

CENTRL UNIVERSITY OF TAMIL NADU
DEPARTMENT OF ECONOMICS
BOARD OF STUDIES MEETING
15-07-2023

Course Structure and Syllabus of Economics based on NEP 2023-24
Certificate / Diploma/ BA/ BA Honours / Research /Integrated MA / PG Diploma/P.G.

Category- wise Distribution of Credits required to Award Degree under Each Category								
S.No	Course Category	Minimum credits for U.G.	Credits	CUTN Credit Requirements				
				3-yr U.G. credits	4-yr U.G. credits (Honours)	4-yr U.G. credits (Honours with Research)	5-yr U.G. credits	2-yr P.G. credits
1	Major (Core) Course including DSE	50%	3/4/5 (5:L/T/P)	72	96	96	138	69
2	Minor (Main/Allied) Course	24 (12 Allied)	3/4	24	32	32	24	--
3	Multidisciplinary / O.E.	9	3	12	12	12	15	3
4	Ability Enhance Compulsory Course (AECC)	12	3	12	12	12	12	--
5	Skill Enhancement course (SEC) + IPR (Discipline Specific)	9	3/2	12	12	12	16	2
6	Value Added Course + Env.Sci (Discipline Specific / Common to all)	6-8	2	7	9	9	9	-
7	Summer Internship	2-4	2	2	6	2	5	-
8	Research Project / Dissertation	12 (For H)	4/12/16	---	6	12	16	16
9	Extension Activity / (NCC/NSS/Etc.)/Field Work	---	---	1	9	1	1	4
Total				142	188	188	235	94

Course Structure -MA Economics

	P.G.- I Semester				Marks	
Course code	Course title	Type	Credits	Hours	Internal Marks	External Marks
ECO2011	Advanced Microeconomics-I	CC	4	4	40	60
ECO2012	Advanced Macroeconomics-I	CC	4	4	40	60
ECO2013	Statistical Methods for Economics	CC	4	4	40	60
ECO2014	Fundamentals of Mathematical Economics	CC	4	4	40	60
ECO2015	History of Economic Thoughts	CC	4	4	40	60
ECO2016	Fundamentals of Mathematical Economics (Lab)	CCP	2	4	40	60
ECO2017	Statistical Methods for Economics (Lab)	CCP	2	4	40	60
		Total	24	28		
	Cumulative		24			

	P.G.- II Semester				Marks	
Course code	Course title	Type	Credits	Hours	Internal Marks	External Marks
ECO2021	Advanced Microeconomics-II	CC	4	4	40	60
ECO2022	Advanced Macroeconomics-II	CC	4	4	40	60
ECO2023	Applied Econometrics-I	CC	4	4	40	60
ECO2024	Field Visit	F.V.	4	*	40	60
ECOOE02	Indian Economy	O.E.	3	3	40	60
ECO2025	Applied Econometrics (Lab)	CCP	2	4	40	60
ECO2026	Research Methodology and Practicals	CCP	2	4	40	60
ECOVA01	Personality Development and Career Progress	VAC	2	2	-	
		Total	25	25		
	Cumulative Credits		51			

	P.G.- III Semester				Marks	
Course code	Course title	Type	Credits	Hours	Internal Marks	External Marks
ECO2031	Applied Econometrics-II	CC	4	4	40	60
ECO2032	International Economics	CC	4	4	40	60
ECO2033	Growth & Development	CC	4	4	40	60
ECO2034	Public Economics	CC	4	4	40	60
ECO2035	Monetary Economics	DSE	4	4	40	60
ECO2036	Trade & Development report data (Lab)	CCP	2	4	40	60
ECO2037	Applied Econometrics-II(Lab)	CCP	2	4	40	60
ECOSE01	Panel data analysis	SEC	2	2	40	60
	Swayam / Moocs, Etc.,	-	**	-	-	-
		Total	26	30		
	Cumulative Credits		77			

	P.G.- IV Semester				Marks	
Course code	Course title	Type	Credits	Hours	Internal Marks	External Marks
ECO2041	Resources & Environmental Economics	DSE	2	4	40	60
ECO2042	Agricultural Economics	DSE	3	3	40	60
ECO2043	Research Project/Dissertation	Research / Dissertation	16	**	40	60
		Total	21	13+		
	Cumulative Credits		98	96		
	** 8x40=320 Hr (1 credit+40Hr)					

**** - Students can register any Swayam / moocs course atleast minimum 3 credits**

**SYLLABUS AS PER NEP
(PG DIPLOMA AND MA)**

Semester-I

ECO2011-Advanced Microeconomics -I

Type: CC

Credits: 4

Course objectives:

To develop an understanding of the theoretical structure and basic principles of microeconomics.

Learning outcomes:

It aims to orient students with basic principles and the Theory of microeconomics, which would be analytical for understanding economic problems and different branches of economics.

Unit-1: Consumer Behaviors 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).

Unit-2: Utility Functions and Expected Utility Theorem

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

Unit-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.

Unit-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.

Unit-5: Imperfect Competition

Market failure, imperfect markets, sources of monopoly power, monopoly market equilibrium, price discrimination – first, second and third degree, tax incidence, oligopoly, Cournot Model, Stackelberg model, Bertrand Model, Monopolistic Competition.

Reference Text:

1. Varian, H. R., Microeconomic Analysis (2009), Indian Edition, W.W. Norton and Co., 1992
2. Mas-Collel, Whinston and Green (1995): Micro-economic Theory, OUP
3. Gravelle, H and R. Rees: Microeconomics, Pearson Education, 3rd Edition, 2004
4. Henderson, M. and R.E. Quandt, Microeconomic Theory: Mathematical Approach, McGraw Hill, 3rd Edition.
5. Koutsoyiannes. A. Modern Microeconomics, Macmillan Press Limited, New York

Additional Reading List:

1. Varian, H. R., Intermediate Microeconomics: A Modern Approach, Third Edition, 2010.
2. Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth Edition, South Western Thomson Learning, 2002
3. Salvatore, Dominick (2003): Micro Economics Theory & Applications, Oxford University Press, Inc. 198 Madison Avenue. New York.
4. Sen, Anindya (1999): Micro Economic Theory and Applications, Oxford University Press, New Delhi.
5. Stigler. G. (1996): Theory of Price (4th Edition), Prentice Hall of India, New Delhi.

Course Objectives:

1. The main objective of this paper is to provide a rigorous overview of an important aspects of macroeconomics.
2. This paper is designed in such a way where students are understand the core area of macroeconomics at intermediate level.
3. Explain the various measurements and indicators of economic activities of the system.in a national economy and various national income concepts

Learning Outcome:

1. The paper will help the students to enrich their understanding on the key concepts of the subject area.
2. Understanding the operation process of economic activities at a different level of the economy
3. In addition, it also helps them to understand the core macroeconomic theories from the perception of different schools of economic ideas.

Unit-1: National Income Accounting

Subject matter of macroeconomics, National Income Accounting concepts, – circular flow of income – different forms of national income accounting. Rules for Computing GDP – Real vs. Nominal GDP

Unit-2: Aggregate Demand and Aggregate Supply

Aggregate Demand - The Aggregate Demand Curve and The Income-Expenditure Model – Shifts In Aggregate Demand Curve – Aggregate Supply – The Short Run and Long Run Aggregate Supply Curve – Shifts In Aggregate Supply Curve – Aggregate Demand and Supply Model – Short Run and Long Run Macroeconomic Equilibrium.

