



**DEPARTMENT OF ECONOMICS
PANSKURA BANAMALI COLLEGE**

SYLLABUS

under

Choice Based Credit System

Syllabus for B.Sc. (Hons.) Economics

Course Structure for B.A. (Hons.) Economics:

There are a total of fourteen economics core courses that students are required to take across six semesters. All the core courses are compulsory. In addition to core courses in economics, a student of B.Sc. (Hons.) Economics will choose four Discipline Specific Elective (DSE) Courses. The Discipline Specific Elective (DSE) Courses are offered in the fifth and sixth semesters and two such courses will be offered to the students in each of these semesters.

Course Structure for B.Sc. (Hons.) Economics

Semester-I	Semester-II
Economics Core Course 1 : Introductory Microeconomics	Economics Core Course 3 : Introductory Macroeconomics
Economics Core Course 2 : Mathematical Methods for Economics-I	Economics Core Course 4 : Mathematical Methods for Economics-II
Ability Enhancement Compulsory Course (AECC)-I	Ability Enhancement Compulsory Course (AECC)-II
Generic Elective (GE) Course-I	Generic Elective (GE) Course-II
Semester-III	Semester-IV
Economics Core Course 5 : Intermediate Microeconomics-I	Economics Core Course 8 : Intermediate Microeconomics-II
Economics Core Course 6 : Intermediate Macroeconomics-I	Economics Core Course 9 : Intermediate Macroeconomics-II
Economics Core Course 7 : Statistical Methods for Economics	Economics Core Course 10 : Introductory Econometrics
Skill Enhancement Course (SEC)-I: Data Analysis and Computer Applications	Skill Enhancement Course (SEC)-II: Economics of Floriculture
Generic Elective (GE) Course-III	Generic Elective (GE) Course-IV
Semester-V	Semester-VI
Economics Core Course 11 : Indian Economy-I	Economics Core Course 13 : Indian Economy-II
Economics Core Course 12 : Development Economics-I	Economics Core Course 14 : Development Economics-II
Discipline Specific Elective (DSE) Course-I : Economics of Health and Education	Discipline Specific Elective (DSE) Course-III : Environmental Economics
Discipline Specific Elective (DSE) Course-II : Money and Financial Markets	Discipline Specific Elective (DSE) Course-IV : Dissertation/Project
Generic Elective Courses offered by Department of Economics for the Hons. students of other Departments	
Semester-I	Semester-II
Generic Elective (GE) Course-I: Introductory Micro Economics	Generic Elective (GE) Course-II: Introductory Macro Economics
Semester-III	Semester-IV
Generic Elective (GE) Course-III: Indian Economy	Generic Elective (GE) Course-IV: Money and Banking

Core Economics Course 1: INTRODUCTORY MICROECONOMICS

Course Description

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

Course Outline

1. Exploring the subject matter of Economics

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

2. Supply and Demand: How Markets Work, Markets and Welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

3. The Households

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption.

4. The Firm and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run.

5. Imperfect Market Structure

Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

6. Input Markets

Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

Readings

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8th Edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th Edition, 2007.

Core Economics Course 2: MATHEMATICAL METHODS IN ECONOMICS–I

Course Description

This is the first of a compulsory two-course sequence. The objective of this sequence 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

5. Difference equations

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2002.

Core Economics Course 3: INTRODUCTORY MACROECONOMICS

Course Description

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Course Outline

1. 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; national income accounting for an open economy; balance of payments: current and capital accounts.

2. Money

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

3. Inflation

Inflation and its social costs; hyperinflation.

4. The Closed Economy in the Short Run

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2nd edition, 2005.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Core Economics Course 4: MATHEMATICAL METHODS IN ECONOMICS - II

Course Description

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence 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. Differential equations

2. 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.

3. 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.

4. 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:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2002.

Core Economics Course 5: INTERMEDIATE MICROECONOMICS - I

Course Description

The course is designed to provide a sound training in microeconomic theory to formally analyze the behaviour of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts. 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; review of perfect competition.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.
3. B. Douglas Bernheim and Michael D. Whinston, *Microeconomics*, Tata McGraw-Hill (India), 2009.

Core Economics Course 6: INTERMEDIATE MACROECONOMICS - I

Course Description

This course introduces the students to formal modeling 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. Aggregate Demand and Aggregate Supply Curves

Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.

2. Inflation, Unemployment and Expectations

Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

3. Open Economy Models

Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Steven M. Sheffrin, *Rational Expectations*, Cambridge University Press, 2nd edition, 1996.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Core Economics Course 7: STATISTICAL METHODS FOR ECONOMICS

Course Description

This is a course on statistical methods for economics. 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 and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

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.

