



**ST JOSEPH'S
UNIVERSITY**

ST. JOSEPH'S UNIVERSITY

BENGALURU-27

**POSTGRADUATE DEPARTMENT OF
ECONOMICS
SCHOOL OF HUMANITIES**

**SYLLABUS FOR SEMESTERS - I, II, III and IV
POSTGRADUATE PROGRAMME**

From 2025 onwards

SUMMARY OF CREDITS

DEPARTMENT OF ECONOMICS (PG)					
<u>(2022 onwards)</u>					
<u>Semester</u> <u>1</u>	Code Number	Title	Number of teaching hrs /week	Number of credits	Max marks for SE and duration of examination
Theory	EC 7121	History of Economic Thought	04	04	50-2Hrs
Theory	EC 7221	Micro Economic Theory	04	04	50-2Hrs
Theory	EC 7325	Macro-Economic Theory	04	04	50-2Hrs
Theory	EC 7425	Mathematical Methods for Economists	04	04	50-2Hrs
Theory	EC 7521	Industrial Economics	04	04	50-2Hrs
Total Number of credits:			20		
<u>Semester</u> <u>2</u>	Code Number	Title	Number of teaching hrs /week	Number of credits	Max marks for SE and duration of examination
Theory	EC 8125	Statistical Methods for Economists	04	04	50-2Hrs
Theory	EC 8221	Public Economics and Finance	04	04	50-2Hrs
Theory	EC 8325	Institutional and Behavioural Economics	04	04	50-2Hrs
Theory	EC 8421	Economics of Growth and Development	04	04	50-2Hrs
Theory	EC 8525	Introduction to Programming and Statistical Packages in Economics	04	04	50-2Hrs

Total Number of credits:			20		
SUMMER INTERNSHIP (8 weeks)					
Note : after the end of second-semester students have to complete a Summer internship for 8 weeks – 10 Credits					
<u>Semester</u> <u>3</u>	Code Number	Title	Number of teaching hrs /week	Number of credits	Max marks for SE and duration of examination
Theory	EC 9125	International Economics	04	04	50-2Hrs
Theory	EC 9223	Research Methodology	04	04	50 – 2Hrs
Theory	EC 9325	Indian Economic Development and Policy	04	04	50-2Hrs
Theory	EC 9421	Basic Econometrics	04	04	50-2Hrs
Theory	EC 9521	Financial Economics	04	04	50-2Hrs
Total Number of credits:			20		
<u>Semester</u> <u>4</u>	Code Number	Title	Number of teaching hrs /week	Number of credits	Max marks for SE and duration of examination
Theory	EC0121	Advanced Econometrics	04	04	50-2Hrs
Theory	EC0225	Environmental Economics	04	04	50-2Hrs
Theory – Department Elective	ECDE0321	Optional- Human Resources Economics	04	04	50-2Hrs
Theory – Department Elective	ECDE0725	Optional- Economics of Education and Health	04	04	50-2Hrs
	EC0D1	DISSERTATION	08	08	200
Total Number of credits:			20		

Note : In the fourth-semester students can opt any one from the list of four department electives , within two electives offered that year. The Elective papers (ECDE0421 and ECDE0521) are not offered at the moment.

Regarding dissertation: As per BOS suggestion :1 hour work-load for a maximum of 3 student's th guidance.

IGNITORS/ OUTREACH

04

Total No. of Credits: 94

KEY WORDS: DE – Departmental Elective

CORE COURSES (CC)

Course Title	Code Number
History of Economic Thought	EC 7121
Micro Economic Theory	EC 7221
Macro-Economic Theory	EC 7325
Mathematical Methods for Economists	EC 7425
Industrial Economics	EC 7521
Statistical Methods for Economists	EC 8125
Public Economics and Finance	EC 8221
Institutional and Behavioural Economics	EC 8325
Economics of Growth and Development	EC 8421
Introduction to programming and Statistical Packages in Economics	EC 8525
International Economics	EC 9125
Research Methodology	EC 9223
Indian Economic Development and Policy	EC 9325
Basic Econometrics	EC 9421
Financial Economics	EC 9521
Advanced Econometrics	EC 0121
Environmental Economics	EC 0225

DISCIPLINE SPECIFIC ELECTIVE COURSES AND DISSERTATION(DSE)

Course Title	Code Number
Optional- Human Resources Economics	ECDE0321
Optional- Economics of Education and Health	ECDE0725
Dissertation	EC0D1

Semester	I
Paper Code	EC 7121
Paper Title	HISTORY OF ECONOMIC THOUGHT
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To enable students to demonstrate broad knowledge of the development of economics as systematic progress of ideas.
- To provide a philosophical foundation to the study of the science of economics.
- To enable the students to relate real world applications of economic theories to their origins and evolution.

MODULE I - AGE OF POLITICAL ECONOMY (10 Hours)

Significance of the history of economic thought. Early thought, Ancient Indian Economic Thought: Kautilya, Thiruvalluvar; medieval economic thought: The Scholastics, Mercantilism, Physiocracy: natural order and circulation of wealth, Laissez Faire.

SELF STUDY:

- *Charles Waldauer, William J. Zahka And Surendra Pal, Kautilya's Arthashastra: A Neglected Precursor to Classical Economics, Indian Economic Review, New Series, Vol. 31, No. 1 (January-June 1996), pp. 101-108*
- *Marcello de Cecco, Monetary Theory and Roman History, The Journal of Economic History, Vol. 45, No. 4 (Dec., 1985), pp. 809-822*
- *S. Todd Lowry, Recent Literature on Ancient Greek Economic Thought Journal of Economic Literature, Vol. 17, No. 1 (Mar., 1979), pp. 65-86*

MODULE II - CLASSICAL POLITICAL PHILOSOPHY (10 Hours)

Adam Smith - naturalism, optimism, Theory of moral sentiments, Specialisation of Labour, The pessimists- Malthus and Ricardo. The Malthusian Debate. Origin of the Historical school.

SELF STUDY:

- *J. Bonar, The Theory of Moral Sentiments," by Adam Smith, 1759, Journal of Philosophical Studies, Vol. 1, No. 3 (Jul., 1926), pp. 333-353*

- Jonathan B. Wight, *The Treatment of Smith's Invisible Hand*, *The Journal of Economic Education*, Vol. 38, No. 3 (Summer, 2007), pp. 341-358
- Donald Rutherford, *Malthus and Three Approaches to Solving the Population Problem* (English Edition, 2002-), Vol. 62, No. 2 (2007), pp. 213-237
- D. P. O'Brien, *Ricardian Economics and the Economics of David Ricardo* *Oxford Economic Papers, New Series*, Vol. 33, No. 3 (Nov., 1981), pp. 352-386

MODULE III - THE SOCIALISTS OF THE EARLY NINETEENTH CENTURY (10 Hours)

Critique of capitalism, Rise of Socialist Thought, Types of Socialism, Karl Marx.

SELF STUDY:

- Susan M. Schoenbohm, *The Function And Questionable Purpose Of Utopian Thought*, *Soundings: An Interdisciplinary Journal*, Vol. 91, No. 1/2 (Spring/Summer 2008), Pp. 21- 32
- Barbara Harriss-White, *Poverty and Capitalism*. *Economic and Political Weekly*, Vol. 41, No. 13 (Apr. 1-7, 2006), pp. 1241-1246
- Lange, O. (1935). *Marxian Economics and Modern Economic Theory*. *The Review of Economic Studies*, 2(3), 189-201
- Jürg Niehans, *Revolution and Evolution in Economic Theory*, *The Australian Quarterly*, Vol. 65, No. 1 (Autumn, 1993), pp. 498-515

MODULE IV - RECONSTRUCTION OF ECONOMIC SCIENCE (15 Hours)

Subjectivism and marginalism. Earlier developments in the Marginal Utility concept, Austrian school. Mathematical school, Swedish school: Knut Wicksell, Hedonism,. Contribution of American thought. Neo classical orthodoxy, Marshall: competition and equilibrium.

SELF STUDY:

- Robert B. Ekelund Jr. and Robert F. Hébert, *The Origins of Neoclassical Microeconomics*, *The Journal of Economic Perspectives*, Vol. 16, No. 3 (Summer, 2002), pp. 197-215
- William M. Dugger, *Two Twists in Economic Methodology: Positivism and Subjectivism*, *The American Journal of Economics and Sociology*, Vol. 42, No. 1 (Jan., 1983), pp. 75- 91
- Schabas, Margaret. "Alfred Marshall, W. Stanley Jevons, and the mathematization of economics." *Isis* 80, no. 1 (1989): 60-73.