Unit-3: Theories of Consumption

The Psychological Law of Consumption – Kuznets's Consumption Puzzle – Fisher's Inter-Temporal Choice Model – Permanent Income Hypothesis – Life Cycle Hypothesis – Relative Income Cycle Hypothesis.

Unit-4: Theories of Investment

The Neoclassical Theory of Investment – Capital Theory and Theory of the Firm – Finance and the Cost of Capital – The Accelerator Theory of Investment – The Stock Market And Tobin's Q Theory – Inflation and Investment – Policies Affecting Investment.

Unit-5: Neoclassical and Keynesian Macroeconomic Models

The Neoclassical and Keynesian Version of IS-LM Model – Fiscal and Monetary Policy in ISLM Model – Fiscal Policy and Crowding Out – Barro Ricardian Equivalence – The Relative Efficacy of Fiscal and Monetary Policy – Pigou Effect and Real Balance Effect in IS-LM Model – Aggregate Demand in the Open Economy – The Mundell-Fleming Model – The Fiscal and Monetary Policy Operation Under Fixed and Floating Exchange Rate Regime.

Reference texts

1. Dornbusch et al (2008): Macroeconomics 10th ed, Tata McGraw Hill, New Delhi David Romer (2012) "Advanced Macroeconomics", 4th edition, McGraw-Hill Irwin.
2. R T Froyen (2008), Macroeconomics, Theory and policies, Prentice Hall
3. Mankiw, N. Gregory (2014), Principals of Macroeconomics, Seventh edition, Cengage Learning.
4. Sargent, T., (1987) Macroeconomic Theory, Academic Press.
5. Barro, Robert J. and Sala-i-Martin, Xavier (2007). Economic Growth, Prentice Hall of India Private Limited, 2nd edition.
6. Joseph E. Stiglitz (2010) "Freefall: America, Free Markets, and the Sinking of the World Economy" W. W. Norton & Company

Additional readings

1. Blanchard, O., and S. Fischer (1989) "Lectures on Macroeconomics". Cambridge, MA: MIT Press
2. Obstfeld, M., and K. Rogoff (1996). Foundations of International Macroeconomics. Cambridge, MIT Press.

Course objectives:

The objective of this course is to make students thoroughly understand the different approaches to probability theory, calculation of probability in different situations, probability distribution, Bi-variate distribution, correlation and process of testing hypothesis, estimation and inferential statistics and their applications.

Learning outcomes:

At the end of the study of this paper, students will be able to understand the concepts, probability methods, theoretical distribution, and hypothesis testing. Further, they will be able to make applications of these methods for economic decisions and research.

Unit-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.

Unit-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.

Unit-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, the law of large numbers and Central Limit theorem

Unit-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, and Interval estimation.

Unit-5: Hypothesis Testing

A 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, the difference between two population means, the 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

Reference Text:

1. Allen Webster, Applied Statistics for Business and Economics, McGraw-Hill International Edition, 1998
2. Nagar, A.L. and R.K Das, Basic Statistics, Oxford University Press, 1983
3. Ken Black, Business Statistics, John Wiley, student edition, 2004
4. Hogg, R. and A. Craig, J., Introduction to Mathematical Statistics, McGraw-Hill, 1965.
5. Miller, I. and M. Miller, Mathematical Statistics, Sixth Edition, Prentice Hall International, 1999.

Additional Reading Materials:

1. Mood, A. M., R. A. Graybill and R.C. Boes, Introduction to the Theory of Statistics, McGraw-Hill, 1974.
2. Earl.K. Bowen and Martin K. Starr, Basic Statistics for Business and Economics.
3. McGraw-Hill International Student Edition, 1982 Kenney and Keeping, Mathematics of Statistics, Vol.1 (Chapters, 1, 2 and 5), Affiliated East West Press
4. Clark, Megan J. and John A. Randal, A First Course in Applied Statistics, Pearson Education, New Zealand, 2011.
5. Cochran W.G, samplings Techniques, John Wiley, New York, 1977.

Course Objective:

To learn the basic mathematical methods that have become indispensable for adequately understanding the current economic literature.

Learning Outcome:

It aims to improve the students' analytical and problem-solving skills applied in mathematical economics.

Unit-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

Unit-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

Unit-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

Unit-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

Unit-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.

Reference Text:

1. Simon, C. and L. Blume, Mathematics for Economists, Norton, London, 1994
2. Chiang, A. C., Fundamental Methods of Mathematical Economics,
3. McGraw-Hill, 1984 Ok, E.A., Real Analysis with Economic Applications, Princeton University Press, 2007
4. Knut Sydsaeter and Peter J. Hammond, Mathematics for Economic Analysis, Pearson Education Asia, 1995
5. M.D. Intriligator, 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.

Course Objective:

This course examines the various economic ideas historically.

Learning Outcomes:

Develop critical thinking about economic ideas and understand different economic concepts.

Unit-1: Economic ideas before and After Adam Smith

Mercantilist Writing on Value and Profits. Beginnings of the Classical Theory of Prices and Profits. Physiocrats – Quesnay's economic ideas. Adam Smith's value theory - David Ricardo: Theory of rent and the first approach to the profit-labour Theory of value. Malthus – economic Exchange of class conflict.

Unit-2: Marx's Critique of classical economics:

Surplus value and Exchange. The labour theory of value- capital accumulation and economic concentration.

Unit-3: Utilitarianism:

Jevons's Theory of Marginal Utility and Exchange. Menger's Theory of Marginal Utility, Prices, and Income Distribution. Walras's Theory of General Economic Equilibrium.

Unit-4: Neoclassical Theories of the Firm and Income Distribution:

The Contributions of Marshall, Clark, and Biihm-Bawerk. Microeconomic Theory, and Welfare Economics. Pareto Optimality and Criticism.

Unit-5: Contemporary Economic Ideas:

Origin of Development Economics (Arthur Lewis). Paul A. Samuelson Vs Milton Friedman. Market with asymmetric information (Joseph E Stiglitz; Georn A Akerlof). Behavioural Economics (Richard Thaler). Capability approach of A.K Sen. Experimental approach: Abhijit Banerjee.

Reference Text:

1. J. R. Hicks (1946). Value and Capital.
2. Lionel Robbins (2000), A History of Economic Thought, Princeton University Press.
3. John Kenneth Galbraith (1998), History of Economics: The Past as the Present, Penguin Books
4. Linda Yueh (2008), The Great Economists: How Their Ideas Can Help Us Today, Viking
5. Smith. (1776). An Inquiry Into the Nature and Causes of the Wealth of Nations.

Additional Reading Materials:

1. Niall Kishtainy (2017), A Little History of Economics (Little Histories), Yale University Press.
2. Bowles, S.: Microeconomics: Behavior, Institutions, Evolution. New Delhi, Oxford University Press (2004).
3. J. M. Keynes (1936). The General Theory of Employment, Interest and Money.
4. J. E. Stiglitz. Whither Socialism? Cambridge, Massachusetts, MIT Press.
5. Haunt, E.K and Mark Lutzenheiser (2011) History of Economics a Critical Perspective, M.E.Sharpe Armonk, New York.

Course Objective: The mathematics for economics and lab course aims to improve computing skills by using mathematical models or equations for various economic theories through a computer lab (practical).

