FOUR YEAR
UNDERGRADUATE PROGRAMME
(Effective from Academic Year 2013-2014 onwards)

DEPARTMENT OF ECONOMICS
UNIVERSITY OF DELHI

(Approved by Academic Council on May 8, 2013)
TABLE OF CONTENTS

Page No.

I. Norms for Course Readings.................................................................3
II. Economics Four Year Course Structure........................................4
III. Economics Discipline Course I.....................................................6
IV. Economics Discipline Course II..................................................30
V. Economics Applied Courses .........................................................37
Norms for Course Readings

Course Readings: The nature of several of the courses is such that only selected readings can be specified in advance. As in the past, reading lists will be updated and topic-wise readings will be discussed in regular meetings organised by the Department of Economics, Delhi School of Economics, with all college teachers of the University of Delhi associated with teaching these courses.
I. ECONOMICS FOUR YEAR COURSE STRUCTURE
I. ECONOMICS FOUR YEAR COURSE STRUCTURE

<table>
<thead>
<tr>
<th>Semester</th>
<th>Economics Discipline Course 1</th>
<th></th>
<th>Economics Discipline Course 2</th>
<th>Economics Applied Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Principles of Economics</td>
<td>2</td>
<td>Mathematical Methods for</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Economics-I</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Statistical Methods in</td>
<td>2</td>
<td>Mathematical Methods for</td>
<td>Introductory Economics</td>
</tr>
<tr>
<td></td>
<td>Economics-I</td>
<td></td>
<td>Economics-II</td>
<td>Game Theory</td>
</tr>
<tr>
<td>3</td>
<td>Statistical Methods in</td>
<td>3</td>
<td>Microeconomics-I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economics-II</td>
<td></td>
<td>Introductory Economics</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Macroeconomics-I</td>
<td>4</td>
<td>Microeconomics-II</td>
<td>Microeconomic Theory and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Applications</td>
</tr>
<tr>
<td>5</td>
<td>Macroeconomics-II</td>
<td>5</td>
<td>Money and Financial</td>
<td>Macroeconomic Theory and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Markets</td>
<td>Policy</td>
</tr>
<tr>
<td>6</td>
<td>Indian Economic Development:</td>
<td>6</td>
<td>Development Theory and</td>
<td>Money and Banking</td>
</tr>
<tr>
<td></td>
<td>Historical Perspectives and</td>
<td></td>
<td>Experience-I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Issues-I</td>
<td></td>
<td>International Economics</td>
<td>Environmental Economics</td>
</tr>
<tr>
<td>7</td>
<td>Indian Economic Development:</td>
<td>7</td>
<td>Development Theory and</td>
<td>Research I (Applied</td>
</tr>
<tr>
<td></td>
<td>Historical Perspectives and</td>
<td></td>
<td>Experience-II</td>
<td>Econometrics)</td>
</tr>
<tr>
<td></td>
<td>Current Issues -II</td>
<td></td>
<td></td>
<td>Indian Economy</td>
</tr>
<tr>
<td>8</td>
<td>Political Economy</td>
<td>8</td>
<td>Public Economics</td>
<td>Research II (Project)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Development Economics</td>
</tr>
</tbody>
</table>
II. ECONOMICS DISCIPLINE COURSE-I
ECON-DC 1: PAPER 1

PRINCIPLES OF ECONOMICS

Course Description

This course is designed to expose the students to the basic principles of economics. The emphasis will be on thinking like an economist and the course will illustrate how economic concepts can be applied to analyse real-life situations.

Course Outline

1. Exploring the Subject Matter of Economics
Why study economics? The scope and method of economics; scarcity and choice; questions of what, how and for whom to produce and how to distribute output; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems, gains from trade; comparative advantage and trade.

Individual demand and supply schedules and the derivation of market demand and supply; shifts in demand and supply curves; the role of prices in resource allocation; the concept of elasticity and its application; consumer and producer surplus; taxes and their efficiency costs; restrictions on trade.

3. Introduction to Macroeconomics and National Income Accounting
Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices.