5. Sampling

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

6. Point and Interval Estimation

Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters.

Readings:

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics*

- and its Applications*, Prentice Hall, 2011.
4. William G. Cochran, *Sampling Techniques*, John Wiley, 2007.

Core Economics Course 8: INTERMEDIATE MICROECONOMICS - II

Course Description

This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. 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; peak-load pricing; two-part tariff; monopolistic competition and oligopoly; game theory and competitive strategy.

3. Market Failure

Externalities; public goods and markets with asymmetric information.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India), 2010. The workbook by Varian and Bergstrom could be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.

Core Economics Course 9: INTERMEDIATE MACROECONOMICS - II

Course Description

This course is a sequel to Intermediate 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

Harrod-Domar model; 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.

4. Schools of Macroeconomic Thoughts

Classicals; Keynesians; New-Classicals and New-Keynesians.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Charles I. Jones, *Introduction to Economic Growth*, W.W. Norton & Company, 2nd edition, 2002.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Robert J. Gordon, *Macroeconomics*, Prentice-Hall India Limited, 2011.

Core Economics Course 10: INTRODUCTORY ECONOMETRICS

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, 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. Statistical Concepts

Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: 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.

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 - R^2 and adjusted R^2 ; partial regression coefficients; testing hypotheses – individual and joint; 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

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. D. N. Gujarati and D.C. Porter, *Essentials of Econometrics*, McGraw Hill, 4th edition, International Edition, 2009.
5. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 3rd edition, Indian edition, 2007.

6. Jan Kmenta, *Elements of Econometrics*, Indian Reprint, Khosla Publishing House, 2nd edition, 2008.

Core Economics Course 11: INDIAN ECONOMY-I

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post -Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.

Course Outline

1. Economic Development since Independence

Major features of the economy at independence; growth and development under different policy regimes—goals, constraints, institutions and policy framework; an assessment of performance—sustainability and regional contrasts; structural change, savings and investment.

2. Population and Human Development

Demographic trends and issues; education; health and malnutrition.

3. Growth and Distribution

Trends and policies in poverty; inequality and unemployment.

4. International Comparisons

Readings:

1. Jean Dreze and Amartya Sen, Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
2. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
3. Rakesh Mohan, 2008, —Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
4. S.L. Shetty, 2007, —India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India's Development*.
5. Himanshu, 2010, Towards New Poverty Lines for India, *Economic and Political Weekly*, January.
6. Jean Dreze and Angus Deaton, 2009, Food and Nutrition in India: Facts and Interpretations, *Economic and Political Weekly*, February.
7. Himanshu. 2011, —Employment Trends in India: A Re-examination, *Economic and Political Weekly*, September.
8. Rama Baru et al, 2010, —Inequities in Access to Health Services in India: Caste, Class and Region, *Economic and Political Weekly*, September.
9. Geeta G. Kingdon, 2007, —The Progress of School Education in India, *Oxford Review of Economic Policy*.

10. J.B.G. Tilak, 2007, —Post Elementary Education, Poverty and Development in India, *International Journal of Educational Development*.
11. T. Dyson, 2008, —India's Demographic Transition and its Consequences for Development in Uma Kapila, editor, *Indian Economy Since Independence*, 19th edition, Academic Foundation.
12. Kaushik Basu, 2009, —China and India: Idiosyncratic Paths to High Growth, *Economic and Political Weekly*, September.
13. K. James, 2008, —Glorifying Malthus: Current Debate on Demographic Dividend in India, *Economic and Political Weekly*, June.
14. Reetika Khera, 2011, —India's Public Distribution System: Utilisation and Impact *Journal of Development Studies*.
15. Aniruddha Krishna and Devendra Bajpai, 2011, —Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992-2005, *Economic and Political Weekly*, September.
16. Kaushik Basu and A. Maertens, eds, 2013, *The New Oxford Companion to Economics*, Oxford University Press.

Core Economics Course 12: DEVELOPMENT ECONOMICS-I

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

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009.
2. Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Kaushik Basu, *The Oxford Companion to Economics in India*, OUP, 2007.
5. Amartya Sen, *Development as Freedom*, OUP, 2000.
6. Daron Acemoglu and James Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, 2006.
7. Robert Putnam, *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, 1994

Core Economics Course 13: INDIAN ECONOMY-II

Course Description

This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence. Given the rapid changes taking place in the country, the reading list will have to be updated annually.

