

**CENTRAL UNIVERSITY OF TAMIL
NADU, TIRUVARUR**

**DETAILED SYLLABI AND CURRICULUM
OF**

M.Sc. General Economics

Post Graduate Degree (a Two Year Full time)

to be offered by

MADRAS SCHOOL OF ECONOMICS

Eligibility

Graduates in any subject with strong Mathematical/Statistical Background and/or plus 2 mathematics are eligible to apply for the two-year degree course. Admission will be based on common entrance test.

**Other Regulations as per M.Sc. Regulations for Post-Graduate
Programmes of Central University of Tamil Nadu**

M.Sc. General Economics

The PG Degree course is a two-year course, divided into four modules. Each module consists of four papers. In the first-year, there will be 8 core courses. In the second year, the first module comprises two core papers and two optional (elective) papers. The second module comprises of one core and two optional (elective) papers. It will be taught under the guidance of an Advisory Committee comprising eminent persons from both the industry as well as academics.

The core courses lay the foundations for the basic theory and give students a feel for how it is being played out in real economies. The courses in Statistics, Optimization Techniques, Econometrics and Applied Econometrics equip them with a good range of skills and tools for quantitative analysis. On the other hand, the compulsory course in Fiscal and Public Policy provides a unique opportunity to understand the policy prescription for a developing country like India. In addition, depending on the demand, some of the following courses are offered as one-semester electives – Development Economics, Environmental Economics, Financial Economics, Health Economics, and Games and Information. All these courses are application oriented and very relevant for today's liberalized economic environment. There is also an emphasis on independent research. Students are required to do term papers in most of the courses and each student undertakes a significant research project during the final semester. Interested students take up a summer internship programme at the end of the first year, which greatly helps them to get an orientation in applied work. With this view, Madras School of Economics jointly with Central University of Tamil Nadu aims to introduce a two-year post-graduate degree course in **General Economics**.

Draft Outline
M.Sc. (GENERAL ECONOMICS)

SEMESTER 1

Course Code	Course Name	C
<u>GE01</u>	Microeconomics-I	4
<u>GE02</u>	Macroeconomics-I	4
<u>GE03</u>	Statistical Methods	4
<u>GE04</u>	Mathematical Methods	4

SEMESTER 2

Course Code	Course Name	C
<u>GE05</u>	Microeconomics-II	4
<u>GE06</u>	Macroeconomics-II	4
<u>GE07</u>	Econometric Methods	4
<u>GE08</u>	Public Economics	4

SEMESTER 3

Course Code	Course Name	C
<u>GE09</u>	Applied Econometrics	4
<u>GE10</u>	Development Economics	4
<u>GE11</u>	Games and Information	4
<u>GE:12</u>	Industrial Development and Industrial Organisation	4
<u>GE:13</u>	International Trade & Finance	4
<u>GE:14</u>	Indian Economic Development	4
<u>GE:15</u>	Agricultural Economics	4
<u>GE:P1</u>	Project Work	2

Courses listed under GE11 to GE15 are optional courses. Students need to take any two out of the four offered courses.

SEMESTER 4

Course Code	Course Name	C
<u>GE:16</u>	Institutional Economics	4
<u>GE:17</u>	Health Economics	4
<u>GE:18</u>	Financial Economics	4
<u>GE:19</u>	Environmental and Resource Economics	4
<u>GE:20</u>	Multinational Enterprises and Industrial Policy	4
<u>GE:21</u>	Agricultural Development and Policy	4
<u>GE:22</u>	Regional Economics	4
<u>GE:P2</u>	Project Work	6

Courses listed under GE16 to GE22 are optional courses. Students need to take any two out of the four offered courses.

C–Credit,

Total Credits: 68

**CURRICULUM 2011 FOR FULL-TIME MODE FOUR SEMESTERS
DETAILED SYLLABUS**

SEMESTER 1

GE:01 MICROECONOMICS I

1. Consumer Behaviour and Demand

Consumer preferences, opportunity sets, optimum choices, indirect utility demand functions, income and substitution effects, Slutsky equation, normal versus inferior goods, types of demand functions, elasticity, welfare evaluation, consumer surplus, equivalent variation and compensating variation, revealed preference (weak and strong axioms)

2. Utility Functions and Expected Utility Theorem

Expected utility function, measures of risk aversion, state-preference approach, portfolio theory and pricing of risk, present discounted value approach to investment decisions, adjustments for risk

3. Production and Cost

Production functions, types of production functions (Cobb-Douglas, CES, 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

4. 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

5. Imperfect Competition

Market failure, imperfect markets – monopolistic competition and oligopoly, sources of monopoly power, monopoly market equilibrium, price discrimination – first, second and third degree, tax-incidence

