Central University of Tamil Nadu
Department of Economics

Detailed Syllabus and Curriculum

of

Master of Economics (M.A.)
(2017-18 Batch)

2017
Approved by the Board of Studies in its Meeting on 22nd October, 2016.

Approved by the Academic Council in its 14th meeting on 16th December 2016
## CONTENTS

### Detailed Syllabus and Curriculum

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Programme</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M.A. Economics</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Open Electives</td>
<td>47</td>
</tr>
</tbody>
</table>
Central University of Tamil Nadu  
Department of Economics  
Course Outline for M.A Economics  
*To be effective from 2017-18*

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>ECOM 101</td>
<td>Microeconomics - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 102</td>
<td>Macroeconomics - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 103</td>
<td>Statistical Methods</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 104</td>
<td>Mathematical Methods</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 105</td>
<td>History of Economic Thought</td>
<td>4</td>
</tr>
<tr>
<td>Second</td>
<td>ECOM 201</td>
<td>Microeconomics - II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 202</td>
<td>Macroeconomics - II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 203</td>
<td>Econometrics - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 204</td>
<td>Economics of Growth and Development</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 205</td>
<td>Elective 1*</td>
<td>4</td>
</tr>
<tr>
<td>Third</td>
<td>ECOM 301</td>
<td>International Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 302</td>
<td>Econometrics -II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 303</td>
<td>Indian Economic Issues</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 304</td>
<td>Research Methodology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 305</td>
<td>Elective 2*</td>
<td>4</td>
</tr>
<tr>
<td>Fourth</td>
<td>ECOM 401</td>
<td>Resource and Environmental Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 402</td>
<td>Elective 3*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM D</td>
<td>Elective 4* / Dissertation (3 + 1)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16 courses + Dissertation</strong></td>
<td><strong>72</strong></td>
</tr>
</tbody>
</table>

Note: * Electives can be selected from the given list. However, not more than two electives will be offered in a given semester. Such chosen elective will depend upon the faculty specialisation in the Department at any given time.
Elective Papers Offered by the Department:

1. Agricultural Economics
2. Applied Panel data econometrics
3. Economic Demography
4. Economics of Education
5. Economics of Gender
6. Economics of Human Development
7. Financial Economics
8. Game Theory and Information
9. Health Economics
10. Industrial Economics
11. Institutional Economics
12. Investment Banking
13. Labour Economics
14. Money and Banking
15. Optimization techniques for Economists
16. Public Economics
17. Regional Economics
18. Risk Management - Theory & Practice
Semester-I

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>ECOM 101</td>
<td>Microeconomic Theory - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 102</td>
<td>Macroeconomic Theory - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 103</td>
<td>Statistical Methods</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 104</td>
<td>Mathematical Methods</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 105</td>
<td>History of Economic Thought</td>
<td>4</td>
</tr>
</tbody>
</table>

**MICROECONOMICS - I**

This course attempts to develop an understanding of the theoretical structure and basic principles of microeconomics. It aims to improve the analytical and problem solving skills of students that are applied in different branches of economics.

1. **Theory of Consumer Behaviour**
   Consumption Decision- Optimisation under alternative preference structures- duality - utility, indifference curves and revealed preference; Comparative statics of the consumer’s decision - Slutsky equation, normal versus inferior goods, derivation of demand curves; demand elasticity; Welfare evaluation - consumer surplus, equivalent variation and compensating variation. Utility theory under Uncertainty - expected utility function, measures of risks.

2. **Production and Cost**
   Production functions, types of production functions (Cobb-Douglas, CES, Duality etc.), marginal products, rate of technical substitution, technical progress, cost functions, average and marginal costs, short run versus long run costs, economies of scale and scope, profit maximization, cost minimization, derivation of input demand, Traditional and modern theories of Costs - Derivation of cost curve from production function.

3. **Competitive Markets**
   Assumptions of perfect market, competitive markets – demand and supply, demand and supply curves of individual firms, short-run versus long-run, competitive market equilibrium, tax incidence analysis, price-controls and shortages.

4. **Imperfect Competition**
   Imperfect markets, sources of monopoly power, monopoly market equilibrium, price discrimination – first, second and third degree, tax incidence, Monopolistic Competition. Oligopoly-non collusive (Cournot, Kinked demand curve and Stackelberg’s solution) Bertrand Oligopoly Model and collusive (cartels and mergers, price leadership and basic point price system) models.

5. **Pricing principle**
   Pricing principle - Break-even Analysis - Average or full cost pricing- Mark up pricing- Limit pricing theory- Bainsversion- silos - Labini model of limit pricing
Essential Readings


Additional Readings

Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth edition, South Western Thomson Learning, 2002
Roy Choudhary, K Microeconomics, Vol 1.

MACROECONOMICS - I

This course attempts to build the theoretical understanding of students from classical to contemporary macroeconomics. It aims to improve the macroeconomic analytical skills that are applied in different branches of economics.

1. National Income Accounting
Accounting structure, key concepts in accounting for both closed and open economies – gross national product, gross domestic product, net national product, national income, savings and investment, balance of payments, circular flow of income, computational problems – expenditure approach, income approach and value added approach for measurement, input-output tables; Measuring the Cost of Living (consumer and whole sale price indices)

2. Theories of Consumption

3. Theories of Investment
4. Theories of Money Demand and Money Supply


5. Neoclassical and Keynesian Macroeconomic Models


Essential Readings

Additional Readings
R T Froyen (2008), Macroeconomics, Theory and policies, Prentice Hall.
STATISTICAL METHODS

This course aims to make students thoroughly understand the different approaches to probability theory, calculation of probability in different situations, probability distribution, and process of testing hypothesis, estimation and inferential statistics. The students will appreciate the usefulness of probability distribution and testing of hypothesis in economic decision making.

1. Probability Theory
Concepts of probability, Addition and Multiplication theorems of probability, conditional probability and Bayes’ theorem; Random variables – discrete and continuous, Density and distribution functions.

2. Probability Distributions
Discrete versus continuous distribution, uniform, binomial, Poisson, hyper-geometric, exponential, and normal distribution. Bi-variate probability distribution, marginal and conditional distribution, statistical independence, characteristic function and moment generating function, functions of random variables.

3. Sampling Methods and Sampling distributions
Probability and non-probability sampling, Simple random sampling: with and without replacement, stratified random sampling, statistic and sample moments, sampling distributions: Standard Normal (Z), Student’s-t, Chi-square and F-distribution, determinants of sample size, law of large numbers and Central Limit theorem

4. Estimation
Point estimation of population mean for large sample and small sample, estimation of population proportion and population variance, introducing alternate estimation techniques, properties of good estimators: unbiasedness, consistency, efficiency, sufficiency, Interval estimation.

5. Hypothesis Testing
Statistical hypothesis, simple versus composite hypothesis, critical region, types and size of error – type-I and type-II error, power of a test, p-value, Hypothesis test about: a population mean, population proportions, difference between two population means, difference between two proportions, a population variance, the ratio of two population variances, Tests of goodness of fit, the analysis of contingency tables (Chi-square test for testing independence of two-classification criteria), test for correlation

Essential Readings

Additional Readings

Earl.K. Bowen and Martin K. Starr, Basic Statistics for Business and Economics.
Kenney and Keeping, Mathematics of Statistics, Vol.1 (Chapters, 1, 2 and 5), Affiliated East West Press

**MATHEMATICAL METHODS**

The course aims at teaching the learners to understand the methods of representing data in graph and matrix. It also aims to make learners to understand the techniques of calculus, optimization, and their application in economics.