MODULE V- MODERN ECONOMIC THOUGHT (15 Hours)

Institutional economics. Welfare economics: New welfare economics. Keynesian economics: General equilibrium conditions, Econometrics - Walrus and Stockholm school. Post Keynesian Economics. Samuelson. Heterodox economics - Sraffa, Chamberlin, Joan Robinson.

SELF STUDY:

- Robert Heilbroner, *Analysis and Vision in the History of Modern Economic Thought*, *Journal of Economic Literature*, Vol. 28, No. 3 (Sep., 1990), pp. 1097-1114
- Davidson, Paul. "Setting the record straight on A history of Post Keynesian economics." *Journal of Post Keynesian Economics* 26, no. 2 (2003): 245-272.
- Cropsey, Joseph. "What Is Welfare Economics?" *Ethics*, vol. 65, no. 2, 1955, pp. 116– 125.

REFERENCES:

1. *A Patel (2009) The Collected Works of A.K. Dasgupta- Volume 1, Oxford Publications.*
2. *Douglass, C. (1981) North, Structure and change in economic history. New York: Norton, 5, pp.33-40.*
3. *Gide Charles and Rist Charles (2007) A History Of Economic Doctrines – From the Time of the Physiocrats to the Present Day, (1st Indian Reprint), Surjeet Publications, New Delhi.*
4. *Haney Lewis (1979) History of Economic Thought, Surjeet Publications.*
5. *Hunt E. K and M Lautzenheiser (2011) History of Economic Thought: A Critical Perspective, 3rd Edition, PHI*
6. *Heilbroner, Robert L. The worldly philosophers: The lives, times and ideas of the great economic thinkers. Simon and Schuster, 1999.*
7. *Kapp William (1960) History of Economic Thought, Barnes and Noble.*
8. *Mark Blaug (1992) The Methodology of Economics, Cambridge University Press*
9. *Roll Eric (1986) A History of Economic Thought, Oxford University Press.*
10. *Robbins, Lionel Robbins Baron, Steven G. Medema, and Warren J. Samuels. A history of economic thought: the LSE lectures. Princeton: Princeton University Press, 1998.*
11. *Screpanti, Ernesto and Zamagni, Stefano (2006) An Outline Of The History Of Economic Thought (2nd Edition), Oxford University Press.*
12. *History of economic Theory Takeshi Negishi North Holland latest edition*
13. *Lokanathan, V. A History of Economic Thought (Tenth Edition), S Chand Publishers*

Note: In order to have an understanding about the dynamic causations of the development of ideas, discussions on the political, cultural and historical backgrounds and readings of the period and thinker's biographical outlines is recommended. Reading on economic history of nations, and on Nobel laureates is an additional area of reading to enrich the knowledge of the subject.

Course Outcomes: At the end of the Course, the Student will

CO1	Have acquired knowledge of development of the discipline of Economics and the contributions made by prominent economists in this field.
CO2	Have developed a thorough understanding of the evolution of the schools of thought in relation to their political and economic context.
CO3	Have developed the ability to critique the theories in relation to their schools of thought.
CO4	Be able to contrast and explain the various schools of thought and the validity of economic theories.

Semester	I
Paper Code	EC 7221
Paper Title	MICRO ECONOMIC THEORY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To equip students with the theories and analytical tools for micro economic analysis.
- To develop students' ability to apply analytical tools in different economic situations.

MODULE I - THEORY OF CONSUMPTION AND DEMAND ANALYSIS (15 Hours)

Utility: Cardinal and Ordinal, Marshallian theory of Consumer Behavior, Indifference Curve Approach- Basic Axioms, existence of IC, shape of IC under different situation, Budget Line, shift of budget line, equilibrium of the Consumer, Extension of Indifference Curve Approach: Derivation of Income Consumption Curve, Engel Curve, Price Consumption Curve, PCC and ICC under different nature of goods, Price Effect, Income Effect and Substitution Effect: Hicks method for normal and inferior goods case, Marshallian Demand Function, Hicksian Demand Function and Slutsky Demand Function, Indirect Utility function, Roy's Identity, Shephard's lemma. Revealed Preference Theory: Axioms, Elasticity of demand: price and income elasticity.

MODULE II - THEORY OF PRODUCTION AND COST (10 Hours)

Introduction to production function, Concept of Production, different types, introduce different standard functional forms, Short Run production function- Total Product, Average Product and Marginal Product. Production under long run-Isoquant, Ridge Lines, Elasticity of substitution, Returns to Scale, different types. Short Run Cost- total cost, fixed, variable cost, marginal cost -average fixed, average variable cost, Theory of Cost under Long Run-Derivation of Isocost line, Equilibrium of the firm, Expansion Path.

SELF STUDY:

- Modern Theory of Cost.
- *Douglas, P. H. (1976). The Cobb-Douglas production function once again: its history, its testing, and some new empirical values. Journal of Political Economy, 84(5), 903-915.*

MODULE III - THEORY OF THE FIRM (20 Hours)

Perfect competition - market equilibrium. Monopoly-short run, long run, multiplant monopolist, price discrimination model. Monopolistic competition– Chamberlin’s Model. Oligopoly–Cournot, Bertrand, Sweezy, Stackleberg ‘s price leadership model, Cartel.

SELF STUDY:

- *Dorfman, R. and P.O. Steiner, ‘Optimal advertising and optimal quality’, American Economic Review 44 1954, pp.826–36.*
- *Oi, W. ‘A Disneyland dilemma: two-part tariffs for a Mickey Mouse monopoly’, Quarterly Journal of Economics 85 1971, pp.77–90*

MODULE IV - ECONOMICS OF DISTRIBUTION (5 Hours)

Marginal productivity theory, product exhaustion theorem. Theory of distribution in perfect and imperfect product and factor markets.

SELF STUDY:

- *Frank, R. H. (1984). Are workers paid their marginal products? The American economic review, 74(4), 549-571.*

MODULE V - ECONOMICS OF EQUILIBRIUM AND WELFARE (10 Hours)

Concept of General Equilibrium, Criteria of social welfare: Cardinalists criterion, Bentham criterion, Pareto Optimal conditions, Kaldor Hicks compensation criterion, Bergsons criterion, Production Possibility Curve, derivation of grand utility possibility frontier Imperfections, externalities and market failures, Arrow's impossibility theorem.

SELF STUDY:

- *Arrow, K. (1962). Economic welfare and the allocation of resources for invention. In The rate and direction of inventive activity: Economic and social factors (pp. 609-626). Princeton University Press. (NBER working paper)*

REFERENCES:

1. Chakravarty S (2002) Microeconomics, Allied Publishers.
2. Gravelle Hugh and Rees Ray (2004): Microeconomics, 2nd Edition, Pearson Education.
3. Hall R Varian (2010): Intermediate Microeconomics- A modern Approach, 8th edition
4. Hall R Varian (2009): Microeconomic Analysis, 3rd Edition, Viva Books
5. Koutsoyiannis A (2008): Modern Microeconomics, 2nd Edition, MacMillan Press Ltd.
5. Perloff J.M. (2001): Microeconomics, 2nd Edition, Pearson Publication.
6. Salvatore, D. (2010). Schaum's Outline of Microeconomics. McGraw Hill Professional
7. Sen A (2007): Microeconomics Theory and Applications, Oxford
8. Pyndick Robert.S and Rubinfeld Daniel L (2009) ,Microeconomics,Prentice Hall , 7th edition
9. Henderson and E Quandt: (2003) Microeconomic Theory- A Mathematical Approach, McGraw Hill, Third Edition.

Course Outcomes: At the end of the Course, the Student

CO1	Have developed a sound theoretical <i>knowledge</i> of different concepts of Microeconomic theory, like role of consumers, producers, etc., their interaction in determining market equilibrium, market structure and market power and the concept of General Equilibrium and Welfare Economics.
CO2	<i>Understand</i> the methods used for different socio-economic issues concerning the discipline.