Books

- Varian, H. R., *Microeconomic Analysis*, third edition, W.W. Norton and Co., 1992
- Nicholson, W., *Microeconomic Theory: Basic Principles and Extensions*, eighth edition, South Western Thomson Learning, 2002
- Henderson, M. and R.E. Quandt, *Microeconomic Theory: Mathematical Approach*, McGraw Hill, 1980
- Pindyck, R.S. and D.L. Rubinfeld, *Microeconomics*, fifth edition, Prentice Hall, 2004

GE:02 MACROECONOMICS I

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

2. Keynesian Models

Simple Keynesian Model, assumptions, concepts of involuntary unemployment, liquidity preference, paradox of thrift, investment function, IS-LM model – two sector model, goods and money market equilibrium, multiplier, liquidity trap, complete Keynesian model – three sector model, role of government in terms of monetary and fiscal policy

3. Keynesian Models versus Classical Models

Says Law, quantity theory of money, price flexibility and full employment, Clowers and Patinkin's money demand functions, equilibrium concept in classical model, synthesis between classical models and Keynesian models, interpretation and policy analysis

4. Expectations and Macroeconomic Adjustments

Expectations formations – Adaptive and rational expectations hypothesis, partial adjustment model, Lucas critique, Phillips curve, rules versus discretion, time consistency, inflation targeting, interest rate rules, effects of spending and taxes in models with flexible and sticky prices, perverse effects of fiscal expansion

5. Macroeconomics: Open Economy Aspects

Market for foreign exchange, devaluation and depreciation, real and nominal exchange rate, factors affecting exchange rate, Mundell-Fleming model, fixed versus floating exchange rate, price adjustment, role of fiscal and monetary policies under alternative exchange rate regimes, purchasing power parity concept

Books

- Scarth, W., *Macroeconomics: An Introduction to Advanced Methods*, third edition, Thomson, 2007
- Mankiw, N. G., *Macroeconomics*, fifth edition, Worth Publishers, 2002
- Hall, E. and Taylor, J. B. *Macroeconomics*. W. W. Norton and Company, 1986
- Barro, R.J. *Macroeconomics*, Fifth edition, MIT Press 1997

GE:03 STATISTICAL METHODS

1. Probability Theory

Concept of probability, conditional probability and Bayes' theorem, random variables – discrete and continuous, density and distribution functions, joint, marginal and conditional distribution, moment generating function, law of large numbers and Central Limit theorem

2. Theory of Probability Distribution

Discrete versus continuous distribution, uniform, binomial, negative binomial, Poisson, geometric and hyper-geometric, normal, log-normal, exponential, gamma and beta distribution, characteristic function and moment generating function

3. Sampling Methods and Sampling distributions

Simple random sampling: with and without replacement, stratified random sampling, probability and non-probability sampling, statistic and sample moments, sampling distributions: Student's-t, Chi-square and F-distribution, determinants of sample size

4. Theory of Estimation

Point and interval estimation, properties of good estimators: unbiasedness, consistency, efficiency, different methods of estimation, maximum likelihood and method of moment estimation, properties of maximum likelihood and method of moment estimators, confidence interval for unknown parameters

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, Neyman-Pearson lemma, trinity of classical tests (Wald test, Lagrange multiplier, likelihood ratio), application of hypothesis testing with known and unknown variances, Chi-square test for testing independence of two-classification criteria, test for correlation

Books

- Mood, A. M., R. A. Graybill and R.C. Boes, *Introduction to the Theory of Statistics*, McGraw-Hill, 1974
- Hogg, R. and A. Craig, J., *Introduction to Mathematical Statistics*, McGraw-Hill, 1965
- Miller, I. and M. Miller, *Mathematical Statistics*, sixth edition, Prentice Hall International, 1999
- Goon Gupta and Das Gupta, *Fundamentals of Statistics*, fifth edition, The World Press, 1986

GE:04 MATHEMATICAL METHODS

1. 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

2. Differential Calculus

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

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. Dynamic Models

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, optimal control theory and Hamiltonians; present and current value Hamiltonians, applications from economics and finance

Books:

- Simon, C. and L. Blume, *Mathematics for Economists*, Norton, London, 1994
- Chiang, A. C., *Fundamental Methods of Mathematical Economics*, McGraw-Hill, 1984
- Sydsaeter, K. and P. J. Hammond, *Mathematics for Economic Analysis*, Pearson Education Asia, 1995
- Intriligator, M.D., *Mathematical Optimization and Economic Theory*, Prentice-Hall, 1971
- Roberts B. and D.L. Schultze, *Modern Mathematics and Economic Analysis*, W.W. Norton and Company, 1973