1. **Differential Calculus**
   Introduction to Functions and Real Analysis; Derivatives – partial and total, economic applications, marginal and elasticity concepts, functions of several variables, implicit function theorem, higher order derivatives and Young’s theorem, Taylor’s approximation, convex sets, convex and concave functions, properties of linear homogenous functions, Euler's theorem

2. **Linear Algebra**
   Vectors, matrices, inverse, simultaneous linear equations, Cramer’s rule for solving system of linear equations, input-output model, Hawkin - Simon condition, open and closed models quadratic equation, characteristic (eigen) roots and vectors

3. **Classical Optimization and Applications**
   Introduction to quadratic forms, unconstrained optimization, constrained optimization with equality constraints, Lagrangian method, Hessian and Jacobian matrices, applications – utility maximization, cost minimization, profit – output maximization

4. **Linear and Non-linear Optimization**
   Duality theory, constrained optimization with inequality and non-negativity constraints, Kuhn-Tucker formulation, linear programming – formulation, primal and dual, solutions using graphical and Simplex methods, applications from economics and finance
5. Dynamics
Definite and indefinite integrals, applications – measuring consumer and producer surplus, continuous interest – discount calculations, difference and differential equations, phase diagrams, Cobweb model, multiplier accelerator, Harrod-Domar and Solow model

Essential Readings
Chiang, A. C., Fundamental Methods of Mathematical Economics, McGraw-Hill, 1984
Knut Sydsaeter and Peter J. Hammond, Mathematics for Economic Analysis, Pearson Education Asia, 1995

Additional Readings
M.D. Intriligator, Mathematical Optimization and Economic Theory, Prentice-Hall, 1971

HISTORY OF ECONOMIC THOUGHT
This course surveys the main schools in the history of the development of economic thought, beginning with the Classical School and the works of Smith, Ricardo, J.S. Mill, Say’s, and others. It then reviews the challenges to the classical school by Marx, Marginalists, and subsequent key figures like Marshall, Walras and the Neo-classical Economic thought associated with the early 20th century transitionalists are briefly addressed, including economists such as Wicksell, Schumpeter, Fisher, and others. Selective chapters and passages of Keynesian General Theory are read in depth, focusing in particular on Keynes in areas of investment, interest rate theory and money demand. The course concludes with Indian economic thought. The main objective of this course is to create an understanding about the history of economics and would help the students to understand the evolution of ideas over a period of time.

1. Early Thinkers

2. Marginalists’ Thought
The Precursors of marginalism – Cournot, Thunen, Gossen – the marginalist revolution Jevons, Walras and Menger – Bohm – Bawerk, Wicksell and Fisher – the rate of interest –

3. Keynesian Thought
JM Keynes and his contributions: A Treatise on money- The General Theory of Employment, Interest and Money

4. Monetarist Thought and Modern Economic Thinking
Milton Friedman, Von Newmann, Robert Mundell, Hayek - Behavioural Economics or new institutional economics, modern controversy on growth vs. development

5. Indian Economic Thought

Essentials Readings

Dobb, Maurice, Theories of Value and Distribution since Adam Smith, Vibha Publishing House Pvt. Ltd., New Delhi
Sweezy, Paul M., The Theory of Capitalist Development, Denis Dobson Ltd., London,
Blaug, M., Economic Theory in Retrospect, Cambridge University Press

Additional Readings

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second</td>
<td>ECOM 201</td>
<td>Microeconomic Theory - II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 202</td>
<td>Macroeconomic Theory - II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 203</td>
<td>Econometrics - I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 204</td>
<td>Economics of Growth and Development</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 205</td>
<td>Elective 1*</td>
<td>4</td>
</tr>
</tbody>
</table>

**MICROECONOMICS - II**

This course is a continuum to Microeconomics I. It builds on the fundamental concepts and topics in microeconomic theory. It aims to make the students to familiarise with the interconnectedness between micro and macroeconomics. The theoretical concepts discussed in this course are essential for appreciating the developments in different branches in economics.

1. **Managerial Models**
   Baumol’s sales revenue maximization model; Williamson’s model of managerial discretion; Marris model of managerial enterprise; Behavioural model of Cyert and March.

2. **General Equilibrium and Welfare Economics**
   Partial Equilibrium versus General Equilibrium analysis, absolute versus relative prices, perfectly competitive price and general equilibrium models – with and without production, uniqueness and determinacy, Edgeworth box - contract curve, Pareto improvement and efficiency, Walrasian equilibrium, money in general equilibrium

3. **Welfare Economics**
   Arrow-Debreu economy, welfare theorems, existence of Walrasian equilibrium, fixed-point theorem, core and core convergence, general equilibrium with time and uncertainty, Jensen’s Inequality, social welfare function, transfer efficiency; Kaldor-Hicks-Samuelson criterion, Rawl’s theory of social justice

4. **Market Failure and Public Goods**

5. **Asymmetric Information**
   Moral hazard problem, adverse selection, principal agent problem, market for lemon, credit market, implications of asymmetric information, market signaling, hidden information modeling, efficiency wage theory
Essential Readings


Additional Readings

Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth edition, South Western Thomson Learning, 2002
Roy Choudhary, K Microeconomics, Vol 1.

MACROECONOMICS-II

The course provides a rigorous analysis of macroeconomic theory with emphasis on the role of monetary policy, fiscal policy and open economy influences on economic outcomes.

1. The Labour Market


2. Inflation and Unemployment


3. Theories of Business Cycles

4. The Post Keynesian Macroeconomics

5. Macroeconomic Crises and Policy Issues

Essential Readings


Additional Readings
ECONOMETRICS-I

The course is designed to introduce the basic tools of econometric analysis. The students will understand the methods of econometric analysis and their application in empirical research. The Classical linear regression model, statistical inference in regression model, problems in regression and uses of dummy variables and estimation with independent and limited dependent dummy variables are some specific aspects of the course about which students would be provided sound knowledge.

1. The Linear Regression Analysis


3. Relaxation of CLRM Assumptions and Problems in Regression
Violation of CLRM assumptions and its consequences, detection and remedial measures of multicollinearity, heteroskedasticity and autocorrelation.

4. Regression with qualitative/ dummy variables : The nature of dummy variables, Regression on dummy (qualitative) variables with two categories, with more than two categories- intercept shifters, dummy variable trap, interaction of two categorical variables, interaction of categorical and continuous (quantitative) variables- slope shifters, piecewise linear regression model, Chow test for cross-section data and for time-series data (test structural stability of regression models) :

5. Maximum likelihood estimation
Introduction to binary and limited dependent variable, Limitation of the linear probability model(LPM), Method of maximum likelihood estimation and its properties (including consistency), Probit and Logit models, Multinomial models.

Essential Readings

Additional Readings
ECONOMICS OF DEVELOPMENT AND GROWTH

The course introduces the concepts and theories in development economics. The course also provides a strong focus on application with an aim to develop student’s research capabilities.

