a discussion on complete markets and understand why such markets fail to justify the existence of money. How money-in-the-utility-function (MIUF) and cash-in-advance (CIA) models have been used with varying success? Why micro-founded models where money is essential, i.e. welfare-improving, better explain the existence of fiat money and its interactions with other aspects of the macroeconomy (e.g. asset markets, labor markets, cryptocurrencies & blockchains, etc.)?

ECO 6201: Advanced Macroeconomics

This course builds on the methods and concepts introduced in Macroeconomics I and II. The aim of this course is to learn: 1) recursive competitive equilibrium models that feature individual and firm heterogeneity ; and 2) how to solve numerically for the equilibrium of these economies. These models are helpful to analyze a wide range of questions pertaining to business cycles, income distribution, asset pricing etc. The course will start with a discussion of aggregation with heterogeneous agents. It will then move towards economies with incomplete markets, where agents can only borrow and save through a risk-free bond. The last set of lectures introduce economies with heterogeneous firms, equilibrium default in incomplete markets models through the particular example of sovereign default, and conclude with a brief introduction to heterogeneous agent New Keynesian models.

Prerequisite: ECO 5202 (Macroeconomics II)

ECO 6300: Firm and Sectoral Dynamics

This course discusses growth in a disaggregated economy. We look at multi-sector growth models to understand how preferences, productivity differences and factor intensity differences contribute to structural change. We also discuss how firms innovate and imitate in an economy. While a major part of the course would be theoretical, we would draw motivation for our discussion from existing empirical literature.

Expertise in calculus (especially differential equations) is a prerequisite.

ECO 6402: Econometrics II

What is causal inference and how do we make causal inferences about data in the real world? This course builds on Econometrics I to cover more statistical methods, such as experiments, matching techniques, instrumental variables, differences-in-differences, and regression discontinuity design, with the explicit aim of measuring causal relationships using real-world data in Stata.

ECO 6403: Time Series Econometrics

The objective of this course is to help students understand standard econometric tools and how they can be used in empirical research and practical applications. The course will emphasize a number of important issues in Financial Econometrics and Macroeconometrics with the applications in RATS and STATA. The examples from Macroeconometrics include: the nature of Indian business cycle variables; the decomposition of a series into its temporary and permanent components; estimation of the demand for money; the estimation of structural VARs and estimation of cointegration. The examples from Financial Econometrics include: ARCH–GARCH models of volatility; tests of the term structure of interest rates; purchasing power parity; covered interest parity; and an examination of nonlinearities in financial data. At the end of this course students will obtain a thorough and complete understanding of major issues of time series analysis and will be able to conduct their own research. The prerequisite for this course is Mathematics of economics, Statistics for economics, and Econometrics I.

ECO 6404: Machine Learning for Economics

This course aims to give a thorough introduction to several machine learning (ML) techniques. The first part of the course will cover supervised ML (i.e., regression and classification) techniques such as lasso, ridge regression, support vector machines, neural networks etc. The second part will cover unsupervised ML techniques including clustering (K-nearest neighbors), topic modeling, and word embeddings. The course will also include applications of some of these techniques in the fields of development economics, environmental economics, labor economics, and political economy.

Prerequisite: ECO 5401 (Econometrics I)

ECO 6500: Development Economics

In this course we will apply the tools of economic analysis to understand the issues of developing countries. We will go over select topics in applied research in micro development economics including the role of institutions, intra-household decision making, poverty traps, labour markets, consumption and savings, human capital investment in health and education, the changes in poverty, demography, impact of early-life shocks on human capital formation and policies. The course aims to equip students with an understanding of a range of empirical methods in development. The course gives you an overview about how economic models can provide insights into understanding behaviour and subsequently illustrate how to assess the empirical implications of the models with appropriate choice of research design and econometric methods. By the end of the course students should have a basic understanding of the major papers in the related literature and be in position to apply the economic framework and econometric tools to conduct a research problem of their choice in development economics.