CO3	<i>Interpret and apply</i> micro economic theory to solve several microeconomic problems, market trends. etc.
CO4	<i>Analyze critically and formulate independent and well-considered conclusions about economic issues and policies.</i>

Semester	I
Paper Code	EC 7325
Paper Title	MACRO ECONOMIC THEORY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To examine working of the economy at the aggregate level
- To enable students to appreciate the working of major theoretical developments in short run macroeconomics and its policy implications

MODULE I - MEASUREMENT OF MACRO ECONOMIC VARIABLES (8 Hours)

Basic concepts in macroeconomics: income, output, consumption, savings, investment.

Circular Flow of Income: three-sector and four sectors. GDP and its components, GDP at Factor Cost and market price, GNP, NDP and NNP, National Income, Disposable Income, Personal Income, Private Income, GDP Deflator, CPI, WPI, Measurement of NI in India.

SELF STUDY:

- *Bhaduri, A. (1986). 'The nature of capitalistic production' in Macroeconomics: the dynamics of commodity production. Springer UK.*

MODULE II - CLASSICAL THEORY OF OUTPUT, EMPLOYMENT AND INTEREST RATE (10 Hours)

Classical Macroeconomics: Production, Employment and Aggregate Supply, Quantity Theory of Money and Aggregate Demand, Classical Dichotomy, Classical Theory of International rest Rate, Policy Implications: Government Spending, Taxation & Monetary Policy

SELF STUDY:

- *Samuelson, P. A. (1978). The canonical classical model of political economy. Journal of economic literature, 16(4), 1415-1434.*

MODULE III - KEYNESIAN THEORY & IS LM MODEL (15 Hours)

Simple Keynesian Model (SKM) of Equilibrium Income, Stability, Exports & Imports in SKM, Commodity market Equilibrium and IS curve, Money Market- Keynesian money demand function, Money Market equilibrium and and LM curve, Liquidity trap, IS-LM Model in closed and Open economy and relative effectiveness of fiscal and monetary policy, Multipliers and Policy Mix, Aggregate Demand and Aggregate Supply, Keynes versus classics

SELF STUDY:

- Krugman, P. R., Dominquez, K. M., & Rogoff, K. (1998). *It's back: Japan's slump and the return of the liquidity trap. Brookings Papers on Economic Activity, 1998(2), 137-205.*
- Rogoff, K. (2015). *Costs and benefits to phasing out paper currency. NBER Macroeconomics Annual, 29(1), 445-456.*
- Dasgupta, D. (2016). *Theoretical Analysis of 'Demonetisation'. Economic and Political weekly, 51.*

MODULE IV - POST KEYNESIAN THEORY OF CONSUMPTION, INVESTMENT AND DEMAND FOR MONEY (12 Hours)

Keynesian Consumption Hypothesis, Fisher's Inter-temporal Model, Life cycle and permanent income hypothesis, Relative Income Hypothesis, Random walk hypothesis. Keynesian and Tobin's theory of demand for money, Keynesian theory of investment, NPV, IRR, Payback rule, Tobin's q

SELF STUDY:

- Horioka, C. Y. (1990). *Why is Japan's household saving rate so high? A literature survey. Journal of the Japanese and International Economies, 4(1), 49-92.*

MODULE V - POST KEYNESIAN THEORY OF INFLATION, OUTPUT AND UNEMPLOYMENT (15 Hours)

Monetarist's view on fiscal and monetary policy, output inflation trade off-Short run and Long run Phillips curve and NAIRU, Adaptive expectations versus rational expectations, Aggregate Supply models - Lucas Imperfect Model, Sticky Wage and Sticky Price Model (concepts), Real business cycle model. Ricardian equivalence theory, Theory of Unemployment: Efficiency Wage Theory.

SELF STUDY:

- Ball, L., & Mankiw, N. G. (2002). *The NAIRU in theory and practice. The Journal of Economic Perspectives, 16(4), 115-136.*
- Olivier, B., 2005. *European Unemployment: The Evolution of Facts and Ideas. NBER Working Papers.*

REFERENCES:

1. David Romer: *Advanced Macroeconomics*, Mc Graw Hill, 1996
2. Froyen Richard T (2005): *Macroeconomic Theory and Policy*, 8th Edition, Pearson Education
3. Gregory Mankiw (2005) : *Macroeconomics*, fifth edition, Worth Publishers
4. Oliver Blanchard (2005): *Macroeconomics*, Pearson Education, 4th Edition
5. Olivier Blanchard and Stanley Fisher (2013): *Lectures on Macroeconomics*, PHI Ltd
6. Snowdon and Vane (2005): *Modern Macroeconomics: Its Origin Development and Current State*, Edward Elgar Publications,
7. Wendy Carlin and David Soskice (2005) : *Macroeconomics- Imperfections Institutions and Policies*, Oxford, First Indian Edition
8. Ghosh and Ghosh (2011) *Macroeconomics - PHI Publications*

Course Outcomes : At the end of the course, the student should

CO 1	Develop a sound theoretical <i>knowledge</i> of different concepts of Macroeconomics which include economic growth, consumption, investment, unemployment, business cycles, inflation, monetary and fiscal policy ,etc.
CO 2	Understand the methods used for different socio-economic issues concerning the discipline.
CO	Interpret and apply methods to solve macroeconomic problems.

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Semester	I
Paper Code	EC 7425
Paper Title	MATHEMATICAL METHODS FOR ECONOMISTS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- Introduction to some branches of mathematics used extensively by economists
- To gain knowledge and skills in applying Mathematical methods to analyse and solve economic problems.

MODULE I - INTRODUCTION (10 Hours)

Importance- mathematical methods in economic analysis. Number system, elementary set theory. Concept and types of functions- limits and continuity. Elementary algebra- Linear and non-linear quadratic- cubic, parabolic, hyperbolic, logarithmic and exponential functions and their graphs. Factorization of quadratic equations. Simultaneous equations- applications to market equilibrium analysis, one and two commodity cases. Elementary matrix algebra, definition, types and operations of matrices, determinants, Cramer's rule, economic application and solving linear systems.

MODULE II - DIFFERENTIATION WITH ECONOMIC APPLICATIONS (15 Hours)

Meaning and rule of differentiation, marginal concept, 1st and second order derivatives. Concept of elasticity, elasticity of substitution, output and total cost elasticity, partial derivatives- 1st and 2nd order conditions, cross partial derivatives, application of calculus in demand, utility and production analysis. Homogeneous functions, Cobb-Douglas and CES production function and their properties, Euler's theorem and market equilibrium, Walrasian and Marshallian stability conditions.

MODULE III - MAXIMA AND MINIMA OF FUNCTIONS AND APPLICATIONS (10 Hours)

Single and multivariable functions- unconstrained and constrained optimization- Constrained Optimization: Lagrangian multiplier method-applications on consumer equilibrium, utility maximization, cost minimization, derivatives of ordinary and compensated demand functions, output maximization. Unconstrained Optimization: revenue and profit maximization under perfect, monopoly, duopoly and oligopoly markets. Concept and applications of total derivatives.

MODULE IV - CONCEPT OF INTEGRATION AND APPLICATIONS (10 Hours)

Rules, definite and indefinite integration, area under curves, derivation of TC, TR from MR, MC, derivation of saving and consumption function from MPS and MPC, Consumer's and producer's surplus. Introduction of the Concept of Differential equation and basic application.

MODULE V - LINEAR PROGRAMMING, INPUT-OUTPUT ANALYSIS AND GAME THEORY (15 Hours)

Basic concept, formulation of a linear programming problem-its structures and variables. Nature of feasible, basic, and optimal solutions- graphical and simplex method. Basic theorems of linear programming, formulation of the dual program and its interpretation. Shadow prices and its uses. I-O analysis: solving basic I-O model, Concept of game, strategies, simple and mixed, value of a game, saddle point solution, simple applications.

SELF STUDY: problem solving for all modules

REFERENCES:

1. Allen, R. G. D. (1995). *Mathematical Analysis for Economists*. Macmillan.
2. Anthony and N Biggs (2012) *Mathematics for Economics and Finance- Methods and Modelling*, Cambridge University Press
3. Chiang, A.C (1984) *Fundamental Methods of Mathematical Economics*”, McGraw-Hill Book Company
4. Carl P Simon and Lawrence Blume (2013) *Mathematics for Economists*, Viva Books
5. Henderson and E Quandt: (2003) *Microeconomic Theory- A Mathematical Approach*, McGraw Hill, Third Edition
6. Jean Soper (1999) *Mathematics for Economics and Business: An Interactive Introduction*, with CD-ROM containing Math Econ Blackwell Publishers.
7. Intriligator, M. D. (2002). *Mathematical optimization and economic theory*. Society for industrial and applied mathematics.

