

Economics

(12 Core + 3 Optional = 15x4Cr = 60Cr)

After completing the curriculum of Economics Major, the student will be well prepared to take up further studies in economics at any high quality economics department in the world, including Delhi School of Economics, Indian Statistical Institute, JNU, etc. in India. Those students who would like to join corporate sector or government or NGOs after finishing their undergraduate degree with a major in economics will also be well prepared for a good career, since the curriculum is designed to give the student strong foundations both in theory and policy matters with the right tools to tackle the real world problems.

The twelve core courses will be taught in the first three semesters with four courses per semester as mandatory for all students of 'economics major'. Five to six courses will be offered in the fourth semester out of which the student will choose at least three. In the first semester, the students will be introduced to the basic theoretical foundations of orthodox economics as well as the basic mathematical and econometrics tools to work with economic theory and to analyze empirical data. The second semester will both broaden and deepen the students' understanding of the orthodox economics. It will also introduce the students to the specific problems of developing economies, which require innovative thinking as the orthodox theory turns out to be inadequate in analyzing the problems of these economies. In this semester, the students will also be exposed to theoretical paradigms other than orthodox theory to give them a much broader and diverse perspectives on framing of the economic question. The third semester will introduce historical time into the picture by exposing the students to the economic history of the world, particularly the history of industrialization of Europe and the USA and the economic history of India during the colonial period. It will also introduce time in the analysis of economic growth and technical change. The students will also be exposed to an analysis of various institutions that manage money supply and various kinds of finances in the modern economy. And finally, a course in Applied Econometrics to prepare them for sophisticated analysis of economic data. In the fourth semester the student will be given a choice of electing three courses out of five to six offerings in various specific areas of economics.

Semester 1

1. Principles of Microeconomics
2. Principles of Macroeconomics
3. Mathematics for Economics
4. Econometrics

Semester 2

5. Intermediate Microeconomics (prerequisite 1)

6. Intermediate Macroeconomics (prerequisite 2)

7. History of Economic Theory

8. Development Economics

Semester 3

9. Economic History

10. Economic Dynamics

11. Money and Finance

12. Applied Econometrics (Prerequisite 4)

Semester 4 (at least three courses from five to six courses to be offered from the below given list)

13. Environmental Economics

14. Law and Economics

15. Behavioural Economics

16. Game Theory and Economic Applications

17. Public Finance

18. Health Economics

19. Indian Economics

20. Economics of Poverty

21. Gender Economics and Economics of Discrimination

22. Heterodox Economics

23. Research Paper

1. Principles of Microeconomics

In this course the students will learn the basic theoretical propositions about the demand and supply sides of a market based on individual rational decisions to maximize their objective functions under budget constraints. They will learn how prices are determined in a Perfectly Competitive markets and why those prices are considered 'most efficient'. They will also learn how market fails to achieve efficient solutions due to the absence in the real world of the critical assumptions of a Perfectly Competitive market. They will study other market structures such

as Monopoly, Monopolistic Competition and Oligopoly and compare them with Perfectly Competitive markets to check for loss of efficiency and social welfare in those markets. They will also study why there are some highly socially desirable goods that are by nature 'public' and therefore only governments could supply them. They will also learn how efficiency and welfare is lost due to the existence in the real world of 'externalities', 'missing markets', 'asymmetric information', etc. and critically examine various policy prescriptions proposed to rectify such situations.

2. Principles of Macroeconomics

In this course the students will be exposed to the orthodox theories that purport to explain how a national economy functions in aggregate as a whole. In this course students will tackle such questions as how the real gross domestic product of a nation is determined, what determines the total employment of labour and can large scale unemployment of both labour and machines exist simultaneously in a market economy? What determines the rate of interest and the level of fresh private investments? How a general price level or price index is determined and what causes inflation or deflation of general price levels? The students will be first exposed to a set of answers to these questions that flow from the theoretical propositions developed by the microeconomic theory, which does not allow for the long-term large scale unemployment of labour. This sets the background against which a simple Keynesian model will be developed to show how large scale unemployment can persist unless governments interfere in the market with their fiscal and monetary policies. The simple Keynesian model will further be refined (and diluted) by extending it to IS-LM model and the AD-AS model, which bring out the idea of 'crowding out' of private investment by government's expansionary fiscal policies and hence reduce the potency of the fiscal multiplier. The students will also learn how the AD-AS model provides a theoretical foundation for 'supply side' policy prescriptions. They will also be introduced to the empirical Phillips curve that gave rise to the idea of a tradeoff between unemployment and inflation and the case of 'stagflation' of the 1970s that contradicted it. Against this background, the students will be introduced to Milton Friedman's 'Monetarism' and his all-out attack on Keynes's fiscal policy measure and then a complete return to the old microeconomic foundations to understanding the macroeconomic problems by the 'Rational Expectationists'. This exposition of a 360 degree movement of Macroeconomic theory within half a century is designed to show how economic theories are fundamentally sophisticated arguments for or against certain government policy prescriptions. In the end the economy will be opened up and students would be introduced to the question of how is the exchange rate of a country's currency determined vis-à-vis other country's currency and how it regulates the flow of capital from one country to another and the implications of monetary and fiscal policies under the regimes of fixed or flexible exchange rates.

