M.A. APPLIED ECONOMICS

(New Syllabus for the University Department applicable from the academic year 2011-2012 onwards)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Hard/Soft</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER – I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 411</td>
<td>Microeconomics – I</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 412</td>
<td>Macroeconomics – I</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 413</td>
<td>Mathematical Economics</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 414</td>
<td>Statistical Methods</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 415</td>
<td>Economics of Growth and Development</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 416</td>
<td>Demography</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 417</td>
<td>Economics of Education</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>SEMESTER – II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 421</td>
<td>Microeconomics – II</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 422</td>
<td>Macroeconomics – II</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 423</td>
<td>Econometric Methods I</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 424</td>
<td>Public Economics</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 425</td>
<td>International Trade</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 426</td>
<td>Economics of Microfinance</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 427</td>
<td>Financial Economics</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 428</td>
<td>Industrial Economics</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>SEMESTER – III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 511</td>
<td>International Finance</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 512</td>
<td>Indian Public Finance</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 513</td>
<td>Econometric Methods – II</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 514</td>
<td>Environmental Economics</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 515</td>
<td>Economics of Money and Banking</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 516</td>
<td>Optimization Techniques</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 517</td>
<td>Islamic Economics</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>SEMESTER – IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 521</td>
<td>Research Methodology</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 522</td>
<td>Indian Economy: Issues and Policy</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>ECON 523</td>
<td>Project and Viva</td>
<td>H</td>
<td>4 + 2</td>
</tr>
<tr>
<td>ECON 524</td>
<td>Applied Econometrics</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 525</td>
<td>Health Economics</td>
<td>S</td>
<td>3</td>
</tr>
<tr>
<td>ECON 526</td>
<td>Financial Econometrics</td>
<td>S</td>
<td>3</td>
</tr>
</tbody>
</table>

*Total number of credits for Hard core papers is 70; hence a minimum of 20 credits must be secured by the students from Soft core papers for the award of the degree.
M.A. APPLIED ECONOMICS  
Semester I

ECON 411  MICROECONOMICS-I  4 CREDITS

Unit I: Advances in Demand Theory
Revealed Preference Theory and derivation of demand and indifference curve-Revision of Demand theory by Hicks-Logical Ordering-Recent developments in demand theory-Pragmatic Approach (The Constant Elasticity of Demand function, The Dynamic Demand function, Lagged Adjustment in interrelated markets)- The Linear Expenditure systems, the Indirect utility function, the Expenditure function, Modern utility analysis of Choices involving risk or uncertainty- Bernoulli, Neumann Morgenstern, Friedman savage and Markowitz Hypotheses- Lancaster’s Demand theory-Bandwagon effect-Veblen effect – Cobweb theorem.

Unit II: Advances in Production Theory
Relation between returns to scale and returns to a factor- multi product firm- production function: Cobb Douglas, CES, VES and Translog production function- Production function Vs production process-Technical progress and production function.

Unit III: Advances in Theory of Costs and Optimization
Traditional and modern theories of Costs-Empirical evidence- Derivation of Long run total cost curve from production function-Economies of Scale and Long Run Average Cost Curves.

Unit IV: Price and Output Determination
Marginal analysis as an approach to price and output determination: Perfect competition- short run and long run equilibrium of the firm and industry- Composite demand and composite supply, Monopoly –short run and long run equilibrium, price discrimination – Degree of monopoly power-monopoly control and regulation; Bilateral monopoly; Monopolistic competition-General and chamberlain approaches to equilibrium, equilibrium of the firm and group with product differentiation; Oligopoly-non collusive ( Cournot, Kinked demand curve and Stackelberg’s solution) and collusive (cartels and mergers, price leadership and basic point price system) models; workable competition.

Unit V: Alternative methods of Pricing and Optimization
Pricing principle – Average or full cost pricing- Mark up pricing- Limit pricing theory- Bains version- silos – Labini model of limit pricing- Public Utility Pricing.