Course Outcomes: At the end of the Course, the Student should

CO1	Have developed a sound quantitative <i>knowledge</i> of basic economic theories and its application in solving economic problems.
CO2	<i>Understand</i> the role of mathematical tools in economics.
CO3	<i>Interpret</i> and <i>apply</i> several mathematical methods like Differentiation, Integration, Optimization, Input-Output, Game Theory and Linear Programming models for obtaining optimum solution under complex economic situations.

Semester	I
Paper Code	EC 7521
Paper Title	INDUSTRIAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To demonstrate the application of microeconomic principles to the field of industrial organization.
- To equip learners with skills for the analysis of firm's behavior under different industrial structures.
- To demonstrate the use of public policy in the regulation of industrial organizations and to promote competition

MODULE I - CONCEPT, ORGANIZATION AND BEHAVIOR OF A FIRM (15 Hours)

Nature and scope of industrial economics–Basic concepts–firm, industry, market. Organization of firm-types of ownership and management-M form and U form. Objectives of the firm. Alternative theories of Firm-Transaction Cost theory, Agency cost theory, Resource based theory, Property rights theory and behavioral theories. Determinants of size of firm and profitability, cost theory and optimum size of a firm. Growth of firms--constraints on growth. Industrial Efficiency-concept, determinants, measurement, efficiency and decision making -X-efficiency.

SELF STUDY:

- *R. H. Coase(1937) - The Nature of the Firm ,Economica, New Series, Vol. 4, No. 16 ,*
- *Oliver Hart (1989) - An Economist's Perspective on the Theory of the Firm, Columbia Law Review, Vol. 89, No. 7.*
- *Harvey Leibenstein, On the Basic Proposition of X-Efficiency Theory,The American Economic Review,Vol. 68, No. 2, Papers and Proceedings of the Ninetieth Annual Meeting of the American Economic Association (May, 1978), pp. 328-332*

MODULE II - MARKET STRUCTURE AND FIRM BEHAVIOUR (15 Hours)

Market structure, competitive and non-competitive markets, strategic and non-strategic behavior of firms, market behavior–competition or cooperation.

Market concentration- measurement- Concentration ratio, Hirschman -Herfindahl index, effects on market performance.

Product differentiation and Advertisement. Pricing decisions- situations and procedures. Diversification-motives, measurements, Integration –horizontal and vertical, and mergers. Case Study.

SELF STUDY:

- *Justin P. Johnson, David P. Myatt, On the Simple Economics of Advertising, Marketing, and Product Design, The American Economic Review, Vol. 96, No. 3 (Jun., 2006), pp. 756-784*
- *Richard P. Rumelt (1982) Diversification Strategy and Profitability, Strategic Management Journal, Vol.3, No.4, pp.359-369,*
- *Lafontaine and Slade (2007) Vertical integration and firm boundaries: The evidence, Journal of Economic Literature Vol 45, No.3 pp.629–85.*

MODULE III - FIRMS BEHAVIOR AND INNOVATION (10 Hours)

Invention and innovation—Characteristics of innovation, Schumpeter's theory of innovation-destructive capitalism— competitive and non-competitive market behavior of firms under innovation. R&D- In-house R&D, MNCs and transfer of technology. Innovation-process, Adoption and diffusion of innovations- measurement, models. Protection of Intellectual Property- patent policy, the role of government intervention in industry.

SELF STUDY:

- *Sanjay Kathuria, Market Structure and Innovation: A Survey of Empirical Studies of Schumpeterian Hypotheses for Developed Countries and India, Economic and Political Weekly, Vol. 24, No. 34 (Aug. 26, 1989), pp. M113-M125*

MODULE IV- PROJECT EVALUATION (10 Hours)

Investment decisions- need for finance, choice of funding. Financial statements – Balance sheet, Profit & Loss Analysis. Cost of capital, Analysis of financial ratios –types and their relationships, break even analysis. Time profile and methods of project evaluation. Appraisal of projects -Social cost benefit analysis, balancing private and social returns- IRR, NPV and cost benefit ratio – importance of discount rate.

SELF STUDY:

- *Garry Pursell (1990) Industrial Sickness, Primary and Secondary: The Effects of Exit Constraints on Industrial , The World Bank Economic Review, Vol. 4, No. 1, pp. 103-114*

MODULE V - INDUSTRIAL LOCATION, REGULATION AND REGIONAL DEVELOPMENT (10 Hours)

Determinants of Industrial Location. Theories of industrial location -Weber, Sargant Florence. Regulation framework for industries – Forms of industrial regulations, Regulation of firm in market economies, regulation and competition- antitrust policies. Approach to balanced sectoral and spatial development of industries.

SELF STUDY:

- *Firm Location and the Creation and Utilization of Human Capital ,Andres Almazan, Adolfo De Motta Sheridan Titman, The Review of Economic Studies, Vol. 74, No. 4 (Oct., 2007), pp. 1305-1327*
- *Harper W. Boyd, Jr., Henry Claycamp, Industrial Self-Regulation and the Public Interest*
- *Michigan Law Review, Vol. 64, No. 7 (May, 1966), pp. 1239-1254*
- *Becker, Toward, The Journal of Law & Economics, Vol. 19, No. 2, Conference on the Economics of Politics and Regulation (Aug., 1976), pp. 245-248*

REFERENCES:

1. Barthwal. R.R (2003) Industrial Economics- An Introductory Text Book, New Age International (P) Ltd New Delhi.
2. Hay.A.D and Derek J. Morris (1991) Industrial Economics Theory and Evidence Oxford University Press.
3. Cashian, P (2007) Economics, Strategy and the Firm, Palgrave Macmillan.
4. Clarke, R.S (1985) Industrial Economics, Blackwell Publishing.
5. Das, S.P (2007) Microeconomics for Business, Sage Publications Pvt. Ltd.
6. Waldman, D.E and Elizabeth J. Jensen (2013) Industrial Organizations theory and practice- Fourth Edition , Pearson Education Inc.
7. Koutsoyiannis, A. (1979), Modern Microeconomics, Macmillan, New York
8. Lipezynski,J , John Wilson and John G (2005) Industrial Organization Competition, Strategy, Policy- Second edition ,Financial Times/ Prentice Hall.
9. Michael A. Crew, David Parker. (2006). International Handbook on Economic Regulation. Edward Elgar (New York).

Course Outcomes: At the end of the Course, the Student will

CO1	Have acquired <i>knowledge</i> of basic concepts and scope of industrial organizations
CO2	Develop <i>understanding</i> of strategic behavior of firms
CO3	Develop competency in <i>usage</i> of economic tools for analyzing issues specific to industrial organizations
CO4	Will be able to <i>evaluate</i> the use of public policy like protection of Intellectual Property Rights and competitiveness among firms

Semester	II
Course Code	EC 8125
Course Title	STATISTICAL METHODS FOR ECONOMISTS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To teach concepts, principles and methods of statistics
- To demonstrate the application of these techniques to understand and analyse economic problems in economics

MODULE I - DESCRIPTIVE STATISTICS (15 Hours)

Measurement, Classification and Presentation of data and Graphical representation of data. Measures of Central Tendency: Mean, Median, Mode, Geometric Mean, and Harmonic Mean: properties of mean, weighted mean. Index numbers Measures of Dispersion: Range, Interquartile range, variance, standard deviation, coefficient of variation. Measures of Skewness and Kurtosis, Scatter diagram, Bivariate Frequency distribution

MODULE II - THEORY OF PROBABILITY AND PROBABILITY DISTRIBUTION (13 Hours)

Definition of Probability: classical, frequency and Bayesian approach; Sets and sample spaces, Permutations and combinations, Basic theorems of Probability Theory: Addition theorem, Mutually exclusive, conditional probability, independence: Bayes Theorem, Discrete Random variables and Probability functions, Continuous Random variables and Probability functions, Mathematical expectations

MODULE III: THEORETICAL AND SAMPLING DISTRIBUTIONS (12 hours)

Theoretical distributions: Specification and properties of discrete and continuous distribution: Uniform, Bernoulli, Binomial Poisson, Normal and exponential distributions. Sampling distributions; Sampling distribution of sample mean and variance; Central limit theorem; Distribution of selected test statistics-Chi square, t-distribution and F-distribution.