Learning Outcomes: It aims to improve the students' analytical and problem-solving skills applied in mathematical economics.

Unit-1: Well Ordered Principle, the first and second principle of mathematical induction, divisibility of integers. Prime integers. Euclid's first and second theorem, unique factorization theorem, Congruences, Linear Congruences

Unit-2: Fundamental theorem of Classical Algebra, The n-th degree polynomial equation has exactly n-roots, Nature of roots of an equation, Statements of Descartes' Rule of signs and Sturm's Theorem and their applications, multiple roots, Relation between roots and coefficients.

Unit-3: Symmetric functions of roots, Transformation of equations, Reciprocal equations, Cardan's method of solving a cubic equation, Ferrari's method of solving a biquadratic equation, Binomial equation, and Special roots.

Unit-4: Real Analysis: Representation of real numbers as points on the line and the set of real numbers as the complete ordered field. Bounded and unbounded sets, neighbourhood and limit points, Supremum and infimum, open and closed sets, sequences and their convergence. Numerical Analysis: Factorial, finite differences and interpolation. Operators, E and divided difference.

Unit-5: Newton's forward, backwards and divided differences interpolation formulae. Lagrange's interpolation formulae. Central differences, Gauss and Stirling interpolation formulae.

Reference Sources:

1. Allen, R.G.D. Mathematical Analysis for Economists, Mac Millan Press and ELBS, London.
2. Chiang, A.C. Fundamental Methods of Mathematical Economics, Mac Graw Hill, New York
3. Dowling, E.T. Mathematical Economics 2nd Edition, Mac Graw Hill, New York.
4. Goel B. S. and Mittal S. K.: Numerical Analysis, Pragati Prakashan, ND, 2008
5. Malik S.C. and Savita Arora: Mathematical Analysis, Second Edition, Wiley Eastern Limited, New Age International Limited, New Delhi, 1994.

Course Objective: The lab for Statistical Methods' main aim is to improve computing skills by using mathematical and statistical models or equations for various economic theories through a computer lab (practical).

Learning Outcomes: It aims to improve the students' analytical and problem-solving skills applied to different socio-economic variables. Furthermore, students will be able to make applications of these methods for economic decisions and research.

Unit-1: Scales of measurement: nominal, ordinal, interval, and ratio. Generation of random numbers. Frequency distribution. Presentation: tabular and graphical, including histogram and ogives. Measures of Central Tendency: Mean (AM, G.M., H.M.), Median, Mode.

Unit-2: Range, standard deviation, coefficient of variation, Gini's Coefficient, Lorenz Curve. Moments, skewness and kurtosis, Box Plot. Outlier Detection. Quantile-Quantile Plot.

Unit-3: Measurement of the Probability, addition, subtraction, multiplication, Permutations, Combinations, and Standard Probability Distributions in Excel.

Unit-4: sampling distributions: Standard Normal (Z), Student's-t, Chi-square and F-distribution, determinants of sample size, Hypothesis test about a population mean, population proportions, the difference between two population means, the 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)—application of these tests to various economic variables.

Unit-5: Bi-variate probability distribution, correlation (Karl Pearson's coefficient of correlation and Spearman's Rank Correlation), regression coefficients, t-test for correlation and Regression, R-square, adjusted R-square, ANOVA in Regression.

Reference Sources:

1. Allen Webster, Applied Statistics for Business and Economics, McGraw-Hill International Edition, 1998.
2. Clark, Megan J. and John A. Randal, A First Course in Applied Statistics, Pearson Education, New Zealand, 2011.
3. Cochran W.G, samplings Techniques, John Wiley, New York, 1977.
3. Earl.K. Bowen and Martin K. Starr, Basic Statistics for Business and Economics.
4. Hogg, R. and A. Craig, J., Introduction to Mathematical Statistics, McGraw-Hill, 1965.
5. Ken Black, Business Statistics, John Wiley, student edition, 2004.

Course objectives:

To develop an understanding of the theoretical structure and basic principles of microeconomics

Learning outcomes:

It aims to improve students' analytical and problem-solving skills applied in different branches of economics.

Unit 1: 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.

Unit 2: Welfare Economics

Arrow-Debreu economy, welfare theorems, the 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, Rawls's Theory of social justice

Unit 3: Market Failure and Public Goods

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

Unit 4: Asymmetric Information

Moral hazard problem, adverse selection, principal-agent Problem, Market for lemon, credit market, implications of asymmetric information, market signalling, hidden information modelling, efficiency wage theory.

Unit-5: Game Theory

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

Reference Text:

1. Varian, H. R., Microeconomic Analysis (2009), Indian Edition, W.W. Norton and Co., 1992
2. Mas-Colell, Whinston and Green (1995): Micro-economic Theory, OUP
3. Gravelle, H and R. Rees: Microeconomics, Pearson Education, 3rd Edition, 2004
4. Henderson, M. and R.E. Quandt, Microeconomic Theory: Mathematical Approach, McGraw Hill, 3rd Edition.
5. Koutsoyiannis. A. Modern Microeconomics, Macmillan Press Limited, New York.

Additional Reading Materials:

1. Varian, H. R., Intermediate Microeconomics: A Modern Approach, Third Edition, 2010.
2. Nicholson, W., Microeconomic Theory: Basic Principles and Extensions, eighth Edition, South Western Thomson Learning, 2002
3. Salvatore, Dominick (2003): Micro Economics Theory & Applications, Oxford University Press, Inc. 198 Madison Avenue. New York.
4. Sen, Anindya (1999): Micro Economic Theory and Applications, Oxford University Press, New Delhi.
5. Stigler. G. (1996): Theory of Price (4th Edition), Prentice Hall of India, New Delhi

Course Objectives:

1. The aim of this course is to deliver an overall understanding of modern macroeconomics.
2. This course will also facilitate the students to understand the core aspects of macroeconomics from the perception of different schools of thought.
3. It explains the dynamics of macroeconomic variables in the economic system in a comprehensive way

Learning Outcome:

1. Understanding of a complex theories in macroeconomics
2. Understanding the various theoretical developments and knowledge accumulation in the subject area.
3. will able to understand the dynamics of different economic variables under a different policy measures

Unit-1: The Labour Market

Introducing Unemployment – Unemployment, GDP and the Okun'S Law; Profit Maximization and Labour Demand – Utility and Labour Supply – Neoclassical Labour Market Equilibrium – Aggregate Supply Curve in Flexible and Variable Price Money Wage Models – The Keynesian Underemployment Equilibrium.

Unit-2: Inflation and Unemployment

The Classical Model of Money and Prices – Theoretical Underpinnings of Phillip's Curve – The Short-Run Phillips Curve – Inflation Expectations and the Short-Run Phillips Curve – Natural Rate Hypothesis – Long Run Phillips Curve – The Natural Rate of Unemployment – The Cost of Disinflation – The Rational Expectation and Lucas Supply Function – Policy Ineffective Theorem – Lucas Critique – Rational Expectation and Implications of Monetary Policy.

Unit-3: Theories of Business Cycles

Multiplier-Accelerator Interaction Model – Monetarists Interpretation of Business Cycles – Real Business Cycle Theory – Political Business Cycle Model.