Readings
M.A. APPLIED ECONOMICS
Semester I

ECON 412       MACROECONOMICS-I        4 CREDITS

**Unit I: Measuring Key Macroeconomic Variables**

**Unit II: Theories of Consumption**

**Unit III: Theories of Investment**

**Unit IV: Theories of Money Demand**

**Unit V: Theories of Money Supply**

**Unit VI: The IS – LM Model**

**Readings**
2. Errol D’Souza (2008), Macroeconomics, Pearson.
M.A. APPLIED ECONOMICS
Semester I

ECON 413  MATHEMATICAL ECONOMICS  4 CREDITS

Unit I: Basic Calculus

Unit II: Linear Algebra
Determinants and their basic properties – Solution of simultaneous equations through Cramer’s rule – Concept of matrix – their types, simple operations on matrices, matrix inversion and rank of a matrix – Concept of vector – its properties – Matrices and vectors – Eigen roots and Eigen vectors – Introduction to input-output analysis.

Unit III: Differential Equations

Unit IV: Difference Equations

Unit V: Linear Programming

Readings
2 Yamane, Taro (1975), Mathematics for Economists, PHI, New Delhi.
ECON 414  STATISTICAL METHODS  4 CREDITS

Unit I: Sampling Theory
Population and sample- Parameter and statistic-(Census method and sampling method of Data collection); Objects of Sampling- Methods of Sampling- Random and Non-Random; Techniques of sampling under each method- Sampling error and Non-Sampling error-Sampling distribution of a Statistic-Law of Statistical Regularity-Law of Inertia of Large Numbers-Central limit theorem

Unit II: Mathematical Expectation

Unit III: Theory of Estimation
Meaning and concept of an Estimation-Concept of an Estimator-Types of Estimation-Point and Interval Estimation- Desirable properties of an Estimator- Standard error of Estimator- Confidence limits for a population parameter

Unit IV: Theoretical Distribution
Definition-types of theoretical distribution-Discrete theoretical distribution-Binomial Distribution-Poisson distribution; Continuous theoretical Distribution-Normal Distribution-Standard Normal Variate -Z distribution; Other Theoretical Distribution-Students “t” Distribution-Chi-Square (χ²) Distribution- F-Distribution

Unit V: Statistical Inference
Formulation of Statistical Hypothesis; Testing of Hypothesis-Null Hypothesis and Alternative Hypothesis-Stages in Hypothesis testing-Types of Error in Hypothesis testing- Type I error and Type II error-Level of Significance and confidence coefficient-Critical region or rejection region; Two tailed test and one-Tailed Test; Computation of Test statistic and significance Test-small sample test-’t’ Test- χ² test- F test; Large sample test- Z test; Test of Significance concerning correlation coefficient; Power of Test; Analysis of Variance

Readings
ECON 415      ECONOMICS OF GROWTH AND DEVELOPMENT      4 CREDITS

Unit I: Basics in Economic Growth
Modern economic growth – basic features, trends and patterns- relevance of historical experience to contemporary Under Developed countries- limited relevance- factors for – differing initial conditions- role of international migration and international trade.

Unit II: Growth and Development

Unit III: Growth Theories - I
Approach to the study of economic development – linear stage theory, structural change models, Neo Marxian dependency approach, false paradigm model, dualistic approach, neo-liberal free market approach, endogenous growth theory.

Unit IV: Growth Theories - II

Unit V: Development Policies
Development and environment: Market based approach to environmental analysis, Harvesting of renewable nonrenewable resources, Measuring environmental values, economic growth and environment – sustainable development- policy measures. Ill effects- rain forest destruction, greenhouse gases, global warming, climate change- policy- policy options in developing and underdeveloped countries.