1. Theories of Development

2. Poverty and Inequality

3. Human Resources and Labour Markets
Population as a challenge-Malthusian notion-simon’s Challenge-demographic indicators-Demographic Dividend-New Challenges-Changing Demographic structure; segmented labour markets, unemployment (Harris-Todaro model, labour turnover model, efficiency wage hypothesis) sub-optimal employment, disguised unemployment, informal labour markets.

4. Theories of Economic Growth
Harrod - Domar model, Solow model, comparative analysis; role of resources, technology and institutions; Instability & Convergence debate, Ms. Joan Robinson and Concept of Golden Age and Golden Rule of Accumulation; Endogenous Growth Theories

5. Neo-Keynesian Models of Growth & Distribution

Essential Readings

**Additional Readings**

Barro, Robert J. and Xavier Sala-i-Martin, Economic Growth, McGraw-Hill,
AK Sen, 1970, Growth economics, Penguin
Bardhan, P. and C. Udry, Development Microeconomics, Oxford University Press, 1999
Perkins, Radelet, Lindauer and Block, Economics of Development (seventh edition),
W.W. Norton & Company, 2012
Thirlwall, 2006, Growth and development with special reference to developing countries,
Palgrave Macmillan.
Krugman, 1995, Development, Geography and economic theory, MIT press
KP Kannan, 2013, Interrogating Inclusive Growth: Poverty and Inequality in India, Routledge India.
Semester-III

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third</td>
<td>ECOM 301</td>
<td>International Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 302</td>
<td>Econometrics -II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 303</td>
<td>Indian Economic Issues</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 304</td>
<td>Research Methodology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 305</td>
<td>Elective 2*</td>
<td>4</td>
</tr>
</tbody>
</table>

INTERNATIONAL ECONOMICS

This course aims to provide an understanding of theories of international trade, trade policies, balance of payments, international institutions and economic integration. This helps to improve the analytical skills of the students to relate theory with current trade affairs.

1. Introduction to Trade
Adam Smith and Absolute Advantage, Labor Productivity and Comparative Advantage: The Ricardian comparative advantage model. Trade, Growth, and Economic Interrelatedness, Trade and National Characteristics, the Structure of Trade, Gains from trade with homogenous and heterogeneous agents, Offer curves: derivation; properties, related elasticities; Equilibrium Terms of Trade.

2. Trade Theories
Hecksher-Ohlin model, Stolper-Samuelson, Rybcznski theorem and factor-price equalization theorem, Leontief paradox, empirical validity, Specific-factor model as a short-run approximation

3. Strategic Trade Policy
Tariffs and welfare dynamics for small and large countries perspective;-; Tariffs versus quantitative restrictions; the optimum tariff; Empirical modelling of trade policy; Monopolistic competition models of trade, Tariff versus quota under monopoly. Voluntary import expansion and export restrictions. Export Quotas, Subsidy, Dumping - Forms of Dumping - Antidumping and International Price Discrimination. Metzler Paradox; Effective. Rate of protection

4. Balance of Payments and Macro Adjustment Mechanisms

5. Economic Integration and International Institutions
Forms of Economic and regional Integration: Regional Agreements ASEAN, NAFTA, European Union, Customs Union- Partial Equilibrium Analysis of Customs Union Trade Creation and Trade Diversion. Objectives and functions of IMF, IBRD, WTO, Free trade areas.
ECONOMETRICS- II

The course in continuation of Econometrics-I is designed to introduce the students to the econometric methods and estimation in the context of simultaneous equation framework, dynamic and autoregressive models. The students will understand the methods of elementary time series and panel data econometrics and their estimation and application in empirical research.

1. Simultaneous equations Models

Structural equation models-specification, endogenous, exogenous and predetermined variables, structural versus reduced form, simultaneity bias, identification: rank versus order condition, exact and over identifications, methods of estimation: indirect least squares, instrumental variable estimation, two-stage least squares and three-stage least squares, Seemingly unrelated regression and its application.

2. Autoregressive and Distributed Lag models

Autoregressive and Distributed Lag models: Role of Lag in Economics – Estimation of Distributed/Lag Models: Koyck/Apparoch, the Almon transformation, adaptive Expectation and partial Adjustment Models.
3. Univariate Time Series analysis
Concept of time series –stationary and non-stationary stochastic process-different types of non-stationary process-the concept of unit roots-testing for unit roots- specifications of auto regressive and moving average models – identification, estimation, and diagnosing model adequacy-forecasting through univariate time series modelling.

4. Multivariate Stationary and Non-stationary processes

5. Panel Data Models
Why Panel data, Fixed effect model and random effect model, Pooled or population average model, estimation of coefficients, specification test, FGLS, Application with real world cross country data

Essential Readings

Additional Readings

INDIAN ECONOMIC ISSUES

This course will explore a set of inter-related issues relating to the growth and development of the Indian Economy. This course provides a basic understanding of Indian economy, its structure and development.

1. Development Phases and Indian Economy

2. Agricultural Sector
Growth of agriculture; Recent deceleration of agricultural growth and public investment in agriculture, Agricultural prices, Agriculture and non-agriculture terms of trade. Agricultural

3. Industrial Sectors
Industrial growth and diversification - Policy changes and industrial growth – Sources of Industrial finances; Industrial price regulations and subsidies through price controls – examples of oil and petroleum and fertilizer sectors; Indian industry since liberalisation – productivity growth and rise in competitiveness – exports – rise of service industry – India and I.T. Policy regarding public enterprises – disinvestment and privatisation – impact of WTO and trade liberalisation; Issues facing small scale sector-unorganized sector- Reservation policy relating to small scale Industries- Industrial relations and Labour welfare-National commission on labour-issues and labour market reforms.

4. Infrastructure Sector
State of infrastructure – reforms: restructuring, pricing and regulation – Investment requirements of roads, power, ports and other infrastructure sectors; Policy initiatives to bridge the gaps e.g allowing foreign investment and private-public partnership mode. Services sector growth - rise of service I.T. sector, measurement of services sector output, services sector employment, services sector contribution to GDP, services sector policies in India.

5. Money and Finance in India
Money and capital markets- Changing role of RBI -financial sector reforms-monetary policy of RBI and interest rate polices- issues of commercial banks-stock exchange-working of SEBI and capital market reforms- Development finance Institutions, foreign banks and non banking financial institutions-Analysis of price behavior in India-policies of price control.

Essential Readings
Basu, Kaushik India's Emerging Economy: Performance and Prospects in the 1990s and Beyond, the MIT Press, 2004
Dréze, Jean and Sen, Amartya (2002), India: Development and Participation, Oxford University Press, New Delhi, Ch.3 titled ‘India in a Comparative Perspective’.

Additional Readings
Ch.12 (‘International Trade: Carrying Liberalization Forward’), especially pp. 259-68 and 276-81.
India Development Report, Oxford University Press, Various Issues
India, Delhi, India, 2011

RESEARCH METHODOLOGY

The aim of the course is to introduce students to quantitative and qualitative methods for conducting meaningful inquiry and research. It is expected to gain an overview of research intent and design, methodology and technique, format and presentation, research ethics and data management and analysis.