MODULE IV: SAMPLING TECHNIQUES (10 hours)

Principal steps in sample survey; Determination of sample size; Probability sampling: Simple random sampling,

stratified random sampling, systematic sampling, cluster sampling; non probability sampling, quota sampling, purposive sampling, convenience sampling, snow ball sampling, multi stage sampling; sampling error

MODULE V: ESTIMATION AND TESTING OF HYPOTHESIS (15 hours)

Estimation: point estimation, interval estimation, properties of estimation- unbiasedness, efficient estimator; methods of estimation.

Design and Evaluation of tests; types of errors;; testing for single mean; testing for equality of two means; testing for equality of more than two means (ANOVA); testing for equality of two variances, Analysis with respect to more than two variables- correlation, association with discrete variable, Simple Linear Regression, fitting a trend.

Problem solving for all modules as Self-study using any statistical package especially R software

REFERENCES:

1. A L Nagar and R K Das(1983) : Basic Statistics, Oxford University press
2. Gupta SC and V.K Kapoor – Fundamentals of Mathematical Statistics, Sultan Chand and Sons 2002
3. Anderson and Sweeney and Williams- Statistics for Business and Economics, Thomson Learning,2012
4. Newbold and Carlson and Thorne-Statistics for Business and Economics, Pearson Publication 2012
5. Mood, A M., F A Greybill and D C Boes(2001), Introduction to theory of statistics, McGraw Hill.

Course Outcomes (EC8121): At the end of the course, the student should

CO1	Develop knowledge of basic concepts in Statistics
CO2	Have an understanding of how statistical tools form the basis of quantitative analysis in Economics
CO3	Are able to apply statistical methods to real world problems and formulate research questions using statistical inference.

Semester	II
Paper Code	EC 8221
Paper Title	PUBLIC ECONOMICS AND FINANCE
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to acquire knowledge about the applications of economic theory to the study of non-market decision-making by the Government.
- To examine the limitations of Government interventions.
- To examine the role of government's financial activities in the special context of India.

MODULE I- INTRODUCTION TO PUBLIC ECONOMICS (20 Hours)

Market Failures- imperfections, Externalities and Efficiency, public sector solution to externality problems – taxes versus regulation: efficiency consideration and public choice rationale, Pareto optimality and public, pure public goods.-non-rival consumption and non-excludability- non-excludability and the issue of free rider. Pareto optimal provision of a public good. Pigou tax and subsidies, Policy choices for correcting externalities: Coase theorem, Emission fees and Cap-and-Trade; Voluntary provision of impure public goods: theory of Clubs. Public provision of pure public goods: Lindahl process (voluntary exchange model) and Clarke tax. Social wants, merit wants, public wants. Voting systems under Arrow's Impossibility Theorem. Rent seeking and Directly Unproductive Profit seeking (DUP) activities, Fiscal federalism –Optimum size of local authorities: An application of the theory of clubs, Tiebout model. **SELF STUDY:**

- *Charles M. Tiebout (1956) A Pure Theory of Local Expenditures, the Journal of Political Economy, Vol. 64, No. 5.*
- *Jagdish N. Bhagwati (1982) Directly Unproductive Profit-seeking (DUP) Activities, Journal of Political Economy, vol. 90, no. 5.*
- *William J Congdon, Jeffery R Kling, Sendhil Mullianathan: Policy and Choice: Public Finance through the Lens of Behavioral Economics, The Brookings Institute: ch.1,2,3*

- *Ostrom, E. (2003) How types of goods and property rights jointly affect collective action". Journal of Theoretical Politics. Vol. 15, No. 3: 239-270*

MODULE II - PUBLIC EXPENDITURE (10 Hours)

Public Expenditure- - intensive and extensive expansion of governmental activities. Micro and macro perspective of public expenditure, Wagner's Law of Increasing State Activities, Wiseman–Peacock Hypothesis. Criteria for Public Investment–Cost-benefit analysis-Principle of maximum social advantage. Public Economic Policies: Allocation, Distribution and Stabilization.

Effects of Public Expenditure on Savings, Investment and Growth.

SELF STUDY:

- *Alan T. Peacock and Jack Wiseman (1961) The Growth of Public Expenditure in the United Kingdom , National Bureau of Economic Research ,Number 72, General Series*
- *Peter Saunders, Public Expenditure and Economic Performance in OECD Countries Journal of Public Policy, Vol. 5, No. 1 (Feb., 1985), pp. 1-21*
- *Russell S. Sobel (2003) Welfare Economics and Public Finance, Ch.2 in Handbook of Public Finance, p.19-51*
- *Shenggen Fan, Peter Hazell and S. K. Thorat, Impact of Public Expenditure on Poverty in Rural India, Economic and Political Weekly, Vol. 35, No. 40 (Sep. 30 - Oct. 6, 2000), pp. 3581-3588*

MODULE III - TAXATION AND DEBT (10 Hours)

Principles of taxation-Theories of Taxation- two approaches- Benefit Approach, Ability to Pay Approach –Theory of Optimal Taxation .Concepts of equal sacrifice– Incidence of Taxation, effects of taxation. Social welfare recent reforms in India in taxation-VAT, GST. Public Debt – Sources, types, Effects, Burden and problems of debt Management. Deficit financing - currency expansion, credit expansion. Borrowing versus taxation for debt service.

SELF STUDY:

- *Piketty, T. & Qian, N.(2009) Income Inequality and Progressive Income Taxation in China and India, 1986-2010, American Economic Journal: Applied Economics, 1(1),pp. 53-63.*
- *A.B. Atkinson and J.E. Stiglitz (1976) The Design of Tax Structure: Direct Versus Indirect Taxation, Journal of Public Economics 6:pp.55-75.*
- *Evsey D. Domar (1944) The "Burden of the Debt" and the National Income, The American Economic Review, Vol. 34, No. 4 , pp. 798-827*

MODULE IV - BUDGETING AND FISCAL POLICY (10 Hours)

Concepts –Revenue account, Capital Account, Fiscal Deficit, Revenue Deficit and Primary Deficit– Budget Estimate, and Revised Estimate, actual and audited expenditure. Preparation, legislation of the budget appropriations, Programme Budgeting and Zero Base Budgeting. Balanced versus unbalanced budget. Fiscal policy - Objectives, income inducing effects of combined taxation and spending. Stimulation of aggregate demand, employment, reduction in taxes. Problems of timing and flexibility issues-lags.

SELF STUDY:

- *Jagdish Bhagwati, Deficit Financing and Economic Development, Indian Economic Review, Vol. 3, No. 2 (August 1956), pp. 40-60*

- *Philip Arestis and Malcolm Sawyer (2003), Reinventing Fiscal Policy, Journal of Post Keynesian Economics, Vol. 26, No. 1, pp. 3-25.*

MODULE V - FEDERAL FINANCE WITH SPECIAL REFERENCE TO INDIA (10 Hours)

Rationale of the local government. Centralisation vs Decentralisation. Financing of local governments Fiscal Federalism- Principles of fiscal federalism-History and theory. Problems-Centre State Financial Relations–Horizontal and Vertical imbalances–Union Finance–Trends in Revenue and Expenditure of Government of India –Latest Finance Commission and its Recommendations.

SELF STUDY:

- *Wallace E. Oates (1999), An Essay on Fiscal Federalism, Journal of Economic Literature, Vol. 37, No. 3, pp. 1120-1149.*

REFERENCES:

- 1.Cullis, John and Philip Jones (2010) Public Finance & Public Choice Third Edition, Oxford Publications.
- 2.Raghubendra Jha (1987) Modern Theory of Public Finance, Wiley Eastern Limited, Delhi
3. Musgrave , Richard A. and Peggy B. Musgrave (2004) Public Finance in Theory and Practice Fifth Edition, McGraw-Hill
- 4.Singh S.K. (2008) Public finance in theory and practice, S Chand and Company Limited.
- 5.Hindriks, Jean and Gareth D. Myles (2005) Intermediate Public Economics. MIT Press.
- 6.Stiglitz, J.E (2000) Economics of the Public Sector Third Edition, W. W. Norton & Company.
7. Rosen, H.S (2005) Public Finance Seventh Edition , McGraw-Hill International Edition.
- 8.C. Rangarajan and D. K. Srivastava (2011) Fiscal Federalism.
- 9.Govinda Rao M and T. K. Sen (1996) Fiscal Federalism in India: Theory and Practice
10. Fiscal Federalism by C. Rangarajan and D. K. Srivastava; Govinda Rao M. and T. K. Sen
11. Fiscal Federalism in India: Theory and Practice, 1996