Second Semester

GE:05 MICROECONOMICS II

1. General Equilibrium

Absolute versus relative prices, perfectly competitive price and general equilibrium models – with and without production, uniqueness and determinacy, Edgeworth box, Pareto improvement and efficiency, Walrasian equilibrium, money in general equilibrium

2. 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

3. Market Failure and Public Goods

Reasons for market failure – market imperfections, public goods, asymmetric information, externality, macro-economic factors; types of public goods, theory of public goods – provision and pricing, government intervention, second-best solution, free riding, rent seeking and regulation, types of externalities – production and consumption externalities, Pigovian and Coasian solutions

4. Asymmetric Information

Moral hazard problem, adverse selection, principal agent problem, theory of lemon, credit market, implications of asymmetric information, market signaling, hidden information modeling, efficiency wage model, information and insurance

5. Game Theory

Sequential and simultaneous games, extensive forms and normal forms, dominant strategies and elimination of dominant strategies, Nash equilibrium, backward induction, sub-game perfect equilibrium, applications with oligopoly markets: Cournot, Bertrand and Stackleberg, product differentiation, cartel

Books

- Varian, H. R., *Microeconomic Analysis*, third edition, W.W. Norton and Co., 1992
- Nicholson, W., *Microeconomic Theory: Basic Principles and Extensions*, eighth edition, South Western Thomson Learning, 2002
- Henderson, M. and R.E. Quandt, *Microeconomic Theory: Mathematical Approach*, McGraw Hill, 1980
- Mas-Colell, A., M.D. Whinston, and J. Green, *Microeconomic Theory*, Oxford University Press, 1995

GE:06 MACROECONOMICS II

1. Growth Theory

Economic growth and economic development, Harrod-Domar model, Solow model, empirics of economic growth, technological progress, growth accounting and total factor productivity

2. Neoclassical Model of Economic Growth

Foundation of neoclassical growth, dynamic programming and optimum growth, the Ramsey-Cass-Koopmans model, growth with overlapping generations, applications of neoclassical growth model, social security: pay-as-you-go and unfunded, models with bequest motives

3. Endogenous Growth Theory

Basics of endogenous growth, the AK-Model, Putty-Clay model, human capital and economic growth, product variety and innovation, learning by doing, role of R&D and economic growth

4. Business Cycle and Indian Economy

Dating recession: NBER procedure, measurement, dissection and synchronization, indicators, coincident, forward and leading indicators, empirical analysis of business cycle models with special emphasis on India, macro-economic models in India and forecasting

5. Labour Markets: New Keynesian Perspective

Nominal versus real rigidities, inter-temporal substitution in labor supply, employment relationships, search theory, natural rate of unemployment, menu cost

Books

- Romer, D., *Advanced Macroeconomics*, second edition, McGraw-Hill, 2001
- Blanchard and Fischer, *Lectures on Macroeconomics*, MIT Press, 1989
- Barro, R.J., *Macroeconomics*, Fifth edition, MIT Press 1997
- Sargent, T., *Macroeconomic Theory*, Academic Press, 1987.
- Pandit, V.N. and K. Krishnamurty, *Macroeconometric Models for India*, Oxford University Press, 2005

GE:07 ECONOMETRIC METHODS

1. Regression Analysis

Linear regression model, two variables and multi variables, BLUE property, general and confidence approach to hypothesis testing, partial effects and elasticity, goodness of fit, model evaluation, matrix approach to linear regression models

2. Extension of Linear Regression Models

Consequences and detection of multicollinearity, heteroskedasticity, and autocorrelation, and remedial measures

3. Dummy Variables

Regression on qualitative and quantitative variables, dummy variable trap, structural stability of regression models, Chow test, piecewise linear regression model

4. Simultaneous Equation Models

Simultaneity bias, structural versus reduced form, identification: rank versus order condition, exact and over identifications, triangular model, methods of estimation including indirect least squares, two-stage least squares and three-stage least squares, LIML and FIML

5. Distributed Lag Models

Formation of expectations, naïve expectation versus adaptive expectations models, partial adjustment models, distributed lag models; Koyck's model, Almon lag, polynomial distributed lag models, end point restriction, rational expectations models

Books

- Wooldridge, J., *Introductory Econometrics: A Modern Approach*, South-Western, 2009
- Ramanathan, R., *Introductory Econometrics with applications*, fifth edition, Thomson Asia Private Limited, 2002
- Gujarati, N.D., *Basic Econometrics*, fourth edition, McGraw Hill, 2003
- Johnston, J., *Econometric Methods*, third edition, McGraw Hill, 1984
- Brooks, C., *Introductory Econometrics for Finance*, first edition, Cambridge University Press, 2003