ECO 6555: Finance and Volatility

The objective is to understand why we often see volatility or instability in the financial sector. This is primarily a course on theory to explain the real world. We keep an eye on broad stylized facts (and occasionally an empirical study). We will consider policy issues. The course is useful for students aspiring to be academics, policy makers, and practitioners (in alphabetical order). The syllabus includes some Behavioural Finance. It also includes a bit on economics of homes as an asset. Since the financial system is usually classified into two parts viz., financial markets and financial intermediaries, the syllabus is, broadly speaking, in two parts (though these are not always mutually exclusive).

1. Asset markets, and possible excess volatility.

Formal CAPM model and evidence, stochastic discount factor, efficient markets theory and behavioural finance, limits to arbitrage, stabilizing speculation and destabilizing speculation, asset price bubbles - rational and irrational, debt and asset prices, leverage cycle, balance sheet recession, dynamic hedging, risk aversion and risk appetite, neglected risks, diagnostic expectations (and adaptive and rational expectations), and agency cost (including the dual agency cost perspective).

2. Financial intermediaries, and instability

Rationale for demand deposits, liquidity (many different meanings), banking crises (different from currency crisis, fiscal crisis, and asset price crashes), bank runs (sunspots and fundamentals based, inefficient and efficient, partial and complete), non-performing loans, 'sudden stop' and banks, fluctuations in interest rates, 'peculiar' case of stable and efficient Canadian banking, deposit insurance, lender of last resort, credit lines, capital adequacy

Prerequisite: ECO 5202 (Macroeconomics 2)

ECO 6600: Industrial Organization

This course surveys theoretical and empirical models used in understanding markets and their outcomes, in particular in estimating demand, production functions, and productivity; the effects of market structure, entry, exit, vertical integration, collusion, mergers, taxes, etc. on prices, market power, consumer expenditure and welfare; and topics like price discrimination, network externalities, intermediation and platform markets, transaction costs, incomplete contracts, and theory of the firm.

Prerequisites: ECO 5102 (Microeconomics II), ECO 5401 (Econometrics I)

ECO 6605: Spatial Economics

Economic activity is unequally distributed across space. Why do some locations attract many people, have higher per capita income, and grow at a faster rate relative to other locations? How do the movement of goods (trade) and people (migration) between locations affect wages, prices, and welfare in those locations? How does the spatial distribution of economic activity and population evolve with economic development? We will study these questions using the quantitative models developed in the last decade. In this course, we will also aim : (i) to learn the structural method used in trade and spatial economics and (ii) to develop general equilibrium intuition in the spatial context.

Prerequisite: ECO 5401 (Econometrics I)

ECO 6610: Experimental Economics

This course will be an introduction to experimental economics, its methods, and some of the major subject areas that have been addressed by laboratory experiments. Substantive areas of application in the course will include market equilibrium, individual decision-making, risk and uncertainty, strategic interactions, learning in games, public good provision, and labor market relationships. Additional topics may include field experiments in development economics. The students will also learn the software zTree, which is typically used to design the computer interface of laboratory experiments. The final project for this class will be an experimental design based on an original idea.

ECO 6620: Behavioural Economics

Traditional economic theory in the neoclassical tradition assumes that individuals are "rational" in the sense that they have well defined, consistent preferences and make choices so as to maximize their well-being with respect to these preferences. It also assumes that they have unbounded cognitive abilities to figure out the best course of action in any situation, including the ability to make all kinds of complicated logical inferences. When it comes to facing uncertainty, it assumes that individuals prescribe to the demands of Bayesian rationality. Further, when strategic interactions are involved, the demands on rationality that game theoretic analysis makes is even more stringent.