Readings
2. Simon Kuznets, (1966), Economic Growth, Rate structure and Spread, Yale University Press.
5. Amartya Kumar Sen, Growth Economics, Penguin Harmondsworth

. 
M.A. APPLIED ECONOMICS
Semester I

ECON416 DEMOGRAPHY 3 CREDITS

Unit I: Introduction to Demography
Meaning and scope of demography; Components of population growth and their inter-dependence; Theories of population — Malthus; Optimum theory of population; Theory of demographic transition

Unit II: Population Change: Determinants and Techniques of Analysis
Determinants – Fertility, Nuptiality, Migration and Mortality; Techniques - Crude birth and death rates, age specific birth and death rates, standardized birth and death rates; Fertility - Total fertility rate, gross reproduction rates, net reproduction rate; Factors affecting fertility — Socio-economic factors, economic status, health, education, nutrition, caste, religion, race, region, rural-urban and status of husband and wife; Nuptiality — Concept and analysis of marital status, single mean age at marriage; Mortality — Mortality at birth and infant mortality rate; Sex and age pattern of mortality; Factors for decline in mortality in recent past; Life table — Construction and uses; Migration – Net migration rate

Unit III: Population: Structure and projection
Population trends in the twentieth century; Population explosion — Threatened or real, distant or imminent; International aspects of population growth and distribution; Pattern of age and sex structure in more developed and less developed countries; Determinants of age and sex structure; Demographic effects of sex and age structure, economic and social implications, Demographic Dividend and Age pyramids; concept of stationary, stable and quasi - stationary population; Projections — Uses and techniques – Cohort Component Projection technique.

Unit IV: Source of Demographic data in India
Study of census in India— History of Census in India; Nature of information collected in 2001 and 2011 census in India; National Family Health Survey (NFHS) I, II and III and District Level Household Survey(DLHS); their relative merits and demerits.

Unit V: Population and Development with reference to India
Population policy in India — the shift in policy from population control to family welfare, to women empowerment; Population, economy and environment linkages – population and human development issues – Population and Millennium Development Goals (MDG); education and fertility, Migration and urbanization – trends, pattern and consequences; population aging – Causes, trends, issues and consequences; Skewed sex ratio in India.

Readings
## ECON417  ECONOMICS OF EDUCATION  3 CREDITS

<table>
<thead>
<tr>
<th>Unit I: Theory of Human Capital Formation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit II: Education and Human Capital Formation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education as an economic good, consumption and investment aspects of education - private and social benefit of education – contribution of education to economic development – the methods of schults and education and human values.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit III: Demand For Education</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit IV: Supply of Educational Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components of educational supply – private and public facilities – pattern of organization and operation of education industry – organization and operation of different limitations of production function analysis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit V: Financing of Education</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit VI: Education and Manpower Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of educational and manpower planning in development and less – development countries – the operation of markets for unskilled and skilled labour – approaches to educational and manpower planning cost benefit approach – O.E.C.D. approach – M.R.P. approach – educational planning in E.D.C’s – educational planning in India.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit VII: Migration and On-the-Job Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration and human capital formation – labour market and migration in India – on-the-job training and skill formation.</td>
</tr>
</tbody>
</table>

### Readings

1. Mark Blaug,(2000) Economics of Education
5. Tilak( 2006), Economics of Inequality in Education
6. Sudha V.Rao (2003), Education and Rural Development
M.A. APPLIED ECONOMICS
Semester II

ECON 421 MICROECONOMICS - II 4 CREDITS

Unit I: Alternative Theories of the Firm
Critical evaluation of marginal analysis; Baumol’s sales revenue maximization model; Williamson’s model of managerial discretion; Marris model of managerial enterprise; Behavioural model of Cyert and March.

Unit II: Advances in Distribution Theory

Unit III: Welfare Economics

Unit IV: General Equilibrium Theories
Partial and general equilibrium; Walrasian general equilibrium - stability and uniqueness of equilibrium – Two sector model - Stopler Samuelson theorem - Rybczynski theorem.

Unit V: Economics of Uncertainty
Individual behaviour towards risk, expected utility and certainty equivalence approaches, risk and risk aversion- sensitivity analysis, the economics of insurance - risk pooling and risk spreading - Mean-variance analysis and portfolio selection - The economics of search - Adaptive search - the efficient market hypothesis, stochastic models of inventory demand - search and transaction cost. Economics of information.