GE:08 PUBLIC ECONOMICS

1. Theory of Public Good and Public Choice

Public goods and externalities, merit goods, Samuelson theory, free rider problem, Lindahl solution, Coasian theory, theory of clubs, median voter theorem, theory of rent seeking

2. Taxation: Key Concepts

Direct and indirect taxes, efficiency and equity, dead weight loss (income tax, commodity tax, wealth tax and subsidy), taxation and monopoly; measurement of income and expenditure, tax incidence: partial (income tax, input tax, commodity tax etc.), measuring progressivity of taxation, user charges

3. Theory of Taxation and Tax Reforms

Taxation and labour supply, taxation and savings, risk-taking and wealth, general equilibrium (Herberger) models of tax incidence, theory of optimal taxation, recent developments in theory of taxation, Taxation in a Federal system: assignment issues, vertical and horizontal imbalances and externalities, evolution of tax structures, tax evasion and avoidance, designing of modern tax system, reform in direct taxes, reform in indirect taxes: the value-added tax, taxation of property, Laffer curve analysis

4. Public Expenditure and the Macro-economy

Determining optimal size of government, financing of public expenditure: debt versus tax financing, impact of public expenditure on the level and composition of output, fiscal federalism: central and sub-national expenditures, Impact of government expenditure on output and employment, designing optimal government expenditure policy: issues of size and composition, designing subsidy policy: health and education expenditure policy in India

5. Fiscal Policy Issues

Budget deficit and public debt: Keynesian, neo-classical, and Ricardian equivalence, debt dynamics, interdependence of fiscal and monetary policies, theory of inter-governmental transfers, theory and policy of subsidies, Theory of fiscal federalism, issues of equity and efficiency, designing equalisation transfers, conditional and unconditional grants, fiscal federalism in India: transfer mechanisms, role of planning and finance commission, Goods and services tax in India, new direct tax code, role of central and state FRBMs

Books

- Atkinson, A. and Stiglitz, J., *Lectures in Public Economics*, McGraw Hill, 1980
- Aurbach, A. and Feldstein, M., *Handbook of Public Economics*, Vol. 3, North Holland, 2002
- Hillman A. L., *Public Finance and Public Policy*, Cambridge University Press, 2003
- Boadway, *Public Sector Economics*, Cambridge University Press, 1979
- Chelliah, R.J., *Towards Sustainable Growth: Essays in Fiscal and Financial Sector Reforms in India*, Oxford University Press, 1996
- Govinda Rao M. and T. K. Sen, *Fiscal Federalism in India: Theory and Practice*, 1996

- Srivastava, D. K. (Ed.) *Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission*, NIPFP and Har-Anand, 2001
- Shome, P. (Ed.) *Handbook of Indirect Taxes*, IMF Publications, 1996
- Srivastava, D.K., T.K. Sen et al. *Government Subsidies in India*, NIPFP, 1997

Third Semester

GE:09 APPLIED ECONOMETRICS

1. Stationary Time Series

Autocorrelation and partial autocorrelation, auto regressive and moving average models, conditions for stationary and invertible process, box-jenkins approach, forecasting, permanent versus temporary abruption, simple exponential smoothing and choice of parameter, seasonal models with trend, seasonal decomposition

2. Nonstationary Time Series and Volatility

Integrated process and random walk, unit root, testing for unit root, introduction to cointegration, Engle Granger method and Johansen test, error correction model, vector auto regressive model, impulse response function, variance decomposition, forecasting; volatility clustering, leverage effect, ARCH model, GARCH model and its various extension, multivariate GARCH modelling, forecasting

3. Limited Dependent Variable Models

Introduction to binary variables, limitation of LPM, logistic curve, Probit and Logit models, predicted probabilities, censored versus truncation, TOBIT model, ordinal models, multinomial models, and nested models

4. Panel data Models

Introduction to panel data, pooled model, within and between estimators, fixed effects, random effects, Hausman test, one way and two way model, random coefficients, dynamic panel data models, difference in difference methodology and dynamic panel data, generalised method of moments estimator

5. Production Function and Demand Estimation

Relationship among production, cost and profit functions, specification, estimation and applications; frontier production functions: DEA and SFA, measurement of multifactor productivity, Engel curves, complete demand models; general and particular restrictions on demand functions, estimation and applications of complete demand systems

Books

- Hamilton, J. D., *Time Series Analysis*, Princeton University Press, 1994
- Enders, W., *Applied Econometric Time Series*, second edition, John Wiley and Sons, 2006
- Wooldridge, J. M., *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2001
- Greene, W.H. *Econometric Analysis*, fifth edition, Pearson Education Inc., 2003
- Coelli, T., D.S. Prasada Rao, and G. E. Battese, *An Introduction to Efficiency and Productivity Analysis*, Kluwer Academic Publishers, 1997