In recent years, behavioral economics has challenged this orthodoxy by producing considerable evidence and novel theories that shows that traditional decision and game theoretic models may be an inadequate positive description of human behavior and interactions. This course will introduce theories and paradigms that showcase this impressive body of research. These theories will deal with both single person decision problems as well as strategic interactions (behavioral game theory). We will also focus on decision making

under uncertainty and critically engage from a behavioral perspective with the foundational Bayesian paradigm. At the same time, we will show that our theoretical investigations have serious ramifications for questions in many areas of economics. We will also highlight why such behavioral concerns may require us to address many public policy issues through new and innovative approaches as well as re-think the basis on which we do welfare economics.

In short, the course is a methodological intervention into economic reasoning and critically interrogates the neoclassical paradigm.

ECO 6640: Labour Economics

Labour economics, broadly defined, is the study of the interaction of individuals, firms, institutions and the public sector in determining employment and wages. This course will cover the theoretical and empirical issues relating to labour economics, with a strong applied focus where we will discuss research designs to empirically measure theoretical predictions as well as evaluate policy interventions. The course is designed for students pursuing a Masters degree in Economics and it is designed to cover empirical methods. You should be familiar with either Stata or R.

ECO 6650: Health Economics

This is an advanced course on health economics. The purpose of the course is to expose students to more advanced topics and aspects of recent research in health economics. It provides a deeper examination of selected issues including health capital, relationship between health and economic development, fertility and demographic change, health behaviour, market structure for health care and health insurance. The course further aims to equip students to examine current policy debates in health economics. It will also further the understanding of contemporary econometric techniques and research designs used in causal inference. We will read, discuss, and critically evaluate key research papers in health economics. Students will be expected to read each paper in depth, participate in discussions about them, present and discuss several papers and write a term paper on their topic of interest.

ECO 6670: Economics of Discrimination

This course familiarises students with theories and empirical tools to understand and measure economic discrimination based on social group identities, such as caste, race, gender, tribal status, ethnicity. The course will directly address caste and tribal identities, but much of the discussion applies to other identity groups as well.

We will begin with a discussion of inter-group disparities and inequalities in the Indian context. We will then move on to a discussion of some classic theories of discrimination, based on prejudice or imperfect information. Next, the course will discuss empirical methods of estimating discrimination, especially in market settings. Finally, we will look at affirmative action policies that have been used to address discrimination, especially reservations.

ECO 6680: Political Economy

The agenda of the course, loosely stated, is to discuss details of decision-making and consequences thereof in a society with established democratic principles. We will primarily be concerned with elections, its

various institutional details and their implications on policy making. We will understandably not be able to cover a lot of otherwise important topics in political economy. We will begin with voting rules, models of electoral competition, election design: term length, term limit, primary elections, electoral systems etc. We will then move to some discussion on models of group based collective action and their implication on public good provision and inequality. We will focus on issues of clientelism, dynastic politics, affirmative action, violence and politics. We will end with some discussion on the importance of certain political and legal institutions and state capacity for the long-run economic health of a society.

ECO 6690: Economics of Agricultural Transformation

This course looks at economic development through the lens of food and agriculture. As we shall see, such a view can offer a powerful framework for understanding economic development outcomes. It is also productive in suggesting new lines of enquiry. The course covers modern literature relating to structural transformation, spatial distribution of economic activity, technology impacts, natural resources of water and land, and climate change.

ECO 6720: Public Economics

This course will provide a working knowledge of modern theoretical and empirical techniques to investigate the design of tax policy and the responses of economic agents to it. The goal is to develop critical thinking to analyze fiscal policies in a real-world context. While the emphasis will be on the revenue side of public economics, we will also cover a few important aspects of government expenditure. Some of the topics that will be covered include optimal tax policy; tax avoidance and evasion; bunching at kinks and notches; commodity taxation; provisioning of public goods; among others.

ECO 6800: Computer Programming and Applications

Overview: This hands-on course intends to equip students with the necessary computational knowledge & tools to apply grad-level economics & statistics to real world problems. While establishing solid foundations in computer programming, the course will selectively focus on applications that not only bring about a deeper appreciation for concepts being taught in other courses but also inspire the students to apply computational techniques to solve new problems. The intended audience for this course is First Year MA economics students.