Readings
Unit I: The Labour Market

Unit II: Inflation and Unemployment

Unit III: Theories of Business Cycles

Unit IV: The Post Keynesian Macroeconomics

Unit V: Recent Advancements in Macroeconomic Policies

Readings
2. Errol D’Souza (2008), Macroeconomics, Pearson.
# ECON 423  ECONOMETRIC METHODS - I  4 CREDITS

## Unit I: Basic Regression Analysis

## Unit II: Multiple Regression Models
Model Specification, Interpretation Multiple Regression Equation, Testing Hypothesis: Individual Partial Regression Coefficient and Overall Significance, Goodness of Fit – F-tests, $R^2$ and Adjusted $R^2$.

## Unit III: Relaxing Select CLRM Assumptions

## Unit IV: Single Equation Model: Forecasting and Causality
Concepts of Forecasting: Exante-Expost, Conditional-Unconditional – Mean Prediction and Individual Prediction, Errors in Prediction, Forecasting with Serially Correlated Errors Tests for causality

## Unit V: Dummy Variable Models
Qualitative Independent Variables: Qualitative Variables with Two Categories and Many Categories, Estimating Seasonal Effects, Testing for Structural Change, Piecewise Linear Regression, Qualitative and Limited Dependent Variable: Binary Choice Model, Probit Model, Logit Model, Limited Dependent Variable

### Readings
# ECON 424  PUBLIC ECONOMICS  4 CREDITS

<table>
<thead>
<tr>
<th>Unit I: Theory of Public Goods</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit II: Public Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems of preference revelation and aggregation of preferences; Voting systems; Arrow impossibility theorem; An economic theory of democracy; Politico-eco-bureaucracy; Rent seeking and directly unproductive profit seeking (DUP) activities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit III: Rationale for Public Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand revealing schemes for public goods - Contributions of Clarks, Groves and Leyard, Tiebout model, theory of club goods; Stabilization Policy - Keynesian case for stabilization policy; Uncertainty and expectations; Failure of inter-temporal markets; Liquidity preference; Social goals; Poverty alleviation; Provision of infrastructural facilities, removing distributional inequalities and regional imbalances.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit IV: Taxation and Public Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade off between equity and efficiency in Taxation; Theory of measurement of dead weight losses; The problem of double taxation. Classical view of public debt; Compensatory aspect of debt policy; Burden of public debt; Sources of public debt.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit V: Fiscal Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives of fiscal policy - full employment, anti-inflation, economic growth, redistribution of income and wealth; Interdependence of fiscal and monetary policies; Budgetary deficits and its implications; Fiscal policy for stabilization - automatic vs. discretionary stabilization; Alternative measures of resource mobilization and their impact on growth, distribution and prices; Balanced budget multiplier.</td>
</tr>
</tbody>
</table>

## Readings
### Unit I: Theories of International Trade
Factor endowments and Heckscher-Ohlin theorem; Factor price equalization theorem; Empirical verifications of Heckscher-Ohlin theory - Leontief paradox; Factor intensity reversal; Stolper-Samuelson theorem; Technological gap model; Product cycle model; Economies of scale and international trade.

### Unit II: Alternative Theories of Gains from Trade
International trade under imperfect competitions—concepts and measurement of intra-industry trade; Neo Hotelling model; Neo Chamberlain models; Strategic trade theory; Measurement of gains from trade and their distribution; Concepts of terms of trade; Offer curves and equilibrium terms of trade; Terms of trade and economic growth.

### Unit III: Imperfect Competition and Trade
Testing theories of inter-industry trade, introduction to the concept of intra-industry trade; imperfect competition, technology-based theories of trade; skill-based and demand-based product differentiation and intra-industry trade; testing theories of intra-industry trade.

### Unit IV: Growth Effects and Theories of Protection
Effects of growth on trade; Rybczynski Theorem; Immiserising growth; Technical progress and economic growth; Tariff—partial and general equilibrium effects analysis; Optimum tariff; Tariff and terms of trade; Non-Tariff Barriers; Theory of dumping; Anti-dumping measures.