Course Outcome

CO1	Are aware of theoretical frameworks in Public Economics
CO2	Have an understanding of the role and limitations of Government intervention in the economy
CO3	Are able to apply concepts of the discipline to examine budget statements in federalistic structure
CO4	Are able to analyse the impact of public economic tools on macroeconomic decision making

Semester	II
Paper Code	EC 8321
Paper Title	INSTITUTIONAL AND BEHAVIOURAL ECONOMICS: themes and concepts
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To introduce concepts and theories of institutional and Behavioural economics -
- To examine how institutions and behaviour influence each other,

MODULE I - INTRODUCTION TO INSTITUTIONAL ECONOMICS (15 Hours)

Institutional Economics as a departure from Neo-Classical and Marxian Economics, comparative view of old and new institutional economics. Formal and informal institutions, functions of social and economic institutions. Values in institutional economics

Module II-Introduction to Behavioural Economics (15 hrs)

Intro to behavioural economics, origin of behavioural Economics-rationality and bounded rationality, Time preferences, Social preferences, beliefs and learning¹. Prospect Theory, Risk , expected utility-(attitudes to risk)and Probabilities--, Heuristics and Biases,choice architecture

MODULE III - DEVELOPMENT AND INSTITUTIONAL ECONOMICS (15 Hours)

The role of the state in the process of institutional change. State in development - Corruption and its economics, Corruption and its economics: the principal-agent framework; incentive structures; the threat system and the authority; collusion, preemptive collusion and ex-post collusion; Rent-seeking behavior-; collusion, Rent-seeking behavior and free-riding. Welfare implications of corruption.

Module IV: Applications of Behavioural Economics in Institutions² (15 hours)

Incentives and institutional design Incentives shape behavior (individual and collective);Can behavioral insights improve policy making? Behavioral public economics- salience and taxes, savings, default options of savings,any current issue.

¹ Source <https://economics.mit.edu/sites/default/files/inline-files/14.160%20syllabus%20spring%202022.pdf>

² Institutional and Behavioral Economics_2021_22_Murugesan (1).pdf

SELF STUDY:

- R. S. Rao ,New Institutional Economics, Marx and Marxism , Economic and Political Weekly, Vol. 29, No. 31 (Jul. 30, 1994), pp. PE65-PE69
- Posner R. and Rasmussen E. Creating and Enforcing Norms, with Special Reference to Sanctions. International Review of Law and Economics, 1999, Vol. 19, pp. 369-382
- Paul Dale Bush,Philosophical and Methodological Issues in Institutional Economics, Journal of Economic Issues, Vol. 25, No. 2 (Jun., 1991), pp. 320-346
- Shleifer A,Vishny R. (1993) ‘Corruption’, The Quarterly Journal of Economics, 108(3): 599-617
- Olken B. (2009) ‘Corruption Perceptions vs. Corruption Reality’, Journal of Public Economics, 93(7-8): 950-964
- Harold Wolozin,The Human Mind, Institutions, and Economic Behavior, Journal of Economic Issues,Vol. 38, No. 2 (Jun., 2004), pp. 563-570
- Bounded Rationality, Institutions, and Uncertainty Author(s): David Dequech Source: Journal of Economic Issues, Vol. 35, No. 4 (Dec., 2001), pp. 911-929
- Prisoner’s dilemma and Nash equilibrium.
- Armen A. Alchian, Harold DemsetzThe Property Right Paradigm,The Journal of Economic History, Vol. 33, No. 1, The Tasks of Economic History (Mar., 1973), pp. 1627
- Ward Farnsworth,Do Parties to Nuisance Cases Bargain after Judgment? A Glimpse inside the Cathedral,The University of Chicago Law Review, Vol. 66, No. 2 (Spring, 1999), pp. 373-436
- David Dequech,Bounded Rationality, Institutions, and Uncertainty,Journal of Economic Issues,Vol. 35, No. 4 (Dec., 2001), pp. 911-929
- Oliver E. Williamson,The Economics of Organization: The Transaction Cost Approach American Journal of Sociology, Vol. 87, No. 3 (Nov., 1981), pp. 548-577.

REFERENCES:

1. Brousseau Eric and Glachant (2008)New Institutional Economics, Cambridge University Press.
2. Chrysostomos Mantzavinos(2001) Individuals, Institutions, and Markets,Cambridge University Press.
3. Geoffrey M Hodgson (Ed) 2003.Recent Developments in Institutional Economics, Edward Elgar Publishing.
4. Groenewegen John et. al(2010)Institutional Economics: An Introduction Palgrave Macmillan
5. Geoffrey M Hodgson (Ed.) (1993) The Economics of Institutions, Edward Elgar.
6. Kapp William(2011)The Foundations Of Institutional Economics , Routededge
7. Malcolm Rutherford (1996) Institutions in Economics,Cambridge University Press.
8. Schmid Allan (2004)Conflict and Cooperation: Institutional and Behavioral Economics,Blackwell Publishing.
9. Langlois, R. (Ed.). (1989). Economics as a process: Essays in the new institutional economics. CUP Archive.
10. North, D. C. (2005) Understanding the Process of Economic Change. Princeton University Press.

Course Outcomes (8321): At the end of the course, the student should

CO1	To understand the concepts institutional economics and behavioural economics
CO2	To understand departures from neo- classical economics
CO3	<i>Critically analyse</i> and formulate independent and well-considered conclusions about economic issues and policies.

Semester	II
Paper Code	EC 8421
Paper Title	ECONOMICS OF GROWTH AND DEVELOPMENT
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to understand the processes and problems of economic development.
- To equip students with skills to analyze various approaches and strategies for accelerating growth in policy making

MODULE I - GROWTH MODELS (15 Hours)

Evolution and Meaning of the concept of Economic Development: Economic Growth, Structural Transformation, Capability Expansion.

Introduction to Growth Model- Concept of Economic growth and steady state, Harrod and Domar (H-D) Model, Instability in H-D model. Models on Flexible Savings Ratio: Kaldor- Mirrlees Model, Pasenetti's Extension of Kaldor- Mirrlees Model. Neoclassical Model: Solow model. Endogenous growth model- AK Model,. Schumpeter's theory.

SELF STUDY:

- Lucas- Uzawa and Romer endogeneous growth models
- *Sen, Amartya "Development: Which way now?The Economic Journal 93.372 (1983): 745-762.*

MODULE II - ECONOMIC DEVELOPMENT: CONCEPT AND THEORETICAL APPROACHES

(15 Hours)

Low-level equilibrium, IRS, Externalities and Complementarities: Big Push Theory, Leibenstein's critical minimum effort thesis, Nelson's Low-level Equilibrium Trap, Nurske's Theory. Allocation of Scarce Resources, Planning and Investment Criteria: Balanced Growth theory and Hirschman's Unbalanced Growth Theory.

SELF STUDY:

- Stages of Economic Development: Marxian Stages of Development, Rostow's Growth Stages
- Capital Turnover Criteria, Social Marginal Productivity Criteria, Investible Surplus and reinvestible surplus criterion. Critiques of capitalist Development: Myrdal and Dependency theory.

- Debraj Ray (1998) Development Economics, Oxford University Press, Delhi. Chapter 5-History, Expectations and Development

MODULE III - THEORETICAL MODELS BASED ON DUALISM (10 Hours)

Types of Dualism: Social, Technical and Financial Dualism. Overview of Rural Markets: Credit, Land and Labour Market. Supply side Dual Models on Development Planning: Lewis, Ranis Fei, Jorgenson Model, Critique of Development Planning: Harris Todaro – Urban Unemployment. Rural Nonfarm sector as an alternative: Ranis Stewart Model.

SELF STUDY:

- Kalecki Demand Side Development Models: Mihir Rakshit, Amitava Bose.
- Bhaduri, A. (1986). *'The Principle of Effective Demand' in Macroeconomics: the dynamics of commodity production.* Springer UK.

MODULE IV - DEVELOPMENT PLANNING IN PRACTICE (10 Hours)

Debates on Indian Planning: Feldman Mahanalobis Model, Brahmananda Vakil Wage Goods Model.

SELF STUDY:

- Country Specific Case Studies: Soviet Debate, China's Decentralized Development.