1. Research in Economics
Meaning of research in economics: Types of research, methods and techniques- differences among them, the logical framework of investigation, the nature of problem and appropriate methodology, macro-level vs. micro level research, problems in aggregation, methodology leading to methods and then techniques, analysis of historical records, participant or non-participant observation, mass observation, questionnaires: reliability and validity, personal interviews, group interviews, Triangulation, case studies, Data collection & Sampling, types of Sampling, Sampling Procedure, Choice of Sampling technique, Ethics in research.

2. Identifying Research Problem
Formulation of research problem- identification and operationalization of the problem, survey of literature, development of working hypotheses, preparation of research design, investigation in availability of information, sampling design, error minimization, evaluation of time and cost, collection of information, processing of collected information.

3. Data base on Indian Economy
Important Data Sources- National and International; Familiarity with different data base such as: Capital online, RBI-Hand Book of Statistics on Indian Economy, National Sample Survey Organisation reports, Annual Survey of Industries, Census data, National Family and Health Survey (NFHS) reports, NCAER Human Development Surveys, indiastat.com, NSSO, RBI Bulletin, Economic Survey etc; CMIE, EPWRF, accessing and using unit data of NSSO; big data,international data base

4. Quantitative and Qualitative Methods
Quantitative methods - use of secondary data, constructing a questionnaire and designing a survey, merits and demerits of survey methods- type of survey- selecting the survey method – sample survey of different types – merits and demerits. Qualitative Methods: the case study methods - merits and demerits, Participant observation, interview methods – open and closed, structured and unstructured, focused group discussions, process documentation.
5. Analysis, Interpretation, and Drafting Report
Analysis of quantitative and qualitative data, interpretation, Politics of interpretation, report writing – formulating and arranging concepts and ideas, formulating arguments, substantiating arguments with evidence, data, notes and references, bibliography; report writing- steps- quality of a good research report.

Essential Readings


Additional Readings
http://scholarcommons.usf.edu/oa_textbooks/Johnson,
Semester-IV

<table>
<thead>
<tr>
<th>Fourth</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECOM 401</td>
<td>Resource and Environmental Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM 402</td>
<td>Elective 3*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ECOM D</td>
<td>Elective 4* / Dissertation (3 + 1)</td>
<td>4</td>
</tr>
</tbody>
</table>

RESOURCES AND ENVIRONMENTAL ECONOMICS

The main objective of the course is to introduce learners to the resources and environmental economics, and issues both at national and global context. It will help learners understand economic valuations of environmental policy issues.

1. Issues in environmental economics
An introduction to environmental economics, economy-environment interaction, types of goods, externalities, market failure, property rights, collective action, environment and development trade-off – environmental Kuznet’s curve – Green GDP

2. Economics of Exhaustible and Renewable Resources
Theory of Externality, Hotelling's rule, Solow-Harwick's rule, market structure and optimal extraction policy, uncertainty and the rate of resource extraction, resource scarcity; economic models of forestry and fisheries, economics of biodiversity, game theory and the Common Property Resources

3. Environmental Valuation
Use value, non-use value, instrumental value and intrinsic value- Market and non-market valuation; Physical linkage methods; Revealed and stated preference methods

4. Environmental Policy
Command and control versus market mechanisms; Uncertainty and instrument choice; regulatory compliance and enforcement; Eco-taxes and other fiscal measures; India’s environmental policy.

5. Global Environmental Issues
Transboundary pollution, economics of global warming, impact of trade on environment and environment on trade, Porter's hypothesis, Pollution havens hypothesis, case studies

Essential Readings
Kolstad, C., Environmental Economics, Oxford University Press, 2000

Additional Readings
ELECTIVES

1. Agricultural Economics
2. Applied Panel data econometrics
3. Economic Demography
4. Economics of Education
5. Economics of Gender
6. Economics of Human Development
7. Financial Economics
8. Game Theory and Information
9. Health Economics
10. Industrial Economics
11. Institutional Economics
12. Investment Banking
13. Labour Economics
14. Money and Banking
15. Optimization techniques for Economists
16. Public Economics
17. Regional Economics
18. Risk Management - Theory & Practice

AGRICULTURAL ECONOMICS

The major objective of this course is to make understand the importance of agriculture in economic development and to discuss major agricultural issues and policies. It aims to provide a theoretical understanding of agricultural development which will enhance the analytical understanding of the issues.

1. Theories of Agriculture Development
Role of agriculture in economic and rural development, agriculture and development theories - growth stage theories, dual economy model, theory of storage, traditional producer and consumer theory applications in agricultural economics, competitive environment - market structure, conduct and performance analysis; demand and supply of agricultural products.

2. Production Economics and Farm Management
Production Process; Economic principles of Farm Management; Resource management and allocation; basic concepts-marginal returns, yield gap, returns to scale, economics of scale, technology and input use; law of comparative advantages.

3. Risk and Uncertainty in Agriculture
Decision theory and elements of risk and uncertainty in agriculture; measurement of risk, adjustment to risk; types of risk - estimation of risk - management response to risk – linear
programming and risk programming models, post harvest technology in reducing risk and uncertainty in agriculture.

4. Economics of Natural Resources and Sustainability
Natural resources: Renewable and non-renewable - land use pattern - land degradation land use planning - optimal management of land, water, forests and fisheries – energy management - common property resources, development dynamics of resource use planning for economic growth and sustainability - resource mapping: GIS and remote sensing data.

5. Agricultural Development and Policy
Agricultural policies- Input and output policies, subsidies and support prices, Food policy, duel pricing for producers and consumers, Food security Act- self-sufficiency in production and imports, Issues of food and nutritional security; climate change and food security, bio-fuels and food security, food safety and excess use of pesticides, Sustainable water resource use and land use.

Essential Readings

Additional Readings
Heady, Earl O., and John L. Dillon, Agricultural Production Functions" (Ames: Iowa State University Press), 1961 and Heady, Earl O., Economics of Agricultural Production and Use" (Prentice Hall), 1952
Panel data models are widely used in the context of cross country analysis and longitudinal data. The course is designed to introduce to the students both static and dynamic panel data econometric models. Besides, students will understand the methods of econometric analysis in case of qualitative variable and limited dependent variable models with panel data, basics of non-stationary panel data and their application in empirical research.

1. Introduction to panel data: Panel data, Advantages of using panel data, Balanced and unbalanced panel, Different pattern of variations in parameters and distributional assumptions.

2. Static Linear model: pooled repeated cross-section model, within and between estimators, fixed effects or covariance model, panel specific effects; Individual and time effect, Testing of hypothesis: test for poolability and testing for panel effects, Goodness of fit in panel data model.

3. Random effect models: Error component model or random effect model, Specification, stochastic assumptions and variance-covariance structure, GLS estimation-different procedure and properties, Hausman test, one way and two way models, random coefficient model (Hierarchical/multi-level models)

4. Qualitative variable and limited dependent variable models with panel data: Discrete (binary) choices fixed effect and random effect models, Censored regression with panel data.

5. Dynamic (Stationary and Non-Stationary) Panel Data Models: Bias in dynamic panels, Bias in simple OLS and within estimators, Instrumental variable and GMM estimations: Arellano and Bond Estimator, Arellano and Bover Estimator and Blundell and Bond System GMM Estimator, Non-stationarity and Panel data, Panel unit root and cointegration tests.