### Unit V: Economic Integration and Global Trade
The theory of customs unions and welfare effects; actual experiences of economic integration of nations. Multilateral Trade Negotiation, The GATT Rounds, WTO & the Indian Position.

### Readings
Unit I: Development of Microfinance products

Unit II: Microfinance an Instrument for Women Empowerment
Concept of empowerment of women– Components of women empowerment – Constraints faced by women for empowerment – Role of Micro Finance in economic development of women – Empowerment of women and Micro - business.

Unit III: An Assessment of Innovative Initiatives of NGOs in Entrepreneurship
Role and strategy of NGO – Functions of NGOs – NGOs and their role in poverty alleviation – NGOs in Entrepreneurship Development - Strengths and weakness of NGOs – Women and Micro Finance – Gender issue in micro finance – Rationale behind SHG and need to institutionalization – Genesis of rural credit system – Genesis of SHG.

Unit IV: Self Help Group and Rural Development Approach

Unit V: Progress under the SHG bank –Linkage Program
SHG - Banking programme an introduction - NABARD as implementing agency in India and the strategy adopted – The demand side of Micro – finance – the supply side of micro finance – the MFI or the Non Government Micro finance sector (NGMS) – Achievements in SHGs through SHG – banking- Impact of the formal banking set – up – Why could SHG – banking achieve such good results – Risk in SHG – Banking as implemented by the formal banking system

Readings
5. Praveen Sharma, Indian Economic Association, Anil Kumar Thakur (2009), Micro-Credit and Rural Development
Unit I: Expected Utility Theory and Choice under Uncertainty.

Unit II: Risk, Asset Pricing Models and Term Structure of Interest Rate

Unit III: Models of Securities Prices in Financial Markets

Unit IV: Efficiency & Volatility in Financial Markets

Unit V: Option-Features and Price Bounds
Basic taxonomy of option analysis – Payoff structure of an option – Price Bounds for Options (depending on their type, the time left to expiry and their strike price) – put – call parity relationship - Risk Neutral pricing – basic notions of Binomial – Multinomial – Black-Scholes Pricing – What the hedge ratio (‘Delta’) – Gamma – Vega Theta – Rho means.

Readings
1. David A. Dubofsky and Thomas W. Miller (2003), Derivatives: Valuation and Risk Management, OUP.
5. Bruce Tuckman (2002), Fixed Income Securities, Willey Finance.. 
Unit I: Industries and Development
Basic concepts of industrial economics- rational of industrialization, evolution of industries in India, need, importance and role of industries in economic development, industry and agriculture sector linkages, industrial development-experience of developed and developing countries.

Unit II: Industrial Entrepreneurs
Concepts and definition of industrial entrepreneurs, entrepreneurial motivation, types, characteristics and functions of industrial entrepreneurs, role of entrepreneurs in economic development, role of women entrepreneurs in the industrial development, rural entrepreneurship development in India, institutional finance to entrepreneurs development, problems and remedies of industrial entrepreneurs.

Unit III: Location and Dispersion
The general determinants of industrial location- technical factors, economic and infrastructural factors, other factors, theories of industrial location-the central place theory, Renner’s theory, Rawstron’s principles, Weber’s theory, the market area theory of Tord Palander, Central place theory of Losch-trend of industrial location in India.

Unit IV: 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.

Unit V: Industrial Development and Problems
Recent trends in industrial growth in India- growth of major industries- Cotton textiles, Iron and Steel; Jute; Sugar; Coal; Cement and engineering goods; Development and problems of small-scale industries in India, Role of public and private sectors in India. Effects of liberalization on industrial development in India, role of MNCs in industrial development, Sick industries and remedies, Industrial policy of India.