Course Outline

1. Macroeconomic Policies and Their Impact

Fiscal Policy; trade and investment policy; financial and monetary policies; labour regulation.

2. Policies and Performance in Agriculture

Growth; productivity; agrarian structure and technology; capital formation; trade; pricing and procurement.

3. Policies and Performance in Industry

Growth; productivity; diversification; small scale industries; public sector; competition policy; foreign investment.

4. Trends and Performance in Services

Readings:

1. Shankar Acharya, 2010, —Macroeconomic Performance and Policies 2000-8, in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
2. Rakesh Mohan, 2010, —India's Financial Sector and Monetary Policy Reforms, in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
3. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, —Agricultural Growth in India Since 1991, *RBI DEAP Study no. 27*.
4. B.N. Goldar and S.C. Aggarwal, 2005, —Trade Liberalisation and Price-Cost Margin in Indian Industries, *The Developing Economics*, September.
5. P. Goldberg, A. Khandelwal, N. Pavcnik and P. Topalova, 2009, —Trade Liberalisation and New Imported Inputs, *American Economic Review, Papers and Proceedings*, May.
6. Kunal Sen, 2010, —Trade, Foreign Direct Investment and Industrial Transformation in India, in Premachandra Athukorala, editor, *The Rise of Asia*, Routledge.
7. A. Ahsan, C. Pages and T. Roy, 2008, —Legislation, Enforcement and Adjudication in Indian Labour Markets: Origins, Consequences and the Way Forward, in D. Mazumdar and S. Sarkar, editors, *Globalization, Labour Markets and Inequality in India*, Routledge.

8. Dipak Mazumdar and Sandeep Sarkar, 2009, —The Employment Problem in India and the Phenomenon of the _Missing Middle, *Indian Journal of Labour Economics*.
9. J. Dennis Rajakumar, 2011, —Size and Growth of Private Corporate Sector in Indian Manufacturing, *Economic and Political Weekly*, April.
10. Ramesh Chand, 2010, —Understanding the Nature and Causes of Food Inflation, *Economic and Political Weekly*, February.
11. Bishwanath Goldar, 2011, —Organised Manufacturing Employment: Continuing the Debate, *Economic and Political Weekly*, April.
12. Kaushik Basu and A. Maertens, eds, 2013, *The New Oxford Companion to Economics in India*, Oxford University Press.

Core Economics Course 14: DEVELOPMENT ECONOMICS-II

Course Description

This is the second module of the economic development sequence. 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, Labor 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 behavior 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

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009.
2. Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.

3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Thomas Schelling, *Micromotives and Macrobehavior*, W. W. Norton, 1978.
5. Albert O. Hirschman, *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*, Harvard University Press, 1970.
6. Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, 2010.
7. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.
8. Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.
9. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.), *Globalization in Historical Perspective*, University of Chicago Press, 2003.

DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: ECONOMICS

GROUP-I

(i) ECONOMICS OF HEALTH AND EDUCATION

Course Description

The importance of education and health in improving well-being is reflected in their inclusion among the Millennium Development Goals adopted by the United Nations member states, which include among other goals, achieving universal primary education, reducing child mortality, improving maternal health and combating diseases. This course provides a microeconomic framework to analyze, among other things, individual choice in the demand for health and education, government intervention and aspects of inequity and discrimination in both sectors. It also gives an overview of health and education in India.

Course Outline

1(a). Role of Health and Education in Economic Growth.

1(b). Role of Health and Education in Human Development

Importance in poverty alleviation; health and education outcomes and their relationship with macroeconomic performance.

2. Measurement of Health at the individual level and at the macro level.

Concept of mortality, Morbidity, Disability adjusted life years (DALYs), Measurement of DALYs.

3. Microeconomic Foundations of Health Economics

Demand for health; uncertainty and health insurance market; alternative insurance mechanisms; market failure and rationale for public intervention; equity and inequality.

4. Evaluation of Health Programs

Costing, cost effectiveness and cost-benefit analysis; burden of disease.

5. Health Sector in India: An Overview

Health outcomes; health systems; health financing.

6. Education: Investment in Human Capital

Rate of return to education: private and social; quality of education; signaling or human capital; theories of discrimination; gender and caste discrimination in India.

7. Education Sector in India: An Overview

Literacy rates, school participation, school quality measures.

Readings:

1. William, Jack, *Principles of Health Economics for Developing Countries*, World Bank Institute Development Studies, 1999.
2. World Development Report, *Investing in Health*, The World Bank, 1993.
3. Ronald G., Ehrenberg and Robert S., Smith, *Modern Labor Economics: Theory and Public Policy*, Addison Wesley, 2005.