Unit-4: The Post Keynesian Macroeconomics

Walrasian and Keynesian Adjustment Mechanism – Reinterpretation of Keynes – Dual Decision Hypothesis – Neo-Keynesian Quantity Constraint Models – Micro Theoretic Foundations for Wage and Price Rigidity – Small Menu Cost – Efficient Wage Theory – Staggered Wage Setting – Insider-Outsider Model – Models of Coordination Failure – Keynesian Reappraisal School (Clower, Leijonhufvud and Malinvaud)

Unit-5: Macroeconomic Policy Issues

Macroeconomic Policy Issues – Targets, Indicators and Instruments – Gradualism Versus Shock Therapy – The Debate Over Rules Vs. Discretion – Taylor's Rule and Monetary Policy – Role of Credibility – Dynamic Inconsistency Problem – Inflation Targeting – Issues Relating to Inflation Targeting.

Reference texts

1. R T Froyen (2008), Macroeconomics, Theory and policies, Prentice Hall.
2. Mankiw, N. Gregory (2014), Principals of Macroeconomics, Seventh edition, Cengage Learning.
3. Brian Snowdon and Howard R. Vane (2005). Modern Macroeconomics: It's Origins, Development and Current State, Edward Elgar, UK
4. D'souza Errol (2008) Macroeconomics: Person Publication, New Delhi.
5. Blanchard, O., and S. Fischer (1989) "Lectures on Macroeconomics". Cambridge, MA: MIT Press Taylor,
6. Sargent, T., (1987) Macroeconomic Theory, Academic Press.

Additional readings

1. Dornbusch et al (2008): Macroeconomics 10th ed, Tata McGraw Hill, New Delhi
2. Blanchard, O., and S. Fischer (1989) "Lectures on Macroeconomics". Cambridge, MA: MIT Press

Course Objective:

The course is designed to introduce the students to essential econometric Analysis tools. The students will understand the principles of econometric Analysis and their application in empirical research. The Classical linear regression model, statistical inference in the regression model, problems in Regression, Introduction to dummy variables, and Limited dependent variable models are some specific features of the course about which students would be provided sound knowledge.

Learning outcomes:

At the end of the study of this paper, students will be able to understand the concepts, Theory and basic tools of Econometrics. Further, they will be able to make applications of these methods for economic decisions and research. This will help us understand advanced econometrics/ applied econometrics.

Unit-1: The Linear Regression Analysis

Bivariate and multivariate linear regression models, CLRM assumptions, Ordinary Least Squares estimation, Properties of OLS and the Gauss-Markov theorem. General and confident approach to hypothesis testing, Goodness of fit, ANOVA and Testing of the overall significance of sample regression, matrix approach to linear regression models.

Unit-2: Functional forms of regression models

Choice of functional forms-Log-linear, Double log and lin-Log models, Reciprocal and polynomial models, Choice of functional form, Interpreting coefficients in different functional forms and applications, Specification error and tests for specification error.

Unit-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.

Unit-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, the interaction of two categorical variables, the 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).

Unit-5: Discrete Response Models

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

Reference Text:

1. Greene, William H. Econometric Analysis. 6th Edition, Prentice Hall. 2008.
2. Johnston, J. and DiNardo, J. Econometric Methods. 4th Ed. McGraw-Hill 1997.
3. Greene Ramanathan, Ramu, Introductory Econometrics with Applications, 5th Edition, 2002, Thomson Asia Pvt Ltd., Singapore.
4. Gujarati, D and Porter, Basic Econometrics, Fifth Edition, McGraw Hill/Irwin, 2009
5. Stock, James H., and Mark W. Watson (2006): Introduction to Econometrics, Second Edition, (Addison-Wesley Series in Economics).

Additional Reading Materials:

1. Wooldridge, J., Introductory Econometrics: A Modern Approach, 2015, Nelson Education.

ECO2024-Field Visit

Type: F.W.

Credits: 4

***- Internship will be conducted in continues mode for 160hrs (1 credit = 40 hrs)**

Unit1: Development Phases of the Indian Economy

The Colonial Legacy -State of the Economy at independence -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 – recent developments. Understanding key sectors of Indian Economy: Primary, secondary and tertiary sector –structural Transformation since independence.

Unit-2: Agricultural Sector

Agricultural Productivity – Meaning and Concept -Causes of Low Productivity and Measures Regional Variations, Comparison with Developed Countries -Green Revolution – Achievement and Failures. Need of second Green Revolution -Changes in Cropping Pattern -Organic Farming – Meaning & Scope -Recent deceleration of agricultural growth and public investment in agriculture, Agricultural price policy.

Unit-3: Industrial Sector

Industrial Growth and diversification -Policy changes and industrial Growth – Sources of Industrial finances; Industrial price regulations and subsidies through price controls –Indian industry since liberalization – productivity growth and rise in competitiveness – exports – the rise of service industry – India and I.T. – policy regarding public enterprises – disinvestment and privatization – impact of WTO and trade liberalization; Unorganized sector-Reservation policy relating to small scale Industries-Industrial relations and Labour welfare-National commission on labour-issues in labour market reforms.

Unit-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.

Unit-5: Population and Development

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

Reference Text:

1. Basu, Kaushik India's Emerging Economy: Performance and Prospects in the 1990s and Beyond, The MIT Press, 2004
2. Krueger A. (ed.), Economic Policy Reforms and the Indian Economy, Oxford University Press, 2003
3. Drèze, Jean and Sen, Amartya (2002), India: Development and Participation, Oxford University Press, New Delhi, Ch.3 titled 'India in a Comparative Perspective'.
4. Panagariya, Arvind (2008), India: The Emerging Giant, Oxford University Press, NewYork. Ch.12 ('International Trade: Carrying Liberalization Forward'), especially pp. 259-68 and 276-81.
5. India Development Report, Oxford University Press, Various Issues

Additional Reading Materials:

1. Habib, Irfan (1975), 'Colonization of the Indian Economy, 1757-1900', Social Scientist, Vol.3, No.8, pp
2. 23-53. Chandrasekhar, C.P and Ghosh, Jayati (2004), The Market that Failed: Neoliberal Economic Reforms in India, LeftWord Books, New Delhi., Ch. 2, pp.9-18.

Learning Objectives

1. To make the students understand basic modelling and Multivariate Analysis
2. To create an understanding of essential statistical tools along with econometric modelling
3. To deliver the difference between quantitative and qualitative research.

Learning Outcome:

1. To have hands-on experience with econometric modelling using advanced statistical techniques.
2. Identifying and solving the problems of CLRM assumptions
3. To research the estimation of qualitative research problems.

Unit 1: Regression and Correlation Analysis

Unit-2: Functional forms of regression models and tests for model specifications

Unit-3: Test for detecting the problems of autocorrelation, heteroskedasticity and multicollinearity

Unit-4: Estimations of dummy variable models and Chow test

Unit-5: LPM, Logit, Tobit and probit models

Reference sources

1. The Manuals and user guide of Eviews
2. The Manuals and user guide of STATA
3. The Manuals and user guide Gretl
4. The Manuals and user guides of JASP and Jamovi
5. The Manuals and user guide of R

Unit-1: Research in Economics

Meaning of research in economics: Types, methods and techniques- techniques, participant or nonparticipant 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.

Unit-2: Identifying the Research Problem

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

Unit-3: Database on Indian Economy

Important Data Sources- Familiarity with different databases 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 database

Unit-4: Quantitative and Qualitative Methods

Quantitative methods -use of secondary data, constructing a questionnaire and designing a survey. Qualitative Methods: the case study methods -merits and demerits, Participant observation, interview methods – open and closed, structured and unstructured, focused group discussions, process documentation.