Readings
ECON 511          INTERNATIONAL FINANCE                                4 CREDITS

Unit I: Foreign Exchange Markets
Structure and functions of foreign exchange markets; Types of foreign exchange transactions; inter-
bank market, spot and forward, options market, futures market, exchange trading, arbitrage,
market hedging and speculation.; Exchange rate determination—purchasing power parity theory, 
asset market approach

Unit II: Balance of Payments and Adjustment Mechanisms
The process of adjustment under flexible and fixed exchange rate system—price and income
adjustments; foreign trade multiplier with and without foreign repercussions. Devaluation—
elasticity and absorption approaches; Expenditure reducing and expenditure switching policies
and direct controls; Policies for achieving internal and external balance simultaneously under
alternative exchange rate regimes; Monetary approach to balance of payments

Unit III: Exchange Rate Theories
Short Run and Long Run determinations, Purchasing Power Parity, Fixed exchange rate and
intervention

Unit IV: International Monetary System
Evolution, operation and collapse of Bretton Woods system, contemporary International monetary
system—IMF Fixed and flexible exchange and contemporary system of floating Exchange rate;
Theory of optimum currency area; Euro currency markets and international bond markets

Unit V: Growth and Reforms
Growth strategies; inward-issuing vs outward-looking growth orientation; exports and growth;
Export-instability, exchange rate variability, and the effects on trade and growth; theories of foreign
direct investment and international capital flows; empirical work on these issues; international
commodity agreements and cartels; the Dutch disease, or de-industrialization; trade reforms and
structural adjustments; the important of scheduling reforms and comparisons of country experiences.

Readings
   Delhi
   Edition). Addison Wesley
   London
ECON 512 INDIAN PUBLIC FINANCE 4 CREDITS

**Unit I: The Indian Tax System**
Constitutional Assignment of Expenditures-Union, States and Concurrent: 73rd and 74th Amendments, Role of Local Governments; Assignment of Taxes to Various levels of Governments; The Indian Tax System: Centre-Personal Income and Corporate Profit Taxes, Wealth Tax, CENVAT, Import Duties (Customs), Service Tax; States: Sales Tax, State Excise, Motor Vehicle Tax, Stamps and Registration, Land Revenue, Agricultural Income Tax

**Unit II: Government Expenditure**
Growth of Expenditure: Changing Composition, functional, Capital and Revenue heads; Evaluation of Structure of Government Expenditure: Centre and States.

**Unit III: Deficit and Public Debt**
Deficit: Fiscal Deficit, Primary Deficit, Revenue Deficit-States and Centre and Combined States and Centre; Public Enterprises and the Budget; Public Debt: Internal and External Debts, Debt Dynamics in India

**Unit IV: Inter-Governmental Transfers**

**Unit V: Tax Reforms**
Reforms in Personal Income Tax, Corporate Profit Tax, CENVAT, Sales Tax, Stamps and Registration Fees; Tax Reform-Assessment of Progress, fiscal crisis and fiscal sector reforms in India.

**Readings**
2. Chelliah, R.J.(1990) et al - Primer on Value Added Tax, NIPFP
4. Government of India, Budget Documents (Various years).
# ECON 513: ECONOMETRIC METHODS - II

<table>
<thead>
<tr>
<th>Unit I: Simultaneous Equations Models</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit II: Time Series Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Concepts in Time Series Econometrics, Stochastic Time Series Models, Stationarity and Testing for Unit Root, Co-integration, ARIMA Models and Forecasting, ARCH and GARCH models</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit III: Dynamic Econometric Models</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit IV: Analysis of Panel Data</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit V: Carrying out An Empirical Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting a Topic, Review of Literature, Formulating a General Model, Empirical Analysis, Caution on Misleading Uses of Econometrics</td>
</tr>
</tbody>
</table>

## Readings

## ECON 514   ENVIRONMENTAL ECONOMICS   4 CREDITS

### Unit I: Introduction
An introduction to environmental economics, economy-environment interaction, the Material Balance Principle, Entropy Law, Market failure, property rights, open access resources, collective action

### Unit II: Environment and Welfare
Economic activity and environment quality—interactions and tradeoffs; Roots of environmental degradation-consumers and producers surplus; Market and government failure and environmental degradation—public goods, externalities and CPR; Coase theorem; Issues of time—environmental discount rate, time and renewable resource

### Unit III: Measurement of Environmental Values
Optimal environmental protection; Concept of environmental value; Valuation approaches—averting behavior approach, hedonic pricing, contingent valuation technique; valuing life and health.