3. Mathematics for Economics

This will be an introductory course in mathematics for economic students. Little mathematical knowledge is presumed. However, those with little mathematical background will have to work harder. We start with set theory, the number systems and basic algebra. We will, then study equations, often represented as functions, and learn how to solve them. Differentiation,

or calculus of one variable is studied. This will allow us to understand some single variable optimization techniques and study the problem of constrained optimization. We will then study functions of more than one variable with examples of logarithmic, exponential, homogenous and homothetic functions. We do some basic multivariate calculus and multivariate optimization and constrained optimization. Matrices are introduced and simple comparative static questions analysed.

4. Econometrics

5. Intermediate Microeconomics

This course begins with the modelling of consumer preferences and introduces the utility function. Coupled with the budget constraint the consumer faces, this allows us to pose and solve for the constrained optimization the typical consumer is assumed to solve. This helps us derive the consumer demand curve. We study the consumer's choice in the presence of risk or uncertainty. We next study the behavior of a profit maximizing firm facing a given technology and input costs. This will help us derive the firms' supply curve. We study the market forms of perfect competition and monopoly. We study the equilibrium between supply and demand in these market forms and also the general equilibrium of economy in which there are many markets. The first and second fundamental theorems of welfare economics are explained. We look at the issues raised by externalities in the market and, specifically, the case of public goods. To allow us to derive a market supply curve when there are only a few firms, we will introduce game theory and study an oligopolistic market. Game theory will also allow us to study auctions and solve questions in information economics. Lastly, we will study trade between nations, where the individual units we study are nations. This will allow us to state the law of comparative advantage.

6. Intermediate Macroeconomics

Macroeconomics is probably the most contentious sub-field of Economics. Different people have different views, often determined only by their political positions, as to how the problem of unemployment and inflation, for instance, can be solved. In this course the students will be first introduced to the national income identities and then the short run analysis of the goods and financial markets. The supply of output is determined by the demand for it. The students will then be introduced to the labour market that determines prices of goods and wages. Thus far, all the analyses are limited to happen within a "period". The students will then be introduced to dynamic behaviour and expectations formed by people. In this course the analysis will integrate features of the open economy into the analysis. In India, following the US, theoreticians assume that the economy is a closed one, i.e. it does not trade with the rest of the world. This is clearly not true of today's India. The second feature that the course will incorporate is to give examples on each of the topics listed above drawn from the Indian experience and deal with the question of how is India different from the textbook analysis of an advanced economy.

7. History of Economic Theory

In this course the students will learn how the framing of economic questions has gone through paradigmatic changes over its history since 1750s. They will be introduced to the basic ideas of the French Physiocrats who conceived the national economy as a circular flow of goods and services between the three major economic classes of agricultural farmers, manufacturing workers and the landlords and introduced the idea of production of 'surplus' and its appropriation and distribution through the circular flow. Then the students would learn the basic ideas of Adam Smith, known to be the father of economics. They will learn how Adam Smith opposed the policy prescriptions of the Mercantilists that favoured government granted monopolies in the business of international trade to big trading companies to maximize export surplus (or the stock of gold and silver with the treasury) by introducing the idea of per capita real income and its growth over time as the real wealth of a nation. The students will learn how Adam Smith set up the classical paradigm by framing of economic questions in the context of the relationship of prices to distribution of income in terms of wages, profits and rent on one hand, and the relationship of income distribution with economic growth on the other. Controversies between Ricardo and Adam Smith and later with Marx and their policy implications will also be dealt with in details. The students will also be introduced to Jevons's frontal attack on Ricardo's 'labour theory of Value'. This will highlight the change in the notion of 'value' of commodities introduced by the early Neoclassicists and how this change affected a complete paradigmatic shift in economic theory from economics understood as being a science of the material foundation of a social structure to economics as the problem of 'resource allocation' rooted in the problem of constraint maximization of an individual stranded on an island. This will be discussed in relation to its implication on economic policy—changing it from policies related to economic growth and taxation of surplus to achieving efficiency in market exchange. And finally the relation of Keynesian economics with the Neoclassical/Orthodox economics will be discussed. Is Keynesian Economics a paradigm shift, away from Neoclassical economics? Is macro/micro division sufficient to herald a new paradigm? Can one interpret Keynes's argument as a case of 'market failure'? Is this why it was easy to assimilate Keynes under the overarching general equilibrium Neoclassical theory? Do Post-Keynesians make a case for paradigm shift? Or does it only highlight 'uncertainty' with respect to future as a reason for 'market failure'? How do we resolve these questions would throw light on why different economists have divergent views on monetary and fiscal policies.

8. Development Economics

The aim of this course is to help students build a deeper understanding of the discourse of development within the discipline of Economics. In this course students will learn the historical perspectives of development with a special emphasis on inequality and economic growth. They will also learn the theories of development for explaining the causes and the persistence of underdevelopment and stagnation in the developing world. In order to master the arts and the sciences of developmental policy-making - for overcoming the impediments to growth and development - students will be introduced to the politics of development with the political

economy perspective. Since the concept of development economics has a narrow focus, the course will acquaint students with and deepen their practical knowledge of development using relevant country-studies for them to develop a comprehensive understanding of the problems and causes of underdevelopment and the limitations of development economics.