(ii) 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

- a. Balance sheet and portfolio management.
- 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

1. F. S. Mishkin and S. G. Eakins, *Financial Markets and Institutions*, Pearson Education, 6th edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3rd edition, 2009.
3. M. R. Baye and D. W. Jansen, *Money, Banking and Financial Markets*, AITBS, 1996.
4. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*, Oxford University Press, 2011.

5. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5th edition, 2011.
6. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7th edition, 2011.
7. N. Jadhav, *Monetary Policy, Financial Stability and Central Banking in India*, Macmillan, 2006.
8. R.B.I. – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.
9. R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest).

DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: ECONOMICS

GROUP-II

(i) ENVIRONMENTAL ECONOMICS

Course Description

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

Course Outline

1. Introduction

What is environmental economics; review of microeconomics and welfare economics.

2. The Theory of Externalities

Pareto optimality and market failure in the presence of externalities; property rights and the coase theorem.

3. The Design and Implementation of Environmental Policy

Overview; pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

4. International Environmental Problems

Trans-boundary environmental problems; economics of climate change; trade and environment.

5. Measuring the Benefits of Environmental Improvements

Non-Market values and measurement methods; risk assessment and perception.

6. Sustainable Development

Concepts; measurement.

Readings:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.

4. Maureen L. Cropper and Wallace E. Oates, 1992, —Environmental Economics: A Survey, *Journal of Economic Literature*, Volume 30:675-740.

(ii) DISSERTATION**Generic Elective Courses in Economics**

Semester I	Semester II
Generic Elective in Economics I: Introductory Microeconomics	Generic Elective in Economics II: Introductory Macroeconomics
Semester III	Semester IV
Generic Elective in Economics III: Indian Economy	Generic Elective in Economics IV: Money and Banking

Generic Elective in Economics I: Introductory Microeconomics

Course Description

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

Course Outline

1. Exploring the subject matter of Economics

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

2. Supply and Demand: How Markets Work, Markets and Welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

3. The Households

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption.

4. The Firm and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run.

5. Imperfect Market Structure

Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

6. Input Markets

Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

Readings

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8th Edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th Edition, 2007.

Generic Elective in Economics II: Introductory Macroeconomics

Course Description

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Course Outline

1. 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; national income accounting for an open economy; balance of payments: current and capital accounts.

2. Money

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

3. Inflation

Inflation and its social costs; hyperinflation.

4. The Closed Economy in the Short Run

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2nd edition, 2005.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Generic Elective in Economics III: Indian Economy

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post -Independence period, with particular emphasis on paradigm shifts and turning points.

Course Outline

1. Population and Human Development

Demographic trends and issues; education; health and malnutrition.

2. Growth and Distribution

Trends and policies in poverty; inequality and unemployment.

3. Macroeconomic Policies and Their Impact

Fiscal Policy; trade and investment policy; financial and monetary policies; labour regulation.

4. Policies and Performance in Agriculture

Growth; productivity; agrarian structure and technology; capital formation; trade; pricing and procurement.

5. Policies and Performance in Industry and Services

Growth; productivity; diversification; small scale industries; public sector; competition policy; foreign investment.

Readings:

1. Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
2. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
3. Rakesh Mohan, 2008, —Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
4. S.L. Shetty, 2007, —India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India's Development*.
5. Himanshu, 2010, —Towards New Poverty Lines for India, *Economic and Political Weekly*, January.
6. Jean Dreze and Angus Deaton, 2009, —Food and Nutrition in India: Facts and Interpretations, *Economic and Political Weekly*, February.
7. Himanshu. 2011, —Employment Trends in India: A Re-examination, *Economic and Political Weekly*, September.
8. Rama Baru et al, 2010, —Inequities in Access to Health Services in India: Caste, Class and Region, *Economic and Political Weekly*, September.