Essential Readings
Baltagi, Badi H. (2003), Econometric Analysis of Panel data, John Wily and Sons ltd , New York
Arellano, M. (2003), Panel data econometrics, Oxford University Press, UK
Hsiao, C (2003), Analysis of panel data, Cambridge University Press,
Cameron, A. C. and P.K. Trivedi (2005), Microeconometrics, Methods and Applications, Cambridge University press

Additional Readings
ECONOMIC DEMOGRAPHY

The objective of this course is to provide the students with an understanding of economic aspects also economic theories of demographic behaviour including fertility, marriages and labour supply. The course also provides students with an understanding of various economic and social causes and consequences of population change.

1. Introduction:
The World Demographic Situation and Its Consequences - Population in the news media and Trends in the World Population - Population age distribution and their consequences

2. Changing Economic Roles and the Family
Theories of Changing Family Life - The Changing Economic Roles of Women - The Changing Family and the Economics of Marriage - The Economics of Fertility: Quantity–Quality and Value of Time

3. Consequences of Population Growth

4. Population, Savings, and Economic Growth
Changing Population – Age structure, Demographic transition – saving and growth; life cycle and aggregate saving; Pessimistic and Optimistic views

5. Demographic Dividend
Relationship between Demographic Change and Economic Growth, The Demographic Transition Theory; The Demographic Transition in India - demographic tax – Dividend rate

Essential Readings
http://pubs.aeaweb.org/doi/pdfplus/10.1257/089533003772034943
Cheryl Stauffer “Building Pyramids” Population Today v.27 n.5 (May 1999) p.3.
http://www.nber.org/papers/w11953

ECONOMICS OF EDUCATION

This course is designed to provide theoretical understanding of the economics of education. This course would provide an understanding of the evolution of economics of education, including ‘new economics of education, as a separate discipline and changing sources and methods of financing of education.

1. Introduction to Economics of Education
Human capital theory; Critique of human capital theory: Job- competition, Screening, and Signaling hypothesis, Education, earnings and national wellbeing, Education and employment – viz., segmented labour market theories, Rate of return to education: cost-benefit analysis, cost-effectiveness analysis,

2. Education and Economic Development
Contribution of education to economic growth, Denison’s growth accounting Contribution of labour; Endogenous Growth Theories

3. Public Finance: Role of State in Financing Education
Principles of financing education: Equity, Efficiency, Adequacy; Education and distribution, inequality; Distribution of public spending on education; Importance of public expenditure on education; its impact on development; Determinants of expenditure on education – Public, Household

4. Methods of Financing Education:
Sources of funding: Public, Private; Public funding of education: Taxes – General, Earmarked; Grants, Vouchers; Fee as a source of finances; scholar loans; Mobilisation of Resources for Education Private sector, community contributions; External aid

5. Production of Education:
The role of different inputs - Role of School Resources - Role of Teachers - Role of Incentives;

Essential Readings
Johnes, G and Johnes, J., eds. International Handbook on the Economics of Education

Additional Readings
ECONOMICS OF GENDER

Economic analysis is used as a lens to investigate and explain the many ways in which men and women are similar, and those ways in which they differ. We explore the extent to which a “rational actors” model can explain both the existence of gender roles within society, and the large inequalities that exist as a result of these gender roles. We consider market outcomes like educational attainment, participation in the labor force, and the income generated by that participation.

1. Subject of gender economics
Do women and men behave differently in economic situations? Economic basis and functioning of Patriarchy in developed and developing countries with particular reference to India

2. Economic growth and gender equality
What determines the balance of power? Gender factor in household economics. Distribution of resources and decision-making mechanisms in households

3. Gender Equality in the labour market
Are women discriminated against in the labour market? Factors affecting labour markets-supply and demand for females labour in developed and developing countries-female work participation-Gender inequity in labour market and Trade Union participation –Impact of technological development of and modernization on women’s work. Women and the Acquisition of Human Capital

4. Demographic changes and gender status
Gender factor of demographic development, Gender shift and demographic development, Contribution of Women’s Work-Gender Dimensions of Employment and Unemployment, Feminization of Aging and Poverty, Gender statistics, Gender inequality indicators

5. The labour supply decision and public policy
Child care policy and programs: national, regional and global level, Gender budgets.

Essential Readings

Additional Readings


ECONOMICS OF HUMAN DEVELOPMENT

This course aims to introduce the development of theories and approaches to understand human development. It also attempts to examine the measurement issues. It covers the important dimensions of human development viz., Education and Health, besides covering few other dimensions of human development.

1. Introduction to Human Development


2. Measurement Aspect:

Refinement of Human Development Index, Measuring Deprivation adjusted for Group Disparities, Secluded (isolated) and Proximate Illiteracy, Measuring Group Differentials and Multidimensional Poverty
3. Economics of Education
Human Capital: Concept and Components; Nexus between Human Capital, Physical Capital and Natural Capital; Theory of Investment in Human Capital; Education and Economic Development; Economics of Public investment in education.

4. Economics of Health
Concept and Determinants, Demand and Supply of Healthcare; Financing of Healthcare; Expenditure on Health - health care and environmental sustainability.

5. Other dimensions of human development:
Dynamic linkage between human development and growth; Social capital, inclusion, empowerment and freedom; Role of institutions (national and international), government and NGOs.

Essential Readings
Ranis, G and F. Stewart Dynamic Links between the Economy and Human Development," in Policy Matters: Economic and Social Policies to Sustain Equitable Development, José Ocampo,

Additional Readings

FINANCIAL ECONOMICS
The objective of this course is to undertake a rigorous study of the theoretical and empirical foundations of financial economics. The course will cover option pricing models, capita structure, Dividend policies, and market micro structure. The focus of this course will be on investment analysis and asset pricing, with the aim of conveying the practical applications of investment theory.
1. **Nature and Scope of Financial Economics**
Goals of Finance; Economics of capital Budgeting Investment Criteria, Estimation of project Cash Flows, Risk Analysis, Capital Budgeting, Computation of Cost of Capital, Capital Budgeting under Constraints

2. **Future Contracts and Markets: Option Pricing Models**
Forward and future contracts and markets; European and American options; pricing futures, swap and synthetic futures; bounds for option prices, put-call parity; derivation of option pricing formula-Binomial approach; Black-Scholes option pricing models, option to expand, valuation of areal option

3. **Capital Structure Choice**
The value of firm with tax, Modigliani-Miller irrelevance hypothesis, choices in financing-debt and equity, the financing mix: trade-offs and theory; signaling hypothesis; effect of agency cost on capital structure, cost of capital, empirical determinants of capital structure choice

4. **Dividend Policy**
Irrelevance of dividend policy without tax; valuation, growth and dividend policy, dividend policy with taxes; theory of optimal dividend policy; other issues-stock dividends and share repurchase empirical determinants of optimal dividend policy

5. **Market Microstructure**

**Essential Readings**

**Additional Readings**
GAME THEORY AND INFORMATION

Game theory attempts to teach, understand and apply the mathematical models of conflict and cooperation between intelligent rational decision-makers.