4. Money and Inflation
Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy; inflation and its social costs; hyperinflation.

Readings

ECON-DC I: PAPER 2
MATHEMATICAL METHODS FOR ECONOMICS-I

Course Description

This is the first of a two-part course. The objective of this part is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

1. Preliminaries
Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

2. Functions of One Real Variable
Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

3. Single-variable Optimization
Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

4. Integration of Functions
Areas under curves; indefinite integrals; the definite integral

Readings

ECON-DC I: PAPER 3
STATISTICAL METHODS IN ECONOMICS-I

Course Description
This is the first of a two-part course on statistical methods. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables. The semester concludes with a discussion of joint distributions.

Course Outline
1. Introduction and Overview
The distinction between populations and samples and between population parameters and sample statistics; the use of measures of location and variation to describe and summarize data; population moments and their sample counterparts.

2. Elementary Probability Theory
Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes’ rule; independence.

3. Random Variables and Probability Distributions
Defining random variables; probability distributions; expected values of random variables and of functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, poisson and exponential random variables).

4. Random Sampling and Jointly Distributed Random Variables
Density and distribution functions for jointly distributed random variables; computing expected values; covariance and correlation coefficients.

Readings
ECON-DC I: PAPER 4

MATHEMATICAL METHODS FOR ECONOMICS-II

Course Description

This course is the second part of the two-part course. This course covers the essentials of linear algebra and optimization techniques required for the analysis of functions of several variables that are commonly used in economics.

Course Outline

1. Linear algebra
Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

2. Functions of several real variables
Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.

3. Multi-variable optimization
Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.

Readings

ECON-DC I: PAPER 5

STATISTICAL METHODS IN ECONOMICS-II

Course Description

This is the second part in the two part course on statistical methods. It begins with a discussion on sampling techniques used to collect survey data. It introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. It then covers topics in inference that include point estimation, statistical intervals and hypothesis testing. It concludes with a discussion of the simple linear regression model.

Course Outline

1. Sampling
   Principal steps in a sample survey; methods of sampling; the role of sampling theory; properties of random samples.

2. Point and Interval Estimation
   Procedures; properties of estimators; confidence intervals for population parameters.

3. Hypothesis Testing
   Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.

4. Simple Linear Regression
   Estimation of the slope and intercept parameters; inference and prediction.

Readings

ECON-DC I: PAPER 6
MICROECONOMICS-I

Course Description

This is the first part of the two part course, and is designed to provide a sound training in microeconomic theory. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.

Course Outline

1. Consumer Theory
Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; choice under risk and intertemporal choice; revealed preference.

2. Production, Costs and Perfect Competition
Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run; firm behaviour in perfect competition.

Readings

ECON-DC 1: PAPER 7
MACROECONOMICS-I

Course Description
This is the first part in the two part course and introduces the students to formal modelling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces the students to various theoretical issues related to an open economy.

Course Outline

1. The Closed Economy in the Short Run
Simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

2. Aggregate Demand and Aggregate Supply Curves
Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.

3. Inflation, Unemployment and Expectations
Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

4. Open Economy Models
Short-run open economy models; Mundell-Fleming model; Dornbusch's overshooting model; monetary approach to balance of payments.

Readings

Course Description

This course is a sequel to Microeconomics I. It covers general equilibrium and welfare, imperfect markets and topics under information economics.

Course Outline

1. General Equilibrium, Efficiency and Welfare
   Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.

2. Market Structure and Game Theory
   Monopoly; pricing with market power; price discrimination; two-part tariff; oligopoly; game theory and competitive strategy.

3. Market Failure
   Externalities; public goods and markets with asymmetric information.

Readings

ECON-DC I: PAPER 9
MACROECONOMICS-II

Course Description
This course is a sequel to Macroeconomics I. In this course, the students are introduced to the long run dynamic issues like growth and technical progress. It also provides the micro foundations to the various aggregative concepts used in the previous course.

Course Outline
1. Economic Growth
   Solow model; golden rule; technological progress and elements of endogenous growth.