Unit-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.

Reference Text:

1. Don Ethridge (2004), "Research Methodology in Applied Economics: Organizing, Planning and Conducting" Second Edition, Blackwell Publishing.
2. John Creswell (2013) "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, SAGE Publications, Inc; Fourth Edition
3. Gibaldi, Joseph (2009). "MLA Handbook for writers of Research Papers", Modern Language Association of America 7th edition.
4. Glenn L. Johnson (1986) Research methodology for economists: philosophy and practice, Macmillan
5. Bhattacharjee, Anol, (2012). "Social Science Research: Principles, Methods, and Practices" Textbooks Collection. Book 3. http://scholarcommons.usf.edu/oa_textbooks

Additional Reading:

1. Johnson, Steven A. Greenlaw (2005) "Doing Economics: A Guide to Understanding and Carrying Out Economics Research, South-Western College Pub; 1 edition
2. Kagel, JH and Roth, AE (1995) The Handbook of Experimental Economics, Princeton University Press, Princeton.

ECO2028-Personality Development and Career Progress

Type: CCP

Credits: 2

Course Objectives

This course aims to give overall inputs on their personality development in terms of interpersonal skills, communication skills, the art of public speaking etc.

Course outcome

The students enhance their personalities in terms of their interpersonal and communication skills, which will help them to identify their 'self' in them.

Unit 1

Self-belief – self-esteem- emotional intelligence – self-control - self-confidence and achievement.

Unit 2

Communication skills – verbal and non-verbal communication – how to interact with people and keep interpersonal relationships.

Unit 3

Team building – Workplace etiquette – Organizational skills – delegation skills

Unit 4

Resume writing - Interview skills – preparation for interviews – Time management – leadership – networking strategies

Unit 5

Career orientation – scope and prospects – career prospects in economics –Overall personality growth

Reference Text

Thompson, G.G. (1965). Child Psychology- Growth trends in psychological adjustment. Bombay: The Times of India Press.

Hurlock, E. (1974). Personality development. New York: McGraw Hill Inc.

Norman, L., Munn, L., Fernord, D. J., Peter, S., & Fernold. (1972). Introduction to Psychology. New Delhi: Oxford& IBH publishing Company.

Mund, M., Zimmermann, J., & Neyer, F. J. (2018). Personality development in adulthood. In V. Zeigler-Hill & T. K. Shackelford (Eds.), The SAGE Handbook of Personality and individual differences: Origins of Personality and individual differences (pp. 260–277). Sage.

Funatsu, Mamoru. "Development of social self-theory." Japanese Journal of Personality 13, no. 1 (2004): 113–15.

Birtchnell, John. "A theory of personality development." Personality and Individual Differences 18, no. 3 (March 1995): 449.

Birtchnell, John. "A theory of personality development." Personality and Individual Differences 18, no. 3 (March 1995): 449.

P.G. Diploma

Those students who wish to exit after one year of P.G. will be awarded P.G. Diploma
(The total P.G. Credits $46 + 4$ credits for Internship = 50 credits).

The internship will be conducted continuously for 160 hours (1 credit = 40 hours).
(Total credits = $46 + 4 = 50$).

Other students will continue in the Third semester.

Course Objectives

1. The course is designed to introduce students to the advanced estimation methods of econometric Analysis.
2. This course aims to deliver the methods of econometric estimations in the context of simultaneous equation framework, autoregressive models and panel estimations.
3. This paper delivers the principles and methods of economic forecasting.

Learning Outcome

1. Students will be able to understand the Theory, concepts of time series and panel data econometrics and basic tools of Econometrics.
2. Will be able to make applications of these methods for economic decisions and research
3. Understanding the methods of economic forecasting

Unit-1 Simultaneous Equations Models

Structural Equation Models – Specification, Endogenous, Exogenous and Predetermined Variables – Simultaneity Bias – Structural Versus Reduced Form – 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.

Unit-2 Univariate Time Series Analysis

Introduction of Time Series – Stationary and Non-Stationary Random Variables – Different Types of Non-Stationary Process – Concept of Unit Roots-Testing for Unit Roots – Autoregressive Models AR (P) – Moving Average Models MA (Q) – Autoregressive -Moving Average Models ARMA (P, Q) – Autoregressive-Integrated Moving Average Models ARIMA (P, D, Q) – Identification, Estimation and Diagnosing Model Adequacy – Forecasting through the Framework of Box-Jenkins Model.

Unit-3 Multivariate Stationary and Non-Stationary Processes

Introduction to VAR Analysis – Impulse Response Function and Variance Decomposition Function – Causality in Time Series – Granger Causality Test and Toda and Yamamoto Causality Tests – Introduction to Cointegration – Cointegration and Error Correction Model – Testing for Cointegration – Engle – Granger Methodology – Johansen Methodology – Time Series Forecasting Using VAR/VECM.

Unit-4 Volatility models

The Problem of heteroskedasticity - Conditional and unconditional variance – volatility models - High-Frequency Data –Arch/Garch family of Models - Testing for Arch effects.

Unit-5 Panel Data Models

Panel Data Approach – Fixed Effect Model and Random Effect Model – Pooled or Population Average Model – Estimation of Coefficients – Specification Test, FGLS - Dynamic panel data models.

Reference texts

1. Enders, W., Applied Econometric Time Series, Second Edition, John Wiley and Sons, 2006.
2. Greene, William H. Econometric Analysis. 6th Edition, Prentice Hall. 2008.
3. Gujarati, D and Porter, Basic Econometrics, Fifth Edition, McGraw Hill/Irwin, 2009
4. Baltagi, B. H. (2008) Econometric Analysis of Panel Data (Fourth Ed.) Chi Chester, UK Wiley Additional Readings
5. Wooldridge, J., Introductory Econometrics. A Modern Approach, 2015, Nelson Education.
6. Patterson, K, "An Introduction To Applied Econometrics A Time Series Approach",

Additional readings

1. Tsay, R. S. "Analysis of Financial Time Series", 2005.
2. Johnston, J. and John DiNardo, (1997) *Econometric Methods*, 4th Edition, McGraw-Hill Companies, London
3. Verbeek, M. "A Guide To Modern Econometrics", 2nd Edition, 2004

Course Objectives

1. To provide an understanding of theories of international trade and trade policies,
2. To provide an idea about exchange rates and Balance of payments,
3. Delivers the functions of international institutions and economic integration among the trading partners

Learning Outcome

1. Understanding international trade theories and policies.
2. Idea about exchange rate markets, capital flows and Balance of payments.
3. Role of Economic Integration among Nations in international trade policies

Unit-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.

Unit-2 Trade Theories

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

Unit-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

Unit-4 Balance of Payments and Macro Adjustment Mechanisms

Balance of Payments, Capital Flows, National Accounts Determinants and Foreign exchange Market Equilibrium, The Elasticity Approach, Marshall-Lerner Condition, Multipliers, Mundell-Fleming Model, Purchasing Power Parity, Fischer Effect, Monetary Approach, Overshooting, Monetary Policy and Fiscal Policy, Fixed and Flexible Exchange Rate Regimes, Sterilization, Monetary and Fiscal Intervention, Devaluation and BOP Crisis, Capital Flight

Unit-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, and Free trade areas.