1. Games of Complete Information
Static games; solution concept: Nash equilibrium, mixed and pure strategies, maximin principle; extensive forms, backward induction, subgame perfection, repeated games; applications

2. Games of Incomplete Information
Incomplete and imperfect information; static games of incomplete information, solution concepts, Bayes-Nash equilibrium; dynamic games of incomplete information, equilibrium refinements: weak perfect Bayesian equilibrium, sequential equilibrium and trembling hand perfect equilibrium, forward induction; applications

3. Cooperative Games
Elements of cooperative games, transferable utility games, core, Shapley-Value, coalition structure, credibility and core, matching games, examples

4. Bargaining
Bargaining with complete information, bargaining as an extensive game: Rubinstein model, axiomatic bargaining: Nash bargaining solution, relation between strategic and axiomatic models, outside options, inside options, bargaining with incomplete information, one-sided and two-sided uncertainty, private and correlated values, applications

5. Differential Game
Repeated and differential game, commitment and sub-game perfection, solution concept: open and closed loop solutions, Markov-Perfect equilibrium, hierarchical game and Stackleberg solution, applications

Essential Readings
- Osborne, M. J., An Introduction to Game Theory, Oxford University Press, 2003
- Gibbons, R., A Primer in Game Theory, Harvester-Wheatsheaf, 1992
- Fudenberg, D and J. Tirole, Game Theory, MIT Press, 1991

Additional Readings
- Osborne, M. J. and A. Rubinstein, A Course in Game Theory, MIT Press, 1994
The course aims to understand the healthcare from an economic perspective pertaining to efficiency, effectiveness, value and behaviour in the production and consumption. Accessibility and affordability of healthcare services also examined in detail.

1. Markets, Demand for Health Care
Markets in health care, production of health, demand for health care, Welfare economics of medical care - equity, efficiency and the need, link between development and health, investing in health for economic development, health care infrastructure, public-private partnership and the role of state.

2. Health Production Function
Nature of production function, different types of production function and their applications, national and international perspective, distributional inequities in opportunity and commercialization of medical and para-medical education, cost escalation in the health care system, easy access and availability to appropriate technology, need for regulation and control.

3. Health Care Incentives and Financing
Goals of health care provision and financing, competitive health insurance and risk adjustment, demand and supply of health insurance, asymmetric information and agency, market insurance, self-insurance and protection, employment based insurance, health insurance in India.

4. Measuring and Valuing Health Outcomes
Measurement of health state utilities, QALYs and its alternatives- different approaches of valuing health, multi-attribute utility instruments and their development.

5. Costs and Benefits of health services
Private benefits and costs of providing health services, the failure of the market to provide essential health services, the provision of health services by the government , application of cost benefit analysis to public health and family planning projects, benefits and costs (both private and social of training to professional manpower in health sector, economic appraisal of health care programme.

Essential Readings

Additional Readings
INDUSTRIAL ECONOMICS

This course provides an introduction to current theory and empirical work in Industrial economics. It starts by examining the internal structure of firms. It then moves on to the analysis of various aspects of strategic interaction between firms and the determinants of industrial structure. Finally, it discusses the role of policy in the context of competition and industrial policies and regulation. The emphasis will be throughout on understanding how the theoretical tools can be used to analyze real world issues. The theory will be confronted against empirical evidence, and its implications for public policy and business strategy will be discussed.

1. Market Structure, Entry Deterrence: Seller concentration measures, Entry conditions and market structure, Pricing to deter entry, Non-price entry deterrence strategies, The theory of contestable markets, Empirical studies of entry and exit

2. Industry Development: Geography and industrial dynamics, innovation, Firm survival and the evolution of industries, Industry life cycle, Turnover and mobility of firms, Regulation: regulation of firms with market power under symmetric information; regulation under asymmetric information; liberalization and regulation; empirical evidence, Efficiency and Productivity Analysis (Tutorials)

3. Growth of Firms: Robbin Marris Model, Size and growth of the firm, MNEs and growth, Growth and diversification –both product and geographical diversification, Globalisation of small and medium enterprises, Strategic alliances, Networking and growth and Mergers and acquisitions

4. Determinants of R&D: IT industry, Monopoly and perfect competition, Development and growth, Market structure and R&D, Innovation, learning and R&D, in-house R&D and import of technology, R&D cooperation and innovative activities, Economic theory with respect to IT industry and products, Concepts including network externalities, switching cost, lock in and standards, file sharing, open source, e-commerce, role of IT in economic development

5. Industrial Finance
Importance of finance to industrial development, Owned, and external funds for industrial development; Role, and types of institutional finance- functions of IFCI, IDBI, SIDBI, MSFC, ICICI, SFCs, SIDC, commercial banks, etc in industrial development, trend and problems of industrial finance in India.

Essential Readings
Chris Freeman and Luc Soebe., The Economics of Industrial Innovation, 1998

Additional Readings
Chris Freeman and Luc Soeße., The Economics of Industrial Innovation, 1998
INSTITUTIONAL ECONOMICS

This course examines the historical evaluation of institutional economics and its relevance today. It aims to understand the methodology of traditional economic analysis and train the students for developing new economic framework in the contemporary world.

1. Institutional Economics – Historical Perspective
TB Veblen: The theory of the Leisure Class- Informal institutions and systems- System of industrial planning- Jungian Archetypes and social psychology- R Commons and J.K Galbraith-

2. Informal Norms and Formal Laws
Interaction on formal and informal institutions. Role of traditional/social norms in shaping economic behavior, Law and markets - property rights and institutional change - interrelationship between legal and economic processes.

3. “New” Institutional Economics
The problem of social cost and externalities - transaction cost analysis - theory of property rights - theory of contracts. Economic exchange in modern society. Laws, and informal institutions, - norms and culture; individual and group behaviour, Behaviors including contracts.

4. Markets Firms and State
Market as organization - market organization as a result of market cooperation - incentive to integrate - limits to integrate - institutional models in neoclassical theory - role of political institutions - political markets.

5. Institutional Change
Regulation in a dynamic setting - regulating natural resources: the evolution of perverse property rights; institutional change in a representative democracy - state failure - rational individuals versus social dilemmas.

Essential Readings

Additional Readings
INVESTMENT BANKING

The main objective of the course is to provide students with the necessary theoretical and conceptual tools used in investment banking. It also aims to expose students to both the diagnostic and prescriptive processes of Investment Banking allowing them to partake in the financial advisory process; and understand what it means to be an Investment banking practitioner or valued client.

1. Overview of Investment Banking
Introduction to Investment Banking: Evolution of Investment banking in India, Scope, management of debt and equity, corporate advisory services, project advisory services, loan syndication, venture financing, private equity, M&A, financial engineering, structural analysis of investment banking industry, legal basis of corporate finance and investment banking, How Investment Bankers Compete

2. Merchant Banking

3. Innovation and New Products in Fixed Income Instruments
Equity issues; valuing an initial public offering, international equity issues, GDR, ADR, convertible securities, innovation and new equity securities, derivative securities

4. Mergers & Acquisitions
Introduction to valuation of companies; the law of mergers & acquisitions, markets for takeover stocks and risk arbitrageurs restructuring: theory of adding value, LBOS, practice of adding value

5. Financial engineering
**Essential Readings**

**Additional Readings**

**LABOUR ECONOMICS**

This course introduces the nature and nuances of labour market and functioning of the labour market.