2. Microeconomic Foundations
   a. Consumption: Keynesian consumption function; Fisher’s theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; rational expectations and random-walk of consumption expenditure.
   b. Investment: determinants of business fixed investment; residential investment and inventory investment.
   c. Demand for money.

3. Fiscal and Monetary Policy
   Active or passive; monetary policy objectives and targets; rules versus discretion: time consistency; the government budget constraint; government debt and Ricardian equivalence.

Readings
ECON-DC 1: PAPER 10

MONEY AND FINANCIAL MARKETS

Course Description

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

Course Outline

1. Money
   Concept, functions, measurement; theories of money supply determination.

2. Financial Institutions, Markets, Instruments and Financial Innovations
   a. Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises.
   b. Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

3. Interest Rates
   Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.

4. Banking System
   b. Indian banking system: Changing role and structure; banking sector reforms.

5. Central Banking and Monetary Policy
   Functions, balance sheet; goals, targets, indicators and instruments of monetary control; monetary management in an open economy; current monetary policy of India.

Readings

ECON-DC I: PAPER 11
INTRODUCTORY ECONOMETRICS

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers estimation and diagnostic testing of simple and multiple regression models. The course also covers the consequences of and tests for misspecification of regression models.

Course Outline

1. Nature and Scope of Econometrics

2. Review of Statistical Concepts
Normal distribution, chi-square, t- and F-distributions, estimation of parameters, properties of estimators; testing of hypotheses.

3. Simple Linear Regression Model: Two Variable Case
Estimation of model by method of ordinary least squares, properties of estimators, goodness of fit; tests of hypotheses, scaling and units of measurement, confidence intervals, Gauss-Markov theorem, forecasting.

4. Multiple Linear Regression Model
Estimation of parameters; properties of OLS estimators, goodness of fit, partial regression coefficients, testing hypotheses, functional forms of regression models, qualitative (dummy) independent variables.

5. Violations of Classical Assumptions: Consequences, Detection and Remedies
Multicollinearity, heteroscedasticity, serial correlation.

6. Specification Analysis
Omission of a relevant variable, inclusion of irrelevant variable, tests of specification errors.

Readings

ECON-DC I: PAPER 12

INDIAN ECONOMIC DEVELOPMENT: HISTORICAL PERSPECTIVES AND CURRENT ISSUES-I

Course Description

This course reviews major trends in economic indicators and policy debates in India, starting from the pre-independence period and continuing to the present, and introduces students to analytical methods appropriate for policy analysis.

1. Overview of Colonial Economy
   Introduction and macro trends; major features of the economy at Independence

2. Growth and Development in Post-Independence India
   Goals, constraints, institutions and performance under different policy regimes; structural changes; regional contrasts

3. Population and Human Development
   Demographic trends and population structure, issues in education and health

4. Distributional Issues
   Trends and policies in poverty; inequality; malnutrition and unemployment

Readings

Course Description

This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Course Outline

1. Conceptions of Development

Alternative measures of development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

2. Growth Models and Empirics

The Harrod-Domar model, the Solow model and its variants, endogenous growth models and evidence on the determinants of growth.

3. Poverty and Inequality: Definitions, Measures and Mechanisms

Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps and path dependence of growth processes.

4. Political Institutions and the Functioning of the State

The determinants of democracy; alternative institutional trajectories and their relationship with economic performance; within-country differences in the functioning of state institutions; state ownership and regulation; government failures and corruption.

Readings

8. S Subramanian (ed), Measurement of Inequality and Poverty, Oxford University Press, 2005
ECON-DC I: PAPER 14
INTERNATIONAL ECONOMICS

Course Description
This course develops a systematic exposition of models that try to explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. It then builds on the models of open economy macroeconomics. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.

Course Outline
1. Introduction
What is international economics about? An overview of world trade.

2. Theories of International Trade
The Ricardian, specific factors, and Heckscher-Ohlin models; new trade theories; the international location of production; firms in the global economy — outsourcing and multinational enterprises.

3. Trade Policy
Instruments of trade policy; political economy of trade policy; controversies in trade policy.

4. International Macroeconomic Policy
Fixed versus flexible exchange rates; exchange rate determination; purchasing power parity; asset market approach.