MODULE V - MEASUREMENT OF ECONOMIC DEVELOPMENT (10 Hours)

Measurement of Development: PQLI, HPI, HDI, Gender and Development: Gender Development Index, Gender Empowerment Index, Gender inequality Index, Other Index: Global Hunger Index, Multidimensional Poverty Index. Growth and measurement of redistribution: Kuznets curve, Axioms of Inequality Measurement, Lorenz curve and Gini coefficient. Poverty and its Measurement: Poverty Line, Absolute and Relative Poverty, Axioms of Poverty Index and Measurement.

SELF STUDY:

- Alkire, S., & Foster, J. (2011). *Understandings and misunderstandings of multidimensional poverty measurement.* *Journal of Economic Inequality*, 9(2), 289-314.

REFERENCES:

1. Bardhan, Pranab (2009) *Aweakening Giants and Feet of Clay, Assessing the Economic Rise of China and India*, Oxford
2. Basu.K(1998)'Analytical Development Economics: Less Developed Economy Revisited', OUP.
3. Debraj Ray (1998) Development Economics, Oxford University Press, Delhi.
4. Ghatak Subrata (2007) *Introduction to Development Economics*, Routledge Taylor and Francis Group.
5. Meier Gerald M., Rauch James E. (2005) *Leading Issues In Economic Development*, OUP.
5. Mitra, Ashok (2005) *Terms of Trade and Class Relations*, Chronicle Books
8. Ranis and Stewart (1993) *Rural Non Agricultural Activities in Development*, JDE, Vol40, pp75 --101
9. Rakshit, Mihir (1989) *Studies in the Macroeconomics of Developing Countries*, OUP

11. Todaro and Smith (1996) Economic Development, Addison-Wesley Series In Economics.
12. Mukherjee and Chakrabarti (2016) Development Economics- A Critical Perspective- PHI
13. Ghosh and Ghosh (2011) Macroeconomics – PHI

Course Outcomes: At the end of the Course, the Student should

CO1	Have developed a sound theoretical <i>knowledge</i> of the major growth and development theories, including issues of development, related to poverty and inequality.
CO2	<i>Understand</i> the methods in determining the processes and problems of economic growth and development.
CO3	<i>Interpret</i> and <i>critically analyze</i> various approaches and strategies for accelerating growth and development in policy making in India with a global dimension.
CO4	Develop a habit of <i>reading and evaluating</i> the literature in the discipline and <i>apply</i> them to analyze empirical evidence in the patterns of economic development related to the current economic situation.

Semester	II
Paper Code	EC 8525
Paper Title	INTRODUCTION TO PROGRAMMING AND STATISTICAL PACKAGES IN ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To develop logical thinking and programming skills
- To provide practical exposure to statistical packages used in the industry

MODULE I – INTRODUCTION TO PROGRAMMING (10 Hours)

Problem-Solving Using Computers: Language Classification, Problem Analysis, Algorithm and Flowchart Design. Algorithms: Steps in developing algorithms, Applications, advantages and disadvantages of algorithms. Flowcharts: Symbols used in developing flowcharts, Application- advantages and disadvantages of flowchart. Modular design, Program development, Coding, Testing, Debugging, Documentation and maintenance.

MODULE II- DATA ANALYSIS USING MS EXCEL (10 Hours)

Introduction to Excel. Excel functions – text, arithmetic, and IF functions. Data sorting and filtering. Conditional formatting, goal seek, pivot tables, power pivots. Descriptive statistics – Average Mean, Median, Mode. Standard deviation, Correlation, simple linear regression. Creating Charts and Histograms in Excel.

MODULE III – SPSS (10 Hours)

Introduction to Linear regression and correlation³

Type of Scale of Measurements, Choosing appropriate scale and measurement to the data, Preparing codebook. Getting to Know SPSS: Starting SPSS, Working with data file, SPSS windows, Menus, Dialogue boxes. Preparing the Data file: Creating data file and entering data, variable types in SPSS, Defining the variables, Entering data, modifying data file, import file. Screening and cleaning data, Manipulation of data. Descriptive statistics; Analysing data using tests like chi-square, t-tests etc.; regression.

MODULE IV-STATA And EVIEWS(15 Hours)⁴

Introduction to STATA- Graphical interface, Basic syntax: commands and operators — Loading and examining data — Variables and data type, Using Do-Files — Combining different datasets — Typical consistency checks, Basics of STATA programming: using loops and locals/globals, return lists, Analysing data using tests like chi-square, t-tests etc.; regression. Brief intro to e-views.

MODULE V- PROGRAMMING IN R (15 Hours)

⁵Introduction to R studio, basic syntax, object types and operations, data import and export, - typical consistency checks, data visualization, the basic statistical function of R programming – loops etc.;

Analysing data using tests like chi-square, t-tests etc.; regression.

REFERENCES:

1. Rajaraman V (2010) Fundamentals of Computers, PHI, 1986, 2nd Edition. 5th Ed
2. Bartee, Thomas C (1987), Digital Computer Fundamentals by McGraw Hill, VI Edition.
3. Balagurusamy (2008) Programming in ANSI C, Tata McGraw-Hill Education
4. Excel 2013 Simplified McFedries, Paul (2013), John Wiley & Sons
5. Acock, A. C. (2008). *A gentle introduction to Stata*. Stata press.
6. Grolemond, G., & Wickham, H. (2016). *R for data science*. Hadley Wickham.
7. Field, A. (2009). *Discovering Statistics Using SPSS (Introducing Statistical Methods series)*.

Course Outcomes: At the end of the Course, the Student
CO1 Will have acquired basic knowledge of Computer programming and analyzing data using software packages used in the field of Economics
CO2 will be able to understand programming methodology
CO3 is skilled in designing algorithms, flowcharts, and codes for problems
CO5 is proficient in analyzing data using MS Excel, SPSS, Eviews, STATA and R

³ [Microsoft Word - Certificate Course in Statistical Package for social sciences \(staloysius.edu.in\)](http://staloysius.edu.in)

⁴ [Syllabus Introduction to Stata WS201415.pdf \(uni-goettingen.de\)](http://uni-goettingen.de)

⁵ [:PRDV420: Introduction to R Programming | Saylor Academy](https://www.saylor.org/books/saylor-org/books/PRDV420-Introduction-to-R-Programming/)

Semester	III
Paper Code	EC 9125
Paper Title	INTERNATIONAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- Provide an analytical framework to examine contemporary international economic issues.
- Provide a basis for the discussion of international policy issues.

MODULE I – THEORETICAL FRAME WORK (15 Hours)

The pure theory of international trade-Theories of absolute and comparative advantage-Opportunity cost theory, Terms of trade and elasticity of Offer curve: relation between elasticity of offer curve elasticity of import demand and elasticity of export supply; Derivation of Marshall-Lerner condition; Heckshser-Ohlin theorem- Leontief Paradox, Factor price equalization theorem, Factor intensity reversal, intra- industry trade, Rybcznski theorem.

SELF STUDY:

- Balassa, B. (1963). *An empirical demonstration of classical comparative cost theory. The Review of Economics and Statistics*, 231-238.
- Freeman, R. B. (1995). *Are your wages set in Beijing?. The Journal of Economic Perspectives*, 9(3), 15-32.
- Burtless, G. (1995). *International trade and the rise in earnings inequality. Journal of economic literature*, 33(2), 800-816.

MODULE II -TRADE RESTRICTIONS AND COMMERCIAL POLICIES (15 Hours)

Partial equilibrium analysis – Import tariff and quota for small country; tariff and large country; General equilibrium analysis – effect of small country imposing tariff; effect on large country of imposing an import tariff; free trade offer curve; tariff ridden offer curve; optimum tariff of large country and small country; Stolper-Samuelson theorem; Metzler Paradox. Trade Policy and Imperfect Competition- specific case of monopoly.

SELF STUDY:

- Baldwin, R. E. (1989). *The political economy of trade policy*. *The Journal of Economic Perspectives*, 3(4), 119-135.
- Krugman, P. (1980). *Scale economies, product differentiation, and the pattern of trade*. *The American Economic Review*, 70(5), 950-959.
- Brander, James A., and Barbara J. Spencer. "Export subsidies and international market share rivalry." *Journal of international Economics* 18.1-2 (1985): 83-100. (Also available as NBER working paper)

MODULE III - ECONOMICS OF INTEGRATION (5 Hours)

Forms of economic cooperation- trade creating and diverting customs union- Static and Dynamic effects of a customs union. Problems and prospects of forming a customs union.