### Unit IV: Environmental Policy
Environmental regulations- promoting Coasian markets; Pigovian taxes; command and control versus market based instruments; Effluent and emission taxes versus tradable permits; The tools in practice; Micro planning for environment and eco-preservation—water sheds, joint forest management and self help groups

### Unit V: Environmental Issues
International environmental externalities—theoretical illustration and policy responses; Economics and global warming—analytical complexities; damages of greenhouse warming—approaches, tools and international response; Economics and fisheries—simplified model; Sustainable development—changing views on resource limits, policies for sustainable development; Green NNP

### Readings
M.A. APPLIED ECONOMICS
Semester III

ECON515  ECONOMICS OF MONEY AND BANKING  3 CREDITS

Unit I: Introduction to the Course and Basic Concepts
Introduction – Concept of money and its functions – Basic banking and general principles of bank management – Role of money and banking for the economy – Historical aspect of money and banking in India

Unit II: Demand for and Supply of Money
Demand for Money: Quantity theory of money – Keynesian analysis – Monetarist approach – Empirical evidences
Supply of Money: Central bank and money supply – Creation of money and role of commercial banks

Unit III: Money and Interest Rates
Money and Interest Rate: Understanding interest rates behavior and term structure of interest rate – Factors influencing changes in equilibrium interest rate and liquidity preference framework – Role of money and interest rates on real economic activity and inflation
Applications: Changes in income, money and prices on equilibrium interest rates

Unit IV: RBI and Conduct of Monetary Policy in India
Reserve Bank of India and its monetary policy: Overall monetary policy framework – instruments, targets and objectives – transmission mechanism – operating procedure, liquidity management and OMOs – challenges in the conduct of monetary policy

Unit V: Banking Regulation and Supervision in India
Banking supervision and regulation in India – CAMELS – Management of credit risk, market risk and operational risk – Basel prudential norms – Derivatives and other off-balance sheet activities – Lessons from recent financial crisis for banking regulation and operations

Readings
M.A. APPLIED ECONOMICS  
Semester III

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON516</td>
<td>OPTIMIZATION TECHNIQUES</td>
<td>3</td>
</tr>
</tbody>
</table>

**Unit I**  
Unconstrained and constrained optimizations

**Unit II**  
A special variety of equilibrium analysis – Optimum values and relative maximum and minimum – First derivative test – Second derivative test – Second and higher order derivatives.

**Unit III**  
Linear programming - Simplex method – Statement of basic theorems of linear programming – Shadow prices and their uses.

**Unit IV**  
Non linear programming – its nature - Kuhn-Tucker conditions - Constrained qualification, Kuhn-Tucker sufficiency theorem – Economic applications.

**Unit V**  

**Readings**
2. Yamane, Taro (1962) - Mathematics for Economists, Prentice Hall,
<table>
<thead>
<tr>
<th>Unit I:</th>
<th>Islamic Economics – nature – definition, methodology - assumptions - Islamic man vs economic man, sources – role of revealed knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit II</td>
<td>Contribution of Muslim scholars to economic thought. Critique of Schumpeterian Great Gap thesis. Indebtedness of Medieval Scholastics to Muslim scholars, Contribution of Abuyusuf, Mawardi, Gazal, Ibn Themiah, Ibn Hazm, etc.</td>
</tr>
<tr>
<td>Unit III</td>
<td>Islamic Economic system – unique features – policy objectives, policy Instruments, comparison with capitalism, socialism, welfare state. Disintegration of socialist system, crises in capitalism – contemporary relevance of Islamic economic system.</td>
</tr>
<tr>
<td>Unit V</td>
<td>Interest free banking – rationale of abolition of interest (riba). Theory and practice of interest less banking. Methods of Islamic financing - Musharaka, Mudaraba, Ijara, Murabaha, Salam, Istisna. Interest free banking – prospects and problems in Indian context.</td>
</tr>
</tbody>
</table>

**Readings**

Unit I: Research Approach
Meaning of research- objectives of research - Approach to research- Significance of research - Types of research- Research in social science - Facts, theories and concepts in social science research - Research Design - features of a good research design.