Readings
ECON-DC I: PAPER 15

INDIAN ECONOMIC DEVELOPMENT: HISTORICAL PERSPECTIVES AND CURRENT ISSUES-II

Course Description

This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India.

1. Macroeconomic policies
   National Income, fiscal policy, trade and investment policy, financial and monetary policies, labour policies

2. Agriculture
   Agrarian structure and land relations; agricultural market and institutions; agricultural growth and productivity; pricing and procurement

3. Trade, Industry and Services
   Deindustrialization, evolution of industrial structure, labour relations; growth, productivity, diversification; public sector, competition policy, foreign investment

Readings

ECON-DC I: PAPER 16

DEVELOPMENT THEORY AND EXPERIENCE-II

Course Description

This is the second part of the economic development course. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and organizations is studied and this is then linked to questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development.

Course Outline

1. Demography and Development
Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation; migration.

2. Land, Labour and Credit Markets
The distribution of land ownership; land reform and its effects on productivity; contractual relationships between tenants and landlords; land acquisition; nutrition and labor productivity; informational problems and credit contracts; microfinance; inter-linkages between rural factor markets.

3. Individuals, Communities and Collective Outcomes
Individual behaviour in social environments, multiple social equilibria; governance in organizations and in communities; individual responses to organizational inefficiency.

4. Environment and Sustainable Development
Defining sustainability for renewable resources; a brief history of environmental change; common-pool resources; environmental externalities and state regulation of the environment; economic activity and climate change.

5. Globalization
Globalization in historical perspective; the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalized world.

Readings

ECON-DC I-PAPER 17

RESEARCH-I

(Research Methodology: Applied Econometrics)

Course Description

The aim of this course is to provide a foundation in applied econometric analysis and develop skills required for empirical research in economics.

Course Outline

1. Stages in Empirical Econometric Research

2. Introduction to Statistical and Econometric Software Packages
   EXCEL, GRETL, E-VIEWS, STATA (at least one).

3. Regression Analysis: Diagnostics and Specification
   Misspecification, functional forms, model selection.

4. Advanced Topics
   Panel data models; qualitative data

Readings

ECON-DC I: PAPER 18

POLITICAL ECONOMY

Course Description

Employing perspectives from alternative schools of thought, this course explores the development of the structure and institutions of capitalist economies and their relationship to social and political forces. Students are expected to read some classic texts as well as more recent commentaries.

Course Outline

1. Capitalism as an Evolving Economic System
Basic features; capitalism as a historical process; accumulation and crisis; the modern corporation; monopoly capitalism—alternative perspectives.

2. The State in Capitalism
The state and the economy – contestation and mutual interdependence; the state as an arena of conflict; imperialism – the basic foundations.

3. Governance and Regulation; theories of regulation; the political economy of policy-making and governance; theories of rent-seeking and corruption.

4. Voting and Collective Action; positive and normative aspects of majority voting and other common aggregation procedures; median voter theorem; positive and normative implications of two-party and multi-party democracies; collective action; lobbying.

Readings:

ECON-DC I-PAPER 19

PUBLIC ECONOMICS

Course Description

Public economics is the study of government policy from the perspective of economic efficiency and equity. The paper deals with the nature of government intervention and its implication for allocation, distribution and stabilization. Micro theoretic tools are employed to examine how rational individuals respond to incentives and how government policy may be employed to enhance social welfare. Inherently, the course would involve a formal analysis of government taxation and expenditure.

Course Outline

1. Competitive economies
   Review of exchange and production economies, and classical efficiency theorems.

2. Public goods
   Various modes of provision and decision-making; mechanism design, e.g., Clarke-Groves schemes.Club goods and local public goods; various models of provisioning; the Tiebout model.

3. Externalities
   Various examples; various models for dealing with the inefficiency; taxation, licensing, internalization, the Coasian approach.

4. Imperfect competition
   Inefficiency and welfare loss; regulation of monopolies, monopsonies and oligopolies; detection of collusion and merger policy; taxation as a remedy.