GE:10 DEVELOPMENT ECONOMICS

1. Growth, Development and Capacity

Characteristics of underdeveloped countries, poverty and inequality, measurement and correlates, the capacity curve, income distribution and nutrition

2. Market failures, Institutions and Factor Markets

Theories of growth: the two-sector model, market failures and institutions, history and coordination failure, markets for land and capital, competing models of share cropping, land reform

3. Population and Development

Malthusian theory, Economics of child labour, labour markets, labour migration and its impact

4. Credit Markets: Formal and Informal

Demand for and supply of rural credits, information asymmetries, credit constraints, intermediaries in the credit market, credit elasticity and microfinance, consumption smoothing, inter-firm relationships and informal credit, ethnicity and credit

5. Trade, Aid and Growth

Gains from trade in Solow model, East Asian growth miracle; Learning by trading and endogenous growth; trade and technological progress, Saving constraint, foreign exchange constraint and aid: Dual gap model of aid

Books

- Ray, D., *Development Economics*, Princeton University Press, 1998
- Basu, K., *Analytical Development Economics*, MIT Press, 2003
- Bardhan, P. and C. Udry, *Development Microeconomics*, Oxford University Press, 1999
- Agenor, P-R., and P. J. Montiel, *Development Macroeconomics*, Princeton University Press, 2008
- Hendrik Van Den Berg and Joshua J Lewer: *International Trade and Economic Growth* (Prentice Hall of India), Chapter 3: Sections 3.5, 3.6; Chapter 4, Section 4.5; Chapter 6.

GE:11 GAMES AND INFORMATION

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

Books

- 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
- Osborne, M. J. and A. Rubinstein, *A Course in Game Theory*, MIT Press, 1994
- Muthoo, A., *Bargaining Theory with Applications*, Cambridge University Press, 1999

GE:12 INDUSTRIAL DEVELOPMENT AND INDUSTRIAL ORGANISATION

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

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, mergers and acquisitions

4. Determinants of R&D

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

5. Information Technology Industry

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

Books

- Tirole, J., *The Theory of Industrial Organization*, MIT Press, 1988
- Shy, Oz., *Industrial Organization: Theory and Applications*, MIT Press, 1995
- Martin, S., *Industrial Economics- Economic Analysis and Public Policy*, Englewood Cliffs, New Jersey: Prentice Hall, 1993

GE:13 INTERNATIONAL TRADE & FINANCE

1. Introduction

Production function, cost function, comparative advantage, Ricardian trade model, gains from trade with homogenous and heterogenous agents, trade and growth, immiserising growth

2. General Equilibrium Trade Theory

Heckscher-Ohlin model, Stolper-Samuelson, Rybcznski theorem and factor-price equalization theorem, Leontief paradox, empirical validity, Specific-factor model as a short-run approximation

3. Trade Policy under Perfect Competition

Tariffs and welfare for small and large countries; tariffs versus quantitative restrictions; the concept of the optimum tariff; empirical modelling of trade policy; domestic factor distortions and the effects of trade policy, multilateral trade agreements and political economy

4. Trade under Imperfect Competition

Monopolistic competition models of trade, Love-for-Variety preferences, gains from trade, tariff versus quota under monopoly, strategic trade policy: Cournot and Bertrand competition, voluntary import expansion and export restrictions

5. Accounting, Income Determination and Exchange Rates

Balance of payment accounts; national income accounting in an open economy; monetary account; Determination of national Income, multiplier analysis, the transfer problem, introduction of foreign country and repercussion effect, Fixed and Flexible Exchange rates: Adjustments, Demand & Supply of foreign exchange, Effects of exchange rate changes on domestic prices and terms of trade, Marshall-Lerner condition, J-curve effect

Books

- Feenstra. R., *Advanced International Trade: Theory and Evidence*, Princeton University Press, 2009
- Bhagwati, J., A. Panagariya, and T. Srinivasan. *Lectures on International Trade* (2nd edition), MIT Press, 1998
- Van Marrewijk, C., *International Economics*, Oxford University Press, 2007
- Caves, R, R. Jones, and J. Frankel, *World Trade and Payments: an Introduction*, Addison-Wesley, 1999

GE:14 INDIAN ECONOMIC DEVELOPMENT

1. Development Phases and Indian Economy

State of the economy at the beginning of the fifties - policy of planned development – growth and structural change till the 'eighties – evolution of controls and obstacles to fast growth – new economic policy – performance of the economy since 1991 – major aspects of transformation

2. Agricultural and Rural Sector

Review of agricultural growth – land reforms – agricultural research and green revolution, policy initiatives, diversification and exports – impact of liberalisation and WTO, investment in agriculture and irrigation – water policy – other strategies