Reference texts

1. Krugman P. R. and Obsfeld M. (2018) International Economics-Theory and Policy, (12th Edition).
2. Salvatore, D (2000) International Economics, (8th Edition). Wiley India, New Delhi
3. Dornbusch Open Economy Macro Economy, Basic Books, New York
4. Soderston, B. and Reed G. (1998) -International Economics, 3rd Edition, McMillan Press Ltd., London
5. Caves, R. Jones, and J. Frankel, World Trade and Payments an Introduction, Addison-Wesley, 1993.

Additional Readings

1. James Gerber (2013) International Economics. Pearson, 6th Edition
2. Bhagwati, J., A. Panagariya, and T. Srinivasan. Lectures on International Trade (2nd edition), MIT Press, 1998
3. Van Marrewijk, C., International Economics, Oxford University Press, 2007
4. Keith Pilbeam (2001) International Finance, 3rd Edition,

Course Objectives:

The objective of the course is to elaborate on the different models of Growth and development and discusses various development issues in terms of poverty, human resources, environment and health.

Learning Outcome

The course will provide an understanding of growth and development models and enable the students to operationalize the important concepts.

Unit-1: Growth models:

Harrod Domar-knife edge equilibrium problem, Cambridge models- Joan Robinson, Kaldor, Neoclassical growth models- Solow Swan Model–the emergence of endogenous growth models. Technological progress embodied and disembodied – Hicks and Harrod version, production function approach to growth, total factor productivity and growth accounting.

Unit-2: Theories of Economic Development:

Adam Smith, Ricardo, Marx, Schumpeter and Rostow Balanced and Unbalanced Growth - big push approach- Lewis model of surplus labour, Myrdal on economic development.

Unit-3: Indicators of Economic Development (PQLI, HDI, SDGs) and Social sector development: Health, education and gender. Poverty and Inequality: Different approaches - Capability Approach - Estimating treatment effects in randomized experiments and observational data.

Unit-4: Human Resources and Labour Markets:

The 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).

Unit-5: Environment and Development: Measuring environmental values, Economic Growth and environment – sustainable development. Environmental degradation. Environment evaluation and policy impact.

Reference Text:

1. Hayami, Y (2001) Development Economics: From Poverty to the Wealth of Nations, 2nd Edition, OUP
2. Alain de Janvry and Elisabeth Sadoulet (2016), Development Economics: Theory and Practice, Routledge.
3. H.G. Jones (1976), "An Introduction to Modern Theories of Economic Growth" McGraw-Hill Book Company
4. Angus Deaton (2013): The Great Escape: Health, Wealth and the Origins of Inequality,
5. Princeton University Press.

Additional Reading Materials:

1. Thirlwall (2006), Growth and development with special reference to developing countries, Palgrave Macmillan.
2. Michael P. Tadaro,(1998), Economic Development Longman
3. Debraj Ray, (1999) Development Economics, Oxford University Press
4. K.Basu, (1997) Analytical Development Economics, MIT Press Additional Readings

Course Objectives:

This course aims to familiarise the students with the concepts, principles and theories of Public Economics and their relevance for the Government and Economy.

Learning Outcomes:

At the end of the course, students will understand the Role of government, the need for public provision of public goods, the Theory of taxation, the Theory of expenditure, Fiscal federal relations, fiscal policy instruments and their impact on the macro Economy.

Unit-1: Public Economics, Government and Theory of Public Goods

Introduction to Public economics, Role of state, Market versus Government, Public goods and externalities, merit goods, Samuelson theory, free rider problem, median voter theorem, Theory of rent-seeking.

Unit-2: Theory of Taxation

Direct and indirect taxes, efficiency and equity, deadweight loss, Theory of taxation, tax incidence and shifting, Optimal taxation, measuring progressivity and effect of taxation, and Tax reforms.

Unit-3: Public Expenditure and the Macro-economy

Determining the optimal size of government, Growth of expenditure, theories of expenditure, financing of public expenditure: debt versus tax financing, the 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.

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

Unit-5: Fiscal Policy Issues

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

Reference Text:

1. Atkinson, A. and Stiglitz, J., Lectures in Public Economics, McGraw Hill, 1980
2. Oates, E. Wallace, Fiscal federalism, Harcourt brace Jovanovich, New York, 1972
3. Hillman A. L., Public Finance and Public Policy, Cambridge University Press, 2003
4. Richard, A Musgrave and P.B. Musgrave, Public finance in Theory and Practice, McGraw Hill,
5. Broadway, Public Sector Economics, Cambridge University Press, 1979.

Additional Reading Materials:

1. Auerbach, A. and Feldstein, M., Handbook of Public Economics, Vol. 3, North Holland, 2002
2. Chelliah, R.J., Towards Sustainable Growth: Essays in Fiscal and Financial SectorReforms in India, Oxford University Press, 1996
3. Govinda Rao M. and T. K. Sen, Fiscal Federalism in India: Theory and Practice, 1996
4. Srivastava, D. K. (Ed.) Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission, NIPFP and Har-Anand, 2001
5. Shome, P. (Ed.) Handbook of Indirect Taxes, IMF Publications, 1996

Course Objectives:

1. This course attempts to provide a comprehensive understanding of monetary economics.
2. The main objective of the course is to make students understand the theoretical concepts of money demand and money, its development and its vital Role in the Economy
3. Helps to understand how the policy changes related to money will be transmitted to the other economic variables

Learning outcome:

1. Students will understand different aspects of monetary policy
2. The knowledge of how money is interlinked with the other key macroeconomic variables will be gained
3. In addition, the reserve bank's operational functions to control the key economic variables through money supply will be clearly understood.

Unit-1: Money

Money – Definition – Money and the Economy – Functions of Money- Measures of Money Supply and Money Demand - the flow of funds approach – money multiplier – the central bank and commercial bank coordination

Unit 2: Theories of Money Demand

Demand for money – quantity theories – general Theory – Emergence of Monetarism Monetarist – monetarism - Post-Keynesian Views - Liquidity Approach to Monetary Theory – Gurley-Shaw Implications for Monetary Policy.

Unit-3: Money, Interest Rates and Prices:

Interest Rates and Demand for Money - Rate of Interest and Investment - Heterogeneity of Interest Rate Determination - Administered Interest Rates and Market Determined Interest Rates — Implications for Monetary Management. Interrelationship between Money and Prices – Classical, Keynesian, Monetarist and New Classical Approach – Demand Pull Theory of Inflation – Social Costs of Inflation – Inflationary Expectations

Unit-4: Transmission of monetary policy

Monetary policy and the transmission channels – interest rate – expected inflation – exchange rate – asset prices – Money Supply- aggregate demand – central bank independence.

Unit-5: Monetary Policy Rules:

Time Lags in Monetary Policy Central Bank – Goals – Targets – Indicators and Instruments – Rules and Discretion – Choice of instruments – targets and Indicators — Policy Rules – Taylor Rule - Monetary – Fiscal Coordination.