5. Asymmetric information
   Moral hazard, screening, signalling; second-best contracting.

6. Taxation
   Deadweight losses, optimal taxation, tax rules and equity considerations of commodity taxes; public sector pricing; income taxes and labour supply; various taxation schemes; models of tax evasion, auditing and punishment.

7. Fiscal federalism
   Arguments for multi-level government; optimal structure; risk sharing.

Readings

III. ECONOMICS DISCIPLINE COURSE-II
ECON-DC II: PAPER 1

INTRODUCTORY ECONOMICS

Course Description

This course is designed to expose students to the basic principles of economics. The emphasis will be on thinking like an economist and the course will illustrate how economic concepts can be applied to analyse real-life situations.

Course Outline

1. Exploring the Subject Matter of Economics
   Why study economics? The scope and method of economics; scarcity and choice; questions of what, how and for whom to produce and how to distribute output; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems, Gains from trade; comparative advantage and trade.

   Individual demand and supply schedules and the derivation of market demand and supply; shifts in demand and supply curves; the role of prices in resource allocation; the concept of elasticity and its application; consumer and producer surplus; taxes and their efficiency costs; Restrictions on trade.

3. Introduction to Macroeconomics and National Income Accounting
   Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices.

4. Money and Inflation
   Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy; inflation and its social costs; hyperinflation.

Readings

Course Description

The course is designed to provide training in microeconomic theory. This course looks at the behaviour of the consumer as well as the behaviour of a competitive firm. It also covers aspects of general equilibrium and welfare and firm behaviour in imperfectly competitive markets.

Course Outline

1. Consumer Theory
   Preference; utility; budget constraint; choice; demand; intertemporal choice.

2. Production, Costs and Perfect Competition
   Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run; Profit maximization; firm behaviour in perfect competition.

3. General Equilibrium, Efficiency and Welfare
   Equilibrium and efficiency under pure exchange; overall efficiency and welfare economics.

4. Imperfect Competition
   Monopoly; pricing with market power; price discrimination; two-part tariff. Oligopoly.

Readings

ECON-DC II: PAPER 3
MACROECONOMIC THEORY AND POLICY

Course Description

This course introduces the students to modelling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces the students to various theoretical issues related to an open economy. The course also discusses aspects of economic growth.

Course Outline

1. The Closed Economy in the Short Run
   Simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

2. Aggregate Demand and Aggregate Supply Curves
   Derivation of aggregate demand and aggregates supply curves; interaction of aggregate demand and supply.

3. Open Economy Models
   Short-run open economy models; Mundell-Fleming model.

4. Economic Growth
   Solow model; golden rule; technological progress

Readings

MONEY AND BANKING

Course Description

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

Course Outline

1. Money
   Concept, functions, measurement; theories of money supply determination.

2. Financial Institutions, Markets, Instruments and Financial Innovations
   a. Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises.
   b. Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

3. Interest Rates
   Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.

4. Banking System
   b. Indian banking system: Changing role and structure; banking sector reforms.

5. Central Banking and Monetary Policy
   Functions, balance sheet; goals, targets, indicators and instruments of monetary control; monetary management in an open economy; current monetary policy of India.

Readings

ECON-DC II: PAPER 5

INDIAN ECONOMY

Course Description

This course introduces students to trends in major economic indicators and provides an analysis of their economic impact.

Course Outline

I. Economic Development in Post-Independence India
   Trends in sectoral growth, institutional framework and policy regimes

II. Growth and Distribution
   Trends in poverty and inequality, measurement issues, social safety nets

III. Current Perspectives in Agriculture
   Agricultural growth and composition, productivity, constraints, pricing

IV. Current Perspectives in Industry and Service
   Changes in industrial growth and structure, labour; growth, productivity, public sector, competition policy, foreign investment

Readings

4. Tendulkar Committee Report, summary, sections 2 and 3.
Course Description

This course reviews major policy debates in India in the post-Independence period, with some focus on Indian agriculture and industry.