3. Industrial Service and Infrastructure Sectors

The growth and maturing of 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 partial privatisation – impact of WTO and trade liberalisation – state of infrastructure – reforms: restructuring, pricing and regulation – promoting investment in infrastructure – public – private partnership

4. Social Development

Human development indicators: review of change since early fifties – wide regional variations – measurement of poverty – extent of reduction in poverty – demographic transition – regional differences – health services, health policy; education policy; financing of health and education – employment and unemployment trends; employment guarantee scheme – long-term policy to reduce poverty and unemployment

5. Macroeconomic Policy and External Environment

Savings and capital formation: growth trends; monetary and fiscal policy management; external sector – trade policy, FDI, exchange rate management: investment climate – competition policy – transparency – human development – strategies for sustainable development at a high rate

Books

- Kapila, U. (ed.), *Indian Economy since Independence*, Academic Foundation, 2001
- Jalan, B. (ed.), *The Indian Economy: Problems and Prospects*, Penguin Books, 1992
- Rangarajan, C., *Select Essays on Indian Economy, Vol.1&2*, Academic Foundation, 2004
- Krueger A. (ed.), *Economic Policy Reforms and the Indian Economy*, Oxford University Press, 2003

GE:15 AGRICULTURAL ECONOMICS

1. Production Economics and Farm Management

Production Process; Economic principles of Farm Management; Relationship between Farm management and production economics; Resource management and allocation; basic concepts-marginal returns, equi—marginal return, yield gap, returns to scale, economics of scale, technology and input use; law of comparative advantages

2. Farm Resources and Optimization

Factor, Factor-product, product-product relations; Estimation of different forms of production functions using farm level data; Estimation of iso-quant and least cost combinations of crops; production in dynamic setting policy impact on production - cost concepts cost of cultivation-principal crops, production crops

3. Risk and Uncertainty in Agriculture

Decision theory and elements of risk and uncertainty in agriculture; measurement of risk and adjustment to risk; types of risk - estimation of risk - management response to risk – linear programming and risk programming models.

4. Farm Efficiency and Budgeting

Farm efficiency – economic, allocative and technical efficiency measures; Farm budgeting; balance sheet -income statement - farm records - farm planning - partial budgeting, whole farm budgeting, linear programming, investment analysis-returns to investment, financial evaluation measures-benefit cost ratio; internal rate of return; optimum farm plan; sensitivity analysis - use of network technique - project monitoring and evaluation.

5. Economics of Natural Resources

Natural resources : Renewable and non-renewable - land, land use pattern - land degradation - land use planning - optimal management of land, water, forests and fisheries - energy management - common property resources -investment decisions related to resource development - relationship between conservation, extraction and exploitation of resources - dynamics of resource use planning for economic growth and sustainability - resource mapping: GIS and remote sensing data - natural resource use policies, incentives, and programmes.

References

1. Acharya, S.S. and N.L. Agarwal, Agricultural Price Analysis and Policy, (New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.), 1994.
2. Beattie, Bruce R. and C. Robert Taylor, The Economics of Production, (New York: John Wiley and Sons), 1985.
3. Doll, John P. and Frank Orazem, Production Economics - Theory and Applications, (New York: John Wiley and Sons), 1978.
4. Gulati, Ashok, , Agricultural Price Policy in India - An Econometric Approach, (New Delhi: Concept Publishing Company), 1987.
5. Heady, Earl O., and John L. Dillon, Agricultural Production Functions" (Ames : Iowa State University Press), 1961
6. Heady, Earl O., Economics of Agricultural Production and Use" (Prentice Hall), 1952.
7. Soni, R.N., Leading Issues in Agricultural Economics (Vishal Publishing House), 2008.

Fourth Semester

GE:16 INSTITUTIONAL ECONOMICS

1. Unions and Economic Growth

What drives economic growth - natural endowments, technology or institutions?- the relative significance of these factors and their inter-linkages for economic development Institutional analysis in the works of classical economists - "old" institutional economics (Veblen and Commons) - introduction to "new" institutional economics

2. Informal Norms and Formal Laws

Role of traditional/social norms in shaping economic behavior Law and markets - property rights and institutional change - the 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

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 the tradition of the neoclassical theory of the State - role of political institutions - political markets

5. Institutional Change

Why do electric industries continue to differ - regulation in a dynamic setting - regulating natural resources: the evolution of perverse property rights The politics of institutional change in a representative democracy - state failure in weak states - rational individuals versus social dilemmas

References

1. Malcolm Rutherford - Institutions in Economics: the Old and the New Institutionalism, Cambridge University Press, 1996.
2. Ronald H Coase - The Firm, the Market and the Law, University of Chicago Press, 1998.
3. Douglass C North - Institutions, Institutional Change and Economic Performance, Cambridge University Press, 1990
4. Thrainn Eggertsson - Economic Behavior and Institutions, Cambridge University Press, 1990