9. Geeta G. Kingdon, 2007, —The Progress of School Education in India,
Oxford Review of Economic Policy.

10. J.B.G. Tilak, 2007, —Post Elementary Education, Poverty and Development in India, *International Journal of Educational Development*.
11. T. Dyson, 2008, —India's Demographic Transition and its Consequences for Development in Uma Kapila, editor, *Indian Economy Since Independence*, 19th edition, Academic Foundation.
12. Kaushik Basu, 2009, —China and India: Idiosyncratic Paths to High Growth, *Economic and Political Weekly*, September.
13. K. James, 2008, —Glorifying Malthus: Current Debate on Demographic Dividend in India, *Economic and Political Weekly*, June.
14. Reetika Khera, 2011, —India's Public Distribution System: Utilisation and Impact *Journal of Development Studies*.
15. Aniruddha Krishna and Devendra Bajpai, 2011, —Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992-2005, *Economic and Political Weekly*, September.
16. Kaushik Basu and A. Maertens, eds, 2013, *Oxford Companion to Economics*, Oxford University Press.
17. Shankar Acharya, 2010, —Macroeconomic Performance and Policies 2000-8, in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
18. Rakesh Mohan, 2010, —India's Financial Sector and Monetary Policy Reforms, in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
3. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, —Agricultural Growth in India Since 1991, *RBI DEAP Study no. 27*.
6. Kunal Sen, 2010, —Trade, Foreign Direct Investment and Industrial Transformation in India, in Premachandra Athukorala, editor, *The Rise of Asia*, Routledge.
7. A. Ahsan, C. Pages and T. Roy, 2008, —Legislation, Enforcement and Adjudication in Indian Labour Markets: Origins, Consequences and the Way Forward, in D. Mazumdar and S. Sarkar, editors, *Globalization, Labour Markets and Inequality in India*, Routledge.
8. Dipak Mazumdar and Sandeep Sarkar, 2009, —The Employment Problem in India and the Phenomenon of the Missing Middle, *Indian Journal of Labour Economics*.
9. J. Dennis Rajakumar, 2011, —Size and Growth of Private Corporate Sector in Indian Manufacturing, *Economic and Political Weekly*, April.
10. Ramesh Chand, 2010, Understanding the Nature and Causes of Food Inflation,

- Economic and Political Weekly*, February.
11. Bishwanath Goldar, 2011, Organised Manufacturing Employment: Continuing the Debate, *Economic and Political Weekly*, April.
12. Kaushik Basu and A. Maertens, eds, 2013. *The New Oxford Companion to Economics in India*, Oxford University Press.

Generic Elective in Economics IV: 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

- a. Balance sheet and portfolio management.
- 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

1. F. S. Mishkin and S. G. Eakins, *Financial Markets and Institutions*, Pearson Education, 6th edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3rd edition, 2009.
3. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5th edition, 2011.
4. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7th edition, 2011.
5. Various latest issues of R.B.I. Bulletins, Annual Reports, Reports on Currency and Finance and Reports of the Working Group, IMF Staff Papers.
6. Macroeconomics: Erol D'Souja

Skill Enhancement Courses (SEC) offered by Economics Department

Skill Enhancement Course (SEC) I: DATA ANALYSIS AND COMPUTER APPLICATIONS

Course Description:

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline:

1. Sources of data. Population census versus sample surveys. Random sampling.
2. Univariate frequency distributions. Measures of central tendency: mean, median and mode; arithmetic, geometric and harmonic mean. Measures of dispersion, skewness and kurtosis.
3. Bivariate frequency distribution. Correlation and regression. Rank correlation.
4. Introduction to probability theory. Notions of random experiment, sample space, event, probability of an event. Conditional probability. Independence of events. Random variables and probability distributions. Binomial and normal distributions.

5. Estimation of population parameters from sample data. Unbiased estimators for population mean and variance. 6. Basics of index numbers: price and quantity index numbers.
6. Applications using softwares: Excel / SPSS

Readings:

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.
2. M.R. Spiegel (2003), Theory and Problems of Probability and Statistics (Schaum Series).

Skill Enhancement Courses (SEC) offered by Economics Department
Skill Enhancement Course (SEC) II: ECONOMICS OF FLORICULTURE

Course Description

Floriculture is one of the most important economic activities of the locality. This course introduces the students to the whole new world of economics of floriculture. The students will be given detailed idea about the related markets, infrastructure and support systems. They will also be trained to handle time series data on floriculture for successful forecasting. Use of information technology will also be discussed to tap the potential of global market.

Course outline:

1. Output Market: market organization, different types of flower market, important national and international flower markets, variation in demand
2. Input Market: input market structure, supply chain, seasonal variability
3. Forecasting: price trend analysis, time series econometrics, forecasting
4. Support System: business law, exim policy, transportation, customs norms, ware housing, preservation, infrastructure, govtal support, banking support
5. Ecommerce: ecommerce sites, managing ecommerce, online transaction, cyber crime

Readings:

1. Economics of Floriculture: Problems and prospects, Ruma Bhattacharyya
2. Floriculture in West Bengal: Problems and potentials, Debashis Sarkar