Course Outline

1. Issues in Growth, Development and Sustainability
   Critical evaluation of growth, inequality, poverty and competitiveness, pre and post reforms era; mobilisation of internal and external finance; monetary and fiscal policies; centre-state financial relations.

2. Population and Economic Development
   Demographic trends; urbanisation.

3. Employment
   Occupational structure in the organised and the unorganised sectors; open-, under- and disguised unemployment (rural and urban); employment schemes and their impact.

4. Indian Development Experience
   (a) Agriculture: Policies and Performance
   Production and productivity; credit; labour; markets and pricing; land reforms; regional variations.
   (b) Industry: Policies and Performance
   Production trends; small scale industries; public sector; foreign investment.

Readings

5. Government of India, Five Year Plan (latest)
IV. ECONOMICS APPLIED COURSES
ECON-AC: PAPER 1

GAME THEORY

Course Description

Game theory is an integral part of modern economics and many other disciplines. Its basic ideas and methods do not need any prior knowledge of economics. This course should be accessible to anyone with an analytical mind and exposure to elementary mathematics. This course introduces the basic concepts of game theory in a way that allows students to use them in solving simple problems. The course will deal with the solution concepts for normal form and extensive form games along with a variety of applications. The course trains the students in business, political and social strategy formulations.

Course Outline

1. Normal form games
   The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; applications.

2. Extensive form games with perfect information
   The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

Readings

ECON-AC: PAPER 2
FINANCIAL ECONOMICS

Course Description
This course introduces students to the economics of finance. The course does not require any prior knowledge of economics. This course should be accessible to anyone with an exposure to elementary mathematics. The course is designed to impart the essential aspects of financial asset valuation. The students will be introduced to numerical techniques in finance using spreadsheet programmes such as Microsoft Excel. The course will impart skills that will be useful in a variety of business settings including investment banks, asset management companies and in the field of financial and business journalism.

Course Outline
1. Deterministic cash-flow streams
Basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed-income securities; bond prices and yields; interest rate sensitivity and duration; immunisation; the term structure of interest rates; yield curves; spot rates and forward rates.

2. Single-period random cash flows
Random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance; mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem.

3. Capital Asset Pricing Model (CAPM)
The capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula.

Readings
ECON-AC: PAPER 3

PUBLIC FINANCE

Course Description

This course is a non-technical overview of government finances with special reference to India. The course does not require any prior knowledge of economics. It will look into the efficiency and equity aspects of taxation of the centre, states and the local governments and the issues of fiscal federalism and decentralisation in India. The course will be useful for students aiming towards careers in the government sector, policy analysis, business and journalism.

Course Outline

Part 1: Theory

Part 2: Issues from Indian Public Finance
5. Current Issues of India’s Tax System.
6. Analysis of Budget and Deficits
7. Fiscal Federalism in India
8. State and Local Finances

Readings

8. State Finances: A Study of Budgets, Reserve Bank of India (latest).
Course Description

This course introduces students to concepts, methods and policy options in managing the environment using tools of economic analysis. This course should be accessible to anyone with an analytical mind and familiarity with basic concepts of economics. Since several environmental problems are caused by economic activity (for instance, carbon emissions, over-harvesting of renewable resources and air and water pollution as a by-product of industrial activity), this course examines different approaches to adjusting behaviour through economic institutions such as markets and incentives as well as through regulation, etc. It also addresses the economic implications of environmental policies through practical applications of methods for valuation of environmental goods and services and quantification of environmental damages. Conversely, the impact of economic growth on the environment is also addressed under the rubric of sustainable development. Environmental problems and issues from the Indian and international context (especially global warming) are used to illustrate the concepts and methods presented in the course. The course will be useful for students aiming towards careers in the government sector, policy analysis, business, journalism and international organisations.

Course Outline

1. Introduction
   Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights and other approaches.

2. The Design and Implementation of Environmental Policy
   Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems; economics of climate change.

3. Environmental Valuation Methods and Applications
   Valuation of non-market goods and services--theory and practice; measurement methods; cost-benefit analysis of environmental policies and regulations.

4. Sustainable Development
   Concepts; measurement; perspectives from Indian experience

Readings