9. Economic History

Economic historians of the world try to understand two processes that changed the modern world in the last 150-200 years: economic growth and inequality. Why some countries grow rich before others do, is a question that has been discussed almost from the time modern economic growth began in the mid-nineteenth century, “modern” economic growth being a process driven by productivity gains rather than by the accumulation of resources. Standard answers to this question differed according to the emphasis laid upon market-integration, cultural attributes of societies, or political factors, citing Adam Smith, Max Weber, or Karl Marx in the process. The crucial evidence to test these theories came from Europe and was usually speculative about regions outside Europe. A large part of the evidence came from the British Industrial Revolution, its origin, and transmission to other parts of the world. From the 2000s, the debate shifted attention more fully to conditions inside countries like India and China. The aim was to answer why the growth impulse was weak there until the late-twentieth century and how geographical conditions, the experience of colonialism, or cultures, politics, and institutions mattered to what is now called the “great divergence” in the world economy.

When we come to Indian economic history, the Indian discussion in the divergence debate is a good scholarship to study because it connects India with European history directly. The answer to the question – why India’s average incomes fell behind Western Europe’s – should help answer why modern economic growth emerged in Western Europe in the nineteenth century and bypassed poorer countries like India and China.

There is an older and more mainstream scholarship dealing with Indian data, which merits attention too. Much of mainland South Asia or India was the largest and most important colony of Britain between 1765 and 1947. The central debate in Indian economic history is on the question, did British imperial rule impoverish the region or impart a mixed effect? Since the British Empire was keen to maintain economic integration via trade, migration, and cross-border investment, the question entails another one, did the nineteenth-century world economy help or damage Indian development? And what legacies did colonialism and globalization leave on the pattern of economic change in the post-independence years?

10. Economic Dynamics

The first half of the course is devoted to the modern theories of economic growth. In this module the students will learn the pioneering growth model developed, in the backdrop of Keynesian economics, by Sir Roy Harrod and then Robert Solow’s canonical growth model as a neoclassical response to Harrod’s problem of the knife-edge equilibrium of the economy as well as the controversies related to this. The students will also be exposed to Solow’s empirical findings on economic growth and the idea of ‘total factor productivity’, which gave rise to endogenous growth models based on the idea of ‘externality’ such as Arrow’s ‘learning by

doing', Paul Romar's emphasis on 'Research and Development' and Robert Lucas's model based on 'Human Capital'. The second half of the course will be devoted to the question of technical changes. In this module, the students will learn about various hypotheses regarding changes in technology in an economy; such as Paul David's hypothesis regarding technical 'lock-in phenomenon', Schmookler's hypothesis of 'demand pull technical changes' and 'technology-push' hypothesis of Katz and Phillips as well as Rosenberg's hypothesis of interacting 'demand pull' and 'technology push' through feedback loop, Schumpeter's and neo-Schumpeterian evolutionary theories of technical changes by Nelson and Winter and Mokyr, and Finally, Dosi's idea of 'technical paradigms' to hypothesise 'incremental changes' within a paradigm to 'major changes' as shifts in paradigm.

11. Money and Finance

In this course the students will learn about the institutions that supply and regulate money and other financial instruments in the economy. Central banks are relatively recent entrants on to the macroeconomic stage. They emerged from the community of commercial banks. The links between the two were close and reflected in the common interest in short-term lending for the purpose of meeting mainly wage costs. The course will explore reserves policy that emerges from this relationship. A distinction is drawn between Inside Money and Outside Money. Commercial banks issue their own liabilities called inside money. Central banks issue outside money or fiat money. The current arrangement worldwide is described as fractional reserve banking. A fraction of deposits or inside money, the cash reserve ratio (CRR), must be set aside as outside money or fiat money. Banks are free to lend the remainder to firms to acquire capital assets like machines and factories. Long-term business is subject to risks while bank liabilities are short-term commitments. Deposits must be made available on call. A mismatch between the two can result in bank collapses. Central banks may increase the CRR in their attempt to keep banks liquid and safe. The course will explore the tension between lending for illiquid assets on the one hand and liquidity or stability on the other. With increasing scrutiny, banks are tempted to go off-balance sheet and transform themselves into Shadow Banks. They access wholesale funding markets and need not depend on deposits. Their asset portfolios become correspondingly short-term. Long-term information-rich loans are converted into standardised financial products and traded in markets. There are a menu of options like derivatives and swaps and options available. The implications of the high returns from trading in secondary financial markets relative to the returns from primary lending will be investigated. The policy response has been to construct a Chinese Wall or Firewall separating out lending for increasing output and employment from trading in financial contracts.

12. Applied Econometrics

Economics Minor

Each course carries 4 credits.

1. Principles of Microeconomics
2. Principles of Macroeconomics
3. History of Economic Theory
4. Development Economics
5. Economic History
6. Economic Dynamics