Unit II: Identifying a Research Problem
Research problem – Identifying the research problem – formulation of research problem, concept of hypothesis- role and formulation of hypothesis- scientific methods of research- nature of scientific research- stages of scientific methods.

Unit III: Research Methods

Unit IV: Survey Techniques
Schedule and questionnaire – principle underlying the construction of questionnaire- measurement and scaling techniques- processing and analysis of data

Unit V: Presentation
Interpretation and report writing- steps- bibliography quality of a good research report

Readings
M.A. APPLIED ECONOMICS
Semester IV

ECON 522 INDIAN ECONOMY- ISSUES AND POLICY 4 CREDITS

Unit I: Overview

Unit II: Industrial Development
Critique of industrial policies-industrial reforms-Sources of Industrial finances- Banks, share market, Insurance companies, Pension funds, Non banking sources and Foreign Direct Investment (FDI) – Role of Foreign Capital for direct investment and portfolio investment-Multinationals – reform of public sector enterprises-privatization and disinvestment debate-globalization and its impact on industrial development- regional disparities in industrial and structural growth -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

Unit III: India’s External Sector
Foreign Trade: 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

Unit IV: Financial Sector 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-Analytical of price behavior in India-policies of price control.

Unit V: Current Economic Issues in India

Readings
# M.A. APPLIED ECONOMICS
## Semester IV

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 524</td>
<td>APPLIED ECONOMETRICS</td>
<td>3</td>
</tr>
</tbody>
</table>

## Unit I: Overview of the Course and Review of Understanding Econometrics

## Unit II: Applications in Microeconomics I

## Unit II: Applications in Microeconomics II

## Unit IV: Applications in Macroeconomics

## Unit V: Use of Econometrics Software

## Readings
M.A. APPLIED ECONOMICS
Semester IV

ECON525 HEALTH ECONOMICS 3 CREDITS

Unit I: Health for Development

Unit II: Demand for Health and Medical Care
Demand for Health-The Production of Health- Measures of health Status-Determinants of Health Status – The Demand for Medical Care as an investment –Factors influencing Demand – Measure demand.

Unit III: Issues in Economics of Health
Health Care Sector- Nature of Demand and Supply in Health Economics-Input and Output in Health Industry – Difficulties in the Application of Economic Concept in health Sector-Cost and Benefit Analysis in Health Economics.

Unit IV: Supply of Health Care Services
Nature of Supply of Health Care services – Health Production Function –Pricing of Health Care Services

Unit V: Health Care policy and Health Planning in India

Readings
Unit I: Predicting Financial Return
Financial time series, asset returns, distributional properties of financial returns, Market efficiency, Principle component analysis, factor analysis

Unit II: Models of Volatility
Modeling volatility, ARCH, GARCH and various versions of GARCH. Long-memory and stochastic volatility models, Recent developments in volatility estimation using high frequency data

Unit III: Risk and Return Models for Multiple Assets
Multivariate time series analysis, Weak stationarity and cross correlations, Vector auto regressive models- VAR, Vector moving average models-VMA, ARMA and Model evaluation Vector models for mean, Time varying variance-covariance matrix and the dynamic conditional correlation models.

Unit IV: Random Walks and Cointegration
Pitfalls-Spurious regression, Cointegration and error correction models, Threshold cointegration and arbitrage models.

Unit V: Value at Risk (VaR) Models
Value at risk-VaR, An econometric approach to VaR calculations, Quantile estimation, Extreme value theory, An extreme value approach to VaR

Readings