Reference texts

1. David G. Pierce And Peter J. Tysome "Monetary Economics: Theories, Evidence And Policy" 2nd Edition, Butterworth & Co Publishers Ltd
2. Carl E. Walsh Monetary Theory And Policy, Fourth Edition, MIT
3. Suraj B. Gupta (2004) Monetary Economics; Institutions, Theory and Policy, S.C & Company Ltd, New Delhi.
4. Jagadish Handa, "Monetary Economics", London: Routledge.
5. Suraj B. Gupta (1997) Monetary Planning In India Oxford University Press
6. Frederic S. Mishkin (2015) "The Economics of Money, Banking and Financial Markets", Pearson; 11 edition

Additional readings

1. Shubik Martin "The Theory of Money And Financial Institutions" (1999), Volume I & II Cambridge, MIT Press
2. Maureen Burton and Bruce Brown (2009) Financial System of the Economy: Principles of Money and Banking 5th Edition, Routledge.

Unit I: Trend in International Market:

Global growth and inflation- stagflations- Multiple adverse supply shocks- Localized demand pressure- wages and markup- Net capital flows- External Debt.

Unit II: EXIM Data:

Custom API development and integration- Global product-global companies-global ports-global base database- World-wise coverage.

Unit III: WTO data:

World trade developments- Merchandise trade- Trade in commercial services- Trade in global value chains

Unit IV: International Cooperation and Economic resilience data:

Why does international cooperation matter for economic – trade and non-trade policy reduced risk and vulnerability? International cooperation on trade policies can help cope with shocks and recover after shocks.

Unit V: Board Economic Categories:

Define- Function of BEC-Usages and Purpose-Improving the structure and inclusion of services of BEC. BEC and global value chain analysis.

Reference Sources:

1. https://unctad.org/system/files/official-document/tdr2022_en.pdf
2. <https://unctad.org/statistics>
3. <https://eximtradedata.com/global-products>
4. https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en
5. <https://eximtradedata.com/asian-countries-import-export-data>
6. <https://eximtradedata.com/asian-countries-import-export-data>
7. <https://eximtradedata.com/europe-import-export-data>
8. <https://eximtradedata.com/north-america-import-export-data>
9. <https://eximtradedata.com/south-america-import-export-data>
10. https://www.wto.org/english/res_e/statis_e/its2014_e/its14_toc_e.htm
11. https://www.wto.org/english/res_e/booksp_e/wtr21_e/05_wtr21_e.pdf
12. <https://unstats.un.org/unsd/trade/classifications/bec.asp>
13. https://unstats.un.org/unsd/trade/classifications/SeriesM_53_Rev.5_17-01722-E-Classification-by-Broad-Economic-Categories_PRINT.pdf

Learning Objectives

1. To make the students understand basic modelling and Multivariate Analysis
2. To create an understanding of advanced econometric tools along with econometric modelling
3. To deliver the difference between time series estimation from the panel estimation process.

Learning Outcome

1. To have hands-on experience with econometric modelling using advanced techniques.
2. Identifying and solving the problems non Stationarity data
3. To research the estimation of impulse responses and volatility models.

Unit 1 Estimations of ILS, 2SLS and 3SLS models

Unit-2 Univariate Time series modelling, ARIMA, Box-Jenkins model

Unit-3 Multivariate Times series modelling, Impulse response and causality models

Unit-4 Non-Stationary Time series modelling, Cointegration models, Volatility models

Unit-5 Panel Data methods

Reference sources

1. The Manuals and user guide of Eviews
2. The Manuals and user guide of STATA
3. The Manuals and user guide Gretl
4. The Manuals and user guide of R

Course Objectives

1. The course is designed to introduce to the students about panel data analysis.
2. This course aims to deliver panel data econometric analysis principles and their application in empirical research.
3. Some specific course topics will provide sound knowledge about the developments in the subject matter.

Learning Outcome

1. Students will be able to understand the concepts, Theory and basic tools of panel data econometrics.
2. Will be able to make applications of these methods for economic decisions and research
3. Help students to understand advanced econometrics/ applied econometrics.

Unit-1: Introduction to panel data:

Panel data, Advantages of using panel data, Balanced and unbalanced panels, Different patterns of variations in parameters and distributional assumptions.

Unit-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 probability and Testing for panel effects, Goodness of fit in the panel data model.

Unit-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)

Unit-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.

Unit-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.

Reference texts

1. Baltagi, Badi H. (2003), Econometric Analysis of Panel Data, John Wiley and Sons Ltd, New York
2. Arellano, M. (2003), Panel data econometrics, Oxford University Press,
3. UK Hsiao, C (2003), Analysis of panel data, Cambridge University Press,
4. Cameron, A. C. and P.K. Trivedi (2005), Microeconometrics, Methods and Applications, Cambridge University press
5. Wooldridge, J.M. (2002), Econometric Analysis of Cross section and Panel Data, The MIT Press, Cambridge,
6. Krishnakumar J. And Ronchetti, E (Eds), 2002, Panel data Econometrics, Future directions,

Additional Readings

1. M. Hashem Pesaran (2015) Time Series and Panel Data Econometrics, Oxford University Press (OUP)
2. Oscar Torres-Reyna Panel Data Analysis, Fixed and Random Effects, using Stata (v. 6.0)
3. Gujarati, D and Porter, Basic Econometrics, Fifth Edition, McGraw Hill/Irwin, 2009
4. Amsterdam Arellano, M. and S. Bond (1991): some test for Specification of panel data: Monte Carlo Evidence and An application to Employment equation, Review of economic studies, Vol.58, pp.277-297.

Course objectives:

To develop an understanding of the key concepts of environmental economics and the relevance of economics to the environmental Problem.

Learning outcomes:

Understanding the nexus between the environment and how economics may hold many of the answers necessary to redress severe environmental damage

Unit 1: Foundation of Environmental Economics

Nature and Scope of Environmental Economics, Economy - Environment - Ecology Inter-linkage - Material Balance Model, Individual Choice versus Social Choice, Market Failure, Theory of Externality, Pigovian fees - single polluter and Multiple Polluters.

Unit 2: Resources Economics and Sustainable Development

Hotelling's Rule, Solow - Harwick's Rule, Market Structure and optimal extraction policy, resource scarcity: game theory and the common property Resources, tragedy of Commons, environmental Kuznet's Curve - Green GDP, limit to Growth. Sustainable development

Unit 3: Environmental Valuation

Valuation of Environmental Benefits, Economic Value of Environment- Use value, non-use value, instrumental value and intrinsic value-Market and non-market valuation; Physical linkage methods; Revealed and stated preference methods

Unit 4: Regulation of Environmental

Regulation - Rationale for the market solution, instrument - Command and control versus market mechanisms; Uncertainty and instrument choice; regulatory compliance and enforcement; Eco-taxes and other fiscal measures; Monitoring emissions and enforcement. India's environmental policy to protect the environment.

Unit 5: Global Environmental Issues

Transboundary pollution, the economics of global warming, the impact of trade on environment and environment on trade, Porter's hypothesis, Pollution havens hypothesis, International Conventions, RIO Conventions. Climate change problems. Kyoto Protocol, UNFCCC, Bali Action Plan, post-2015 agreements, Green Climate Fund.

Reference Text:

1. Kolstad, C., Environmental Economics, Oxford University Press, 2000 Baumol, W.J, and W.E. Oates, The Theory of Environmental Policy, Cambridge University Press, 1988
2. Freeman, A. M., The Measurement of Environmental and Resource Values, 2nd Edition,
3. Resources for the Future, 2003 Hanley, N., J.F. Shogren, and B. White, Environmental
4. Economics: In Theory and Practice, Macmillan India Ltd., 1997
5. Chopra C (2009) Handbook of Environmental Economics in India, Oxford India.