GE:17 HEALTH ECONOMICS

1. Introduction, Demand for Health and Health Care

Welfare economics of medical care, production of health, demand for health and health care, equity, efficiency and the need, link between development and health, investing in health for economic development, 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. Health Care in India

Various health indicators and its recent trend, health care expenditures, target of health care and achievements, different options for financing healthcare, taxation, user fees, health insurance, role of urban and rural local bodies, role of non-governmental organizations, economic impact of HIV/AIDS in India and gender issues

Books

- Folland, S., A.C. Goodman and M. Stano, *Economics of Health and Health Care*, fifth edition, Pearson Prentice Hall, 2006
- Culyer, A. J. and J.P. Newhouse (eds.), *Handbook of Health Economics*, Volumes 1A & B, North-Holland, 2000
- Zweifel, P., *Health Economics*, Oxford University Press, 1997
- CII-Mckinsey Report, *Healthcare in India: The Road Ahead*, 2004.

GE:18 FINANCIAL ECONOMICS

1. Introduction to Financial Markets

Capital markets, consumption and investments with and without capital markets, market places and transaction costs and the breakdown of separation; Fisher separation theorem; the agency problem; maximization of shareholder's wealth

2. Theory of Uncertainty

Axioms of choice under uncertainty; utility functions; expected utility theorem; certainty equivalence, measures of risk-absolute and relative risk aversions; stochastic dominance-first order, second order and third order; measures of investment risk-variance of return, semi-variance of return, shortfall probabilities,

3. Mean-Variance Portfolio Theory

Measuring portfolio return and risks, effect of diversification, minimum variance portfolio, perfectly correlated assets, minimum variance opportunity set, optimal portfolio choice; mean-variance frontier of risky and risk-free asset, portfolio weights

4. Index Models, CAPM & APT

Models of asset returns, multi index models, single index model, systematic and specific risk, equilibrium models-capital asset pricing model, capital market line, security market line, estimation of beta,; arbitrage pricing theory

5. Fixed Income Securities

Bond prices, spot prices, discount factors, and arbitrage, forward rates and yield-to-maturity, Price sensitivity, Hedging

Books

- Copeland, T. E. and J. F. Weston, *Financial Theory and Corporate Policy*, Addison Wesley, 1992
- Brealey, R. and S. Myers, *Principles of Corporate Finance*, fifth edition, New York, McGraw Hill, 1997.
- Elton, E.J and M.J. Gruber, *Modern Portfolio Theory & Investment Analysis*, (fourth edition) John Wiley & Sons 1991.
- Houthakker, H.S. and P.J. Williamson, *Economics of Financial Markets*, Oxford University Press, 1996

GE:19 ENVIRONMENTAL AND RESOURCE ECONOMICS

1. Issues in environmental economics

An introduction to environmental economics, economy-environment interaction, market failure, property rights, open access resources, collective action, environment and development trade-off – environmental Kuznet's curve

2. Economics of Exhaustible and Renewable Resources

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

3. Environmental Valuation

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

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

Books

- Kolstad, C., *Environmental Economics*, Oxford University Press, 2000
- Baumol, W.J, and W.E. Oates, *The Theory of Environmental Policy*, Cambridge University Press, 1988
- Freeman, A. M., *The Measurement of Environmental and Resource Values*, 2nd Edition, Resources for the Future, 2003
- Hanley, N., J.F. Shogren, and B. White, *Environmental Economics: In Theory and Practice*, Macmillan India Ltd., 1997

GE:20 MULTINATIONAL ENTERPRISES AND INDUSTRIAL POLICY

1. Multinational Enterprises and Determinants of Foreign Direct Investments

Choice between exports, licensing and FDI, market seeking FDI and efficiency seeking FDI, ownership – location – internalisation advantages paradigm, transactions costs and internalisation advantages, inter-industry studies, inter-country studies, WTO regime and FDI

2. MNEs and Productivity and Efficiency Spillovers

Impact of FDI on host country firms, productivity spillovers, efficiency spillovers, heterogeneity of firms and spillovers, changing policy regimes and spillovers

3. Technology, MNE and Exports

Neoclassical framework: country level studies – countries export and it is reflected in country resource endowments, assumptions regarding knowledge and technology

4. Neo-Schumpeterian Theories of Trade

Firm level studies, heterogeneity of firms and proprietary advantages, intra-industry differences, market segmentation, strategic groups within industry and mobility barriers, MNEs and others, firm specific resources