1. **Labour Markets**
Nature and Characteristics of Labour Market; Paradigms of Labour Market Analysis; How the Labor Market Works, Classical, Neo-Classical and Modern Analysis of Demand and Supply Forces; Demand for Labour in Relation to Size and Pattern of Investment; Supply of Labour in Relation to Growth of Labour Force.

2. **Wage determination**
Neo-Classical and Bargaining Theories of Wage Determination; Concepts of Minimum Wage, Living Wage and Fair Wage in Theory and Practice; Productivity and Wage Policy; Labor Demand Elasticities – own wage and cross-wage.

3. **Life Cycle and Labor Supply**

4. **Investment in Human Capital**
The Concept of Present Value, Modeling the Human Capital Investment Decision, The Demand for a higher Education. Weighing the Costs and Benefits of College education; Education - Earnings, and Post-Schooling Investments in Human Capital; Average Earnings and Educational Level, On-the-Job Training and the Concavity of Age/Earnings Profiles
5. Mobility of Workers
Migration, Immigration, and Turnover - The Determinants of Worker Mobility - Geographic Mobility The Direction of Migratory Flows, Personal Characteristics of Movers, the Role of Distance, The Earnings Distribution in Sending Countries and International Migration; The Returns to International and Domestic Migration; An Analysis of the Gainers and Losers; Do the Overall Gains from Immigration Exceed the Losses?

Essential Readings

Additional Readings

MONEY AND BANKING
The objective of the course is to gain enough knowledge and analytical tools to understand the latest developments in the financial and banking world. To help analyze and understand current events in the economy and banking sector in particular. Students will learn to apply economic principles to applied areas in money and banking.

1. Money
Concept, functions, measurement- theories of money supply determination - functions of money - role of money in modern economy.

2. Value of Money and Inflation:
3. **Structure of Indian banking**
Meaning- Evolution of Banking in India–origin, nationalization, reforms- Types of Banks- Indigenous Banks- Money Lenders – Co-operative Banks – Land Development Bank- NABARD- Commercial Banks- Commercial Banks and Economic Development- Credit Cards

4. **Central Banking**
Functions of Central Bank, Quantitative and qualitative methods of credit control- Bank rate policy, Open market operations, Role and functions of the Reserve Bank of India; Objectives and limitations of monetary policy with special reference to India, Monetary Policy objectives, Money supply and control of inflation, Interest rate policy and its implications, Basel Accords I and II and III.

5. **Banking Innovations**

**Essential Readings**


**Additional Readings**


OPTIMISATION TECHNIQUES FOR ECONOMISTS

The course aims at teaching the learners to understand the techniques of optimization and their applications in economic decision making.

1. Unconstrained Optimization:
General Structure, derivation of first order and second order conditions, Optimisation of functions with one and two variables, Economic applications: envelope theorem, Profit maximization in different markets.

2. Constrained Optimization:
General Structure with two independent variables, derivation of first order and second order conditions, envelope theorem. Applications: Utility maximization and derivation of demand function, cost minimization and derivation of factor demand function; Pareto optimality conditions without and with public goods.

3. Linear programming and Economic applications:
Linear programming problems in economics, Objective function and constraints, Graphical solution, Simplex method to solve LPP problems, – Statement of basic theorems of linear programming. Kuhn-Tucker conditions - Constrained qualification, Kuhn- Tucker sufficiency theorem – Economic applications.

4. Duality Approach and Transportation Problem:

5. Assignment Problem and Network:
Introduction, Mathematical Formulation of the Problem, Hungarian Method Algorithm, Routing Problem, Travelling Salesman Problem. Project Scheduling and PERT-CPM: Introduction, Basic Difference between PERT and CPM, PERT/CPM Network Components and Precedence Relationship, Project Management – PERT

Essential Readings

Additional Readings
**PUBLIC ECONOMICS**

Objective of this course is to familiarise the students with the concepts, principles and theories of Public economics. The students will understand about the role of government, need for public provision of public goods, theory of taxation, theory of expenditure, Fiscal federal relations, fiscal policy instruments and their impact on macro economy.

1. **Public Economics, Government and theory of Public Goods**
   Introduction to Public economics, Role of state, Market verses Government, Public goods and externalities, merit goods, Samuelson theory, free rider problem, median voter theorem, theory of rent seeking.

2. **Theory of Taxation**
   Direct and indirect taxes, efficiency and equity, dead weight loss ,Theory of taxation, tax incidence and shifting, Optimal taxation, measuring progressivity and effect of taxation, Tax reforms

3. **Public Expenditure and the Macro-economy**
   Determining optimal size of government, Growth of expenditure, theories of expenditure, financing of public expenditure: debt versus tax financing, impact of public expenditure on the level and composition of output, designing optimal government expenditure policy: issues of size and composition, designing subsidy policy: health and education expenditure policy in India.

4. **Federal Fiscal relations;**
   Theory of fiscal federalism, Vertical assignment, Horizontal and vertical fiscal imbalances, Federal fiscal transfers, issues of equity and efficiency, designing equalisation transfers, conditional and unconditional grants, fiscal federalism in India: transfer mechanisms, role of Finance commission and other resource mediating agencies, Issues of Implicit transfers,

5. **Fiscal Policy Issues**
   Budget deficit and public debt: Keynesian, neo-classical, and Ricardian equivalence, debt dynamics and sustainability, Fiscal policy and objectives, interdependence of fiscal and monetary policies, Rule based fiscal policy and budget management.

**Essential Readings**

**Additional Readings**
This course aims to familiarise students with the concepts of regional development and growth. It broadly covers the models, theories and policies of regional growth and development.

1. Concepts and Definitions
Need for study of Regional Economics, Definition of a region, Different types of regions, Differences between region and a nation, Regional income, Problems of estimation, Indicators of regional development, A City Model, Systems of Cities, Monocentric city model, Suburbanization, Hotelling’s model.

2. Models of Regional Growth
Export Base Models, Central place theory (Christaller), Cumulative Causation Models (Perroux, Myrdal, Hirschman), Sector theory (Colin-Kuznets), Multi sector Models and Regional Development Planning, Elements in a Spatial Growth Theory, Locational constants (Weber), Measurements of Agglomeration economies, and Location Preferences, Social and Political factors in regional growth, New economic geography, Rank-size rule.

3. Factor Mobility in Regional Economy
Inter-regional Migration, Mobility of Capital, Spatial diffusion of innovation and technical progress, Inter-Regional Trade, The basis of interregional trade, Regional trade and factor price equalization, Regional trade and factor migration, Regional balance of payments problems.

4. Theories of Spatial Development
Integration of Regional and Urban Economics, Regional dispersions of National growth, Intra-regional concentration, Urban Decentralization, Housing market, Urban transportation, Role of migration.

5. Urban and Regional Economic Policy Analysis
Location and Economic activity. Urban Policy, Regional Policy, Intra-regional concentration, Urban Decentralization, Regional trade and factor migration, Interregional Economics at the International Level.

Essential Reading
Harry W Richardson (1969), Regional Economics Location Theory, urban structure and regional change, Weidenfeld and Nicolson, 5 Winsley Street London
Harry W Richardson (1973), Regional Growth Theory, Macmillan
RISK MANAGEMENT-THEORIES AND PRACTICE

The goal of this course is to engage students in active discovery of risk management principles. Students will be prepared to function in a business environment, developing an awareness of the challenges, the tools, and the process of designing and implementing a risk management program.