Additional Reading Materials:

1. Ram Prasad Sengupta (2001) Ecology and Economics, Oxford University Press
2. Rabindra Bhattachary N (2001) Environmental Economics - An Indian Perspective, Oxford University Press, Delhi
3. Intergovernmental Panel on Climate Change. (2014). Fifth Assessment Report.
4. Timothy C.Habb and John C. Whitehead, (ed), Environmental and Natural Resources Economics, An Encyclopedia, Greenwood, Oxford, 2014.
5. <https://www.epa.gov/environmental-economics/current-environmental-economic-topics>

ECO2042-Industrial Economics

Type: DSE

Credits: 4

Unit-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

Unit-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)

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

Unit-4: Determinants of R&D: I.T. 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 concerning I.T. industry and products, Concepts including network externalities, switching cost, lock in and standards, file sharing, open source, e-commerce, Role of I.T. in economic development

Unit-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.

Reference Text:

1. Chris Freeman and Luc Soefe., The Economics of Industrial Innovation, 1998
2. Martin, S., Industrial Economics-Economic Analysis and Public Policy, Englewood Cliffs, New Jersey: Prentice Hall, 1993
3. Shy, Oz., Industrial Organization: Theory and Applications, MIT Press, 1995
4. Tirole, J., The Theory of Industrial Organization, MIT Press, 1988.
5. Ferguson, Paul R. and Glenys J. Ferguson, (1994), Industrial Economics -Issues and Perspectives,

Additional Reading Materials:

1. Macmillan, London. Shepherd, William G. (1985), The Economics of Industrial Organization, Prentice-Hall, Inc,
2. Englewood Cliffs, N. J. Staley, E & Morse R. (1965), Modern Small Industry for Developing Countries, McGraw Hill Book Company.
3. Tirole, J. (1996), The Theory of Industrial Organization, Prentice-Hall
4. Barthwal, R.R.(1992), Industrial Economics: An Introductory Text Book, Wiley Eastern Ltd. New Delhi.
5. Chris Freeman and Luc Soefe., The Economics of Industrial Innovation, 1998 Shy, Oz.,

Course Objectives:

This course aims to familiarize the students with production economics, farm management, risks and Uncertainty in agriculture, climate change, agricultural policies and programmes in India.

Learning outcomes

This course is expected to enhance students learning about various aspects of agricultural economics, such as production economics, farm management, climate change and the Role of policies in agricultural sector development. Discussions on current issues about agricultural development and policies will add to the student's knowledge.

Unit 1: Production Economics and farm management

The production process, economic principles of farm management, resource management and allocation, basic concepts- marginal returns, returns to scale, economies of scale, technology and input use, and the law of comparative advantage.

Unit 2: Risk and Uncertainty in Agriculture

Decision theory and elements of risk and Uncertainty in agriculture, measurement of risk, risk adjustment, risk types, risk estimation, management response to risk, and linear programming.

Unit 3: Climate Change and agricultural sustainability

Impact of climate change, weather pattern and monsoon on Indian agriculture, climate change adaptation and mitigation policies and practices, organic farming, sustainable agriculture and its initiatives in India.

Unit 4: Agricultural sector output, employment and capital formation

Role agriculture in Gross Domestic Product (GDP) and employment, Growth in agricultural output and employment, capital formation in agriculture, agrarian changes in India

Unit 5: Agricultural Policies and Programmes in India

Agricultural policies towards subsidies, support prices, food security, climate change, insurance, marketing and storage, WTO policies.

Reference Text:

1. Cramer Gail L (2010) Agricultural Economics, Routledge.
2. Andrew Barkley and Paul W. Barkley, Principles of Agricultural Economics, Routledge.
3. Heady, Earl O and John L. Dillon, Agricultural Production Functions, Iowa State University Press.
4. Heady Earl O, Economics of Agricultural Production and Use, Prentice Hall.
5. Michael P. Todaro & Stephen C. Smith, Economic Development, Pearson India.

Additional Reading Materials:

1. S. Subba Reddy, P. Raghu Ram, T V Neelakanta Sastry and I. Bhavani Devi, Agricultural Economics, Oxford and IBH Publishing Co, Pvt. Ltd.
2. Hanumantha Rao C H, Agricultural Growth, Farm Size and Rural Poverty Alleviation in India, Academic Foundation, New Delhi.

Course Objectives:

The course aims to introduce behavioural economics by covering topics such as rationality, bounded rationality, optimization, decision-making under risk and Uncertainty, inter-temporal choices, applications of behavioural economics and research methods for behavioural economics.

Learning Outcomes

The course is expected to provide an understanding of basic concepts and essential theories of behavioural economics.

Unit1: Introduction: decision-making theories

Neo-classical economics – rationality assumption, optimization, the origin of Behavioural Economics - Bounded Rationality, Rationality in Psychology and Economics by H. Simon Dual System, Prospect theory.

Unit 2: Decision-making under risk and Uncertainty

Heuristics and Biases programme, Representativeness, Availability, Anchoring and adjustment, mental accounting Biases: Overconfidence, Confirmation bias, Framing, Status Quo Bias, Endowment Bias, Self-Control Bias, Fallacies: conjunction and disjunction fallacies, gambler's fallacies.

Unit 3: Inter-temporal Choices and Strategic Interactions

The discounted utility model, exponential discounting, hyperbolic discounting, fairness, trust, cooperation, reciprocity, altruism Norms and Culture.

Unit 4: Applications of Behavioural Economics

Introduction to Behavioural Labour Economics, Behavioural Finance Taxation and the Contribution of Behavioural Economics Choice Architecture: The Role of nudging Public Policies: Psychological and social perspectives on policy in the area of Poverty, Health and Climate Change.

Unit 5: Research Methods for behavioural economics

Survey: hypothetical choices, self-reported perceptions & biases Laboratory experiments, Precepts of laboratory experiments, internal and external validity Field experiments, Randomized Control trials.

Reference Text:

1. Nick Wilkinson; Matthias Klaes(2012), An Introduction to Behavioral Economics, 2nd Edition, Palgrave Macmillan. • Colin F. Camerer, George Loewenstein, Matthew Rabin (ed.)(2004),
2. Advances in Behavioral Economics, Princeton University Press.
3. Dan Ariely, Harper Perennial Predictably Irrational: The Hidden Forces That Shape Our Decisions, 2010, ISBN 0061353248, ISBN13 978-0061353246.
4. M. Altman, Handbook of Contemporary Behavioral Economics: Foundation and Developments (2007), Prentice Hall India
5. E. Cartwright, Behavioral Economics (2011), Routledge • D. Kahneman, Thinking Fast and Slow (2011), Allen Lane, Penguin Books.

Additional Reading Materials:

1. G. Loewenstein, Exotic Preferences: Behavioral Economics and Human Motivation (2007), Oxford University Press
2. Erik Angner, "A Course in Behavioral Economics", Palgrave Macmillan • Sanjit Dharami, "The Foundations of Behavioral Economic Analysis", Oxford University Press (2016)
3. Reports: World Development Report 2015: Mind, Society, and Behaviour

ECO2045-Research Project / Dissertation

Type: Dissertation

Credits: 8

Hours: **

**** -8x40=320 Hrs (1 credit + 40 Hr)**

The department takes decisions on the type of research project/dissertation.