5. FDI in R&D

Global nature of FDI, emergence of new centres and clusters of knowledge, knowledge based wealth creation, effect of FDI in R&D in home country: loss of technological capacity, role of patents and patents citations, India's policies to attract FDI in R&D

Books

- Tirole, J., *The Theory of Industrial Organization*, MIT Press, 1988
- Shy, Oz., *Industrial Organization: Theory and Applications*, MIT Press, 1995
- Martin, S., *Industrial Economics- Economic Analysis and Public Policy*, Englewood Cliffs, New Jersey: Prentice Hall, 1993

GE21: AGRICULTURAL DEVELOPMENT AND POLICY

1. Indian Agriculture and Policies

Land use pattern, crop intensities, irrigated and un irrigated crops; major principal crops; farm size and factor productivity; inputs-labor, fertilizer, water, seedling; agriculture growth and diversification-horticulture and value added crops; geographical division; subsistence and commercial agriculture; modern methods of cultivation; biotechnology; green house techniques; agriculture policy and programmes in India; central schemes; agricultural subsidies; sources of irrigation; water resource management in India; role of agro industries; credit policy and price policy.

2. Agricultural Marketing and Pricing

Problems and Remedies of Agricultural Marketing, Marketing model Act 2007; Forward marketing-merits and demerits; pricing concepts; price support programs in India; pricing policy and puffer stock policies; dual pricing policy; input pricing for sustainability; Brands choice criteria's competitions cause base, managing price change, contract farming, malls, Rayat Bazaars; Market laid price changes; E marketing.

3. Agriculture and WTO Issues

International trade and agriculture development; Agriculture Imports and Exports-Importance and Scope; WTO issues; Advantage and disadvantages in relation to India Agriculture; agriculture patents; Terms of Trade in Agriculture

4. Food Security

Food production and import; Access to food-caloric consumption; food consumption and purchasing power; food affordability-food consumption pattern; public distribution system and other food based programs; self sufficiency in food production and availability; food management under disaster conditions.

5. Tamil Nadu: Agriculture and Water Management

Tamil Nadu Agriculture key issues-major crops; productivity; horticulture; yield gap; agricultural marketing; water management and agriculture schemes in Tamil Nadu; price support programmes - agricultural subsidies; sources of agricultural finance - commercial banks and co-operative banks; performance of agricultural credit programs; WTO issues. Water use in Agriculture; sources of water; irrigation financing in Tamil Nadu; Land: Key issues-distribution, use pattern; wasteland; soil conservation; agricultural marketing in Tamil Nadu and Export zones.

References

1. Hanumantha Rao, C. H., Agriculture, Food Security, Poverty and Environment: *Essays on Post-Reform India*, Oxford University Press, New Delhi, 2005.
2. Kalirajan, K.P., G. Mythili and U.Sankar, Accelerating Growth through Globalization of Indian Agriculture, Macmillan, 2001.
3. MSSRF and UN World Food Program, Food Insecurity atlas of Rural India, 2001
4. MSSRF and UN World Food Program, Food insecurity atlas of Urban India, 2002
5. MSSRF and UN World Food Program, Sustainability of Food Security, 2004.
6. Planning Commission, Tamil Nadu State Development Report (Academic Foundation), 2005.

7. Singhal, A.K., Agricultural Marketing in India, (New Delhi: Annual Publication), 1986.

REGIONAL ECONOMICS

1. Introduction:

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.

2. Models of Regional Growth: Export Base Models, Neoclassical Models, Cumulative Causation Models, Econometric Models, Input Output Models, Multi sector Models and Regional Development Planning, elements in a Spatial Growth Theory: Locational constants, Measurements of Agglomeration economies, and Location Preferences, Social and Political factors in regional growth.

3. Factor Mobility in Regional Economy:

Inter-regional Migration, Mobility of Capital, Spatial diffusion of innovation and technical progress, the mobility of Managerial talent, 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.

5. Regional Economics of Southern States of India: Regional dispersions in Southern States of India and Tamil Nadu, Intra-regional concentration, Urban Decentralization in the Southern States, Regional trade and factor migration across the State.

References

1. Harry W Richardson- Elements of Regional Economics, Penguin Modern Economic Text
2. Harry W Richardson (1969), *Regional Economics Location Theory, urban structure and regional change*, Weidenfeld and Nicolson, 5 Winsley Street London W1
3. Harry W Richardson (1973), *Regional Growth Theory*, Macmillan
4. Harvey Armstrong and Jim Taylor (1978), *Regional Economic Policy and its Analysis*, First Edition, Philip Allan Publishers Limited, Oxford OX5 4SE

GEP Project Work

(2+6= 8 Credits)

Students need a project work in the third semester (2 credits) and in the fourth semester (6 credits).

Courses will be further developed or modified under the guidance of an Advisory Committee.