1. Introduction to Risk Management
Sources of risk, currency risk, fixed income risk, equity risk, commodity risk, market risk measurement, VaR as downside risk, definition, parameter, elements of VaR system, stress testing

2. VaR Methods
An overview of VaR methods, VaR local and full valuation, delta normal methods, historical simulation, Monte Carlo simulation, examples of VaR applications.

3. Hedging
Hedging linear risk, optimal hedging, hedge ratio as regression coefficient, duration hedging, beta hedging, non-linear risk hedging, delta and dynamic hedging

4. Credit Risk Management
Settlement risk, introduction to credit risk, measuring credit risk, credit exposure, types of credit derivatives, credit default swap, pricing and hedging credit derivatives, measuring credit VaR, credit risk models, Basel accord, the Basel market risk charges
5. Operation & Integrated Risk Management
Introduction to operational risk, identifying operational risk, managing operational risk, risk capital, RAROC, risk capital, RAROC methodology, legal accounting, tax risk management

Essential Readings

Additional Readings
OPEN ELECTIVES

UNDERSTANDING ECONOMICS

This course provides a basic understanding of the subject economics. It starts with the scope of the subject economics, discusses the major microeconomics concepts such as market, households and firms and macroeconomics concepts such as national income accounting.

1. Exploring the Subject Matter of Economics

2. Role of Markets, their Functioning 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/supply together—how prices allocate resources—elasticity and its application — controls on prices — taxes and the costs of taxation—consumer, producers and the efficiency of the markets.

3. The Consumer Behaviour
The consumption decisions, elasticity of demand, investment, cross elasticity, production function, budget constraints, consumption and income/price changes, demand for all other goods and price changes—description of preferences — the investment decision—investment alternatives for a household — desirable attributes of investments — labour supply and savings decision—choice between leisure and consumption — labour force participation — tax policy and labour supply — human capital and education—budget constraints and savings — savings and interest rate, other factors affecting savings.

4. Managerial Economics
Economic and managerial decision making of firms - Financing, controlling and managing firms—the firm’s legal form, corporate finance—why corporations care about financial structure — takeover and the market for managers — making decisions — centralization and decentralization — the boundaries of the firm, behaviour of profit maximizing firms and the production process—short run costs and output decisions.

5. Introduction to Macroeconomics and National Income Accounting
The roots of macroeconomics—concerns over macroeconomic— the role of government in the macro economy — the components of the macro economy — the methodology of macroeconomics—concepts of national income—approaches to calculating national income—nominal and real income—issues on measurement of national income, the concept of black and green income.

Essential Readings

Additional Readings
INDIAN ECONOMY I

This course provides a basic understanding of Indian economy, its structure and development. It covers development phases of Indian economy, structure of rural economy: farm and non-farm sector, industrial sector development, services sector and infrastructure sector development in India.

1. Development Phases of Indian Economy

2. Agricultural Sector

3. Industrial Sector
Industrial growth and diversification - Policy changes and industrial growth – Sources of Industrial finances; Industrial price regulations and subsidies through price controls – examples of oil and petroleum and fertilizer sectors; Indian industry since liberalisation – productivity growth and rise in competitiveness – exports – rise of service industry – India and I.T. – policy regarding public enterprises – disinvestment and privatisation – impact of WTO and trade liberalisation; Issues facing small scale sector-unorganized sector- Reservation policy relating to small scale Industries- Industrial relations and Labour welfare-National commission on labour-issues in labour market reforms.

4. Infrastructure Sector
State of infrastructure – reforms: restructuring, pricing and regulation – Investment requirements of roads, power, ports and other infrastructure sectors; Policy initiatives to bridge the gaps e.g allowing foreign investment and private-public partnership mode.

5. Population and Development
Population and Development- population growth - Components of population growth and their inter dependence; Malthus - post Malthus theories, Measures of population - sources of population data - Census, Population policy in India, Culture and fertility; Education and fertility; Demographic Dividend.

Essential Reading
Basu, Kaushik India’s Emerging Economy: Performance and Prospects in the 1990s and Beyond, The MIT Press, 2004
Drèze, Jean and Sen, Amartya (2002), India: Development and Participation, Oxford University Press, New Delhi, Ch.3 titled ‘India in a Comparative Perspective’.
India Development Report, Oxford University Press, Various Issues

**Additional Readings**


**INDIAN ECONOMY II**

This course introduces the students an overview of Indian economy and its growth, details of foreign trade and investment, money and finances, social and human development, poverty and unemployment.

1. **Indian Economy: Overview**

2. **Poverty, Unemployment and Social Sector**

3. **Money and Finance in India**
   Money and capital markets- Changing role of RBI -financial sector reforms-monetary policy of RBI and interest rate polices- issues of commercial banks-stock exchange-working of SEBI and capital market reforms- Development finance Institutions, foreign banks and non-banking financial institutions-Analysis of price behavior in India-policies of price control.
4. Budget and Public Finance in India

Finances of the government – Budget and budgetary procedures in India, Centre - State financial relations- allocation of functions and resources- Rationale for central transfers and Finance commissions – deficit measures and deficit financing in India –fiscal policy, FRBM Act.

5. Foreign Trade and Investment

Trade policy regimes in India; Changing policies on foreign investment; Salient features of India’s Foreign trade- composition, direction and Organization of Trade – New Economic policy and trade: Intellectual Property Rights, Implications of TRIPS, TRIMS, GATS and New EXIM policy- Impact of WTO on various aspects of Indian Economy- Balance of Payments, tariff policy- New Exchange Rate Regime: Partial and full convertibility, Capital Account convertibility, Exchange rate and WTO requirements

Essential Readings

Same as Indian Economy I

**Quantitative Methods for Social Science Research**

The course is designed to introduce the students to the basic tools of quantitative methods used in social science research. The students will understand concepts and theories of quantitative methods and their application for data analysis. Students will understand the basic and types of data, methods of collecting data, descriptive statistics, sampling and sampling distributions, testing of hypothesis, analysis of variance and basic regression analysis and their application in social science research

1. Basics of data and Quantitative methods

Types of Data-time series, Cross section and panel data; primary and secondary sources of data; Quantitative and qualitative data, variables and scale. Methods of collecting primary data: Census and sampling, Quantitative methods as a tool in analysing data, Introducing statistical packages for data analysis, understanding the data- generating tables, charts and interpretation, its scope in social science Research and advantages

2. Descriptive statistics and Correlation

Measures of central tendency: Mean, Median, mode of frequency distribution, Measures of dispersion: Range, quartiles, Standard deviation, Coefficient of variation, Association between variables; Correlation coefficient,


Basics of Probability and probability distribution, Sampling and Testing of Hypotheses: population, parameter, Random Sample; concept of sampling distribution, Standard Normal(Z),
Students’ t, Chi-square and F-distribution; Concepts of testing of hypothesis and test of significance; tests of significance of proportion, mean, and variance: Unpaired and paired t’ test,

4. Analysis of variance- one –way ANOVA, two-way ANOVA, Multiple analysis of variance (MANOVA), factor analysis, non-parametric tests

5. Basic Econometric analysis

Essential Readings

Additional Readings