SELF STUDY:

- McKinnon, R. (1963). *Optimum Currency Areas*. *The American Economic Review*, 53(4), 717-725

MODULE IV – BALANCE OF PAYMENTS AND FOREIGN EXCHANGE MARKETS

(20 Hours)

Balance of payment- meaning and components, accounting principles, Mundell-Fleming model. Demand and supply of foreign exchange. Concept of fixed and floating exchange rate, determination of equilibrium exchange rates- arbitrage, spot and forward rates, futures and options. Foreign exchange risks-hedging and speculation. BoP theories- elasticity approach and absorption approach, theories Exchange rate Theories: Monetary approach, purchasing power parity theory, portfolio balance approach. contemporary BoP issues

SELF STUDY:

- Sengupta R (2015) *The Impossible Trinity: Where does India stand?*, WP-2015-05
- World Bank *The East Asian Miracle: Economic Growth and Public Policy* (World Bank Policy Research Report). (New York: Oxford University Press, 1993)
- Stiglitz, J. E. (2000). *Capital market liberalization, economic growth, and instability*. *World development*, 28(6), 1075-1086.

MODULE V - INTERNATIONAL FINANCIAL ARCHITECTURE (5 Hours)

Development of International Finance: Gold Standard and , Bretton Wood System- IMF, IBRD. F Latin American Debt Crisis and LPG Model. International Trade-GATT & WTO, ADB, Chang Mai Initiative AIB, India's quota on Bretton Wood, contemporary issues

SELF STUDY:

- Taylor, A. and M. Taylor 'The purchasing power parity debate', *Journal of economic perspectives* 18 (Fall 2004), pp. 135–58.
- Frankel, J. A. (1999). *No single currency regime is right for all countries or at all times* (No. w7338). *National Bureau of Economic Research*.
- Carmen M. Reinhart & Christoph Trebesch, 2016. "*The International Monetary Fund: 70 Years of Reinvention.*" *Journal of Economic Perspectives*, *American Economic Association*, vol. 30(1), pages 3-28.

REFERENCE BOOKS:

1. Caves, Jones and Frankel (2002), *World Trade and Payments*, 9- edition, Pearson Education.
2. Gandolfo Giancarlo (2013), *International Trade Theory and Policy*, Springer.
3. Helpman and Krugman (1989), *Trade Policy and Market Structure*, MIT Press.
4. Krugman P.R. and Obstfeld, M. (2009), *International Economics- Theory and Policy*, Pearson education.
5. Pilbeam Keith (2013). *International Finance*. 4- edition. Palgrave Mcmillan.

6. Salvatore Dominick (2011), International Economics: Trade and Finance, John Wiley and Sons, Limited.
7. Sawyer W.C. and Sprinkle R.L. (2009), International Economics, 3 editions. PHI Learning Private Limited.
8. Salvatore Dominick (1995), Schaum's Outline of International Economics. McGraw Hill.
9. SoderstenBö and Reed. G. (2005), International Economics, 3- edition, McMillian Press Ltd.

Course Outcomes: At the end of the Course, the Student

CO1	Have an Awareness of key International economics Frameworks
CO2	Develop <i>understanding</i> of International trade issues
CO3	Will be able to <i>apply Economic concepts to International trade problems</i>

Semester	III
Paper Code	EC 9223
Paper Title	RESEARCH METHODOLOGY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

1. To introduce the understanding of the basic principles and procedures of research in social sciences
2. To provide knowledge about the range of qualitative and quantitative research methods used in social science research
3. Ability to conduct analysis
4. To be able to write literature review and proposal

MODULE I - INTRODUCTION TO SOCIAL SCIENCES RESEARCH (10 Hours)

Meaning, Objectives and Relevance of social sciences Research. Philosophy of Social Science. Objectivity and Values in Social Science Research. Logic of Scientific Investigation Theory Construction in Social Science Research. Approaches to Social Science -Theoretical, Empirical, Applied and Action Research; Uni-disciplinary, inter-disciplinary, multi-disciplinary methodologies. Methodological debates in economics.

SELF STUDY:

- *Yogendra Singh, The Role Of Social Sciences In India : A Sociology Of Knowledge, Sociological Bulletin, Vol. 22, No. 1 (March 1973), Pp. 14-28*
- *V. K. Natraj, Manabi Majumdar, Ananta Kumar Giri, V. Chandrasekara Naidu, Social Science: Dialogue for Revival, Economic and Political Weekly, Vol. 36, No. 33 (Aug. 18- 24, 2001), pp. 3128-3133*
- *Hoover, Kevin, D (1995), "Why does methodology matter for economics? The Economic Journal, Vol. 105, pp.715-734.*

MODULE II - RESEARCH DESIGN (20 Hours)

Guiding principles in the choice of a Research topic, formulation of Research Problem, Role of Review of Literature, Identification of Research Gaps and Needs, dependent and independent variables, Formulating Hypotheses, Model building. Problems encountered by researchers.

Research design- exploratory, descriptive, diagnostic, experimental and hypothesis testing research studies. Application using statistical softwares (SPSS/Stata and R)

MODULE III - DATA COLLECTION IN SOCIAL SCIENCE RESEARCH (15 Hours)

Sources of data- Secondary and primary Sources. Using and integrating secondary and primary information. Qualitative Data, Quantitative Data- Surveys and Questionnaires: Schedule Design and Construction, Sample Surveys, Survey Administration. Observation – Structured and unstructured. Interview Process- Structured and Unstructured Interviews, Historical Method, Case Study Method, Action Research, Focus Groups Discussions. Analysis- Choice of Statistical and Processing Techniques, Interpretative Narrative Methods. Report writing and Presentation of Research Findings.

Activity: Analysis using any economic data.

MODULE IV - WRITING ABSTRACTS, LITERATURE REVIEW & RESEARCH PROPOSALS (15 Hours)

Format of journal articles, Key components of writing abstract and proposal; Report writing and Presentation of Research findings using journal article format.

Activity : Literature review, Research proposal will be for thesis.

SELF STUDY:

- Amartya Lahiri, 2020: "The Great Indian Demonetization", The Journal of Economic Perspectives, Vol. 34, No. 1 (Winter 2020), pp. 55-74*
- Abdulai, R.T., & Owusu-Ansah, A. (2014). Essential ingredients of a good research proposal for undergraduate and postgraduate students in the social sciences. Sage Open, July-September, 1–15.*
<https://doi.org/10.1177/2158244014548178>
- Andrade, C. (2011). How to write a good abstract for a scientific paper or conference presentation. Indian Journal of Psychiatry, 53 (2), 172–175.*

REFERENCE BOOKS:

1. Kothari C. R.: Research Methodology: Methods and Techniques New Age International.
2. Tipoe and Becker (2020), Doing Economics; online workbook (<https://www.coreecon.org/project/doing-economics/>)
3. Pannerselvam (2010) Research methodology, PHI Learning Private Ltd 4.
- Earl R. Babbie (2007) The Basics of Social Research Fourth Edition, Thomson Wardsworth.

Semester	III
Paper Code	EC 9325
Paper Title	INDIAN ECONOMIC DEVELOPMENT AND POLICY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to demonstrate broad knowledge of Indian Economics
- To enable the students to relate real world applications of economic theories to the Indian Context

MODULE I - INDIAN ECONOMY -AN OVERVIEW (15 Hours)

State of the economy at the beginning of the fifties - policy of planned development, brief overview of planning with emphasis on the current plan- Inclusive Growth. Performance of the economy since 1991. Review of poverty and social change since early fifties, regional variations -measurement of poverty – extent of reduction in poverty, social security. Demographic Trends patterns, population policy, urbanization and migration, Regional Differences, Long-term Policy to reduce Poverty and Unemployment, Public distribution system.

SELF STUDY:

- Charles Waldauer, William J. Zahka And Surendra Pal, Kautilya's Arthashastra: A Neglected Precursor to Classical Economics, Indian Economic Review, New Series, Vol. 31, No. 1 (January-June 1996), pp. 101-108
- Marcello de Cecco, Monetary Theory and Roman History, The Journal of Economic History, Vol. 45, No. 4 (Dec., 1985), pp. 809-822
- S. Todd Lowry, Recent Literature on Ancient Greek Economic Thought Journal of Economic Literature, Vol. 17, No. 1 (Mar., 1979), pp. 65-86

- Habib, Irfan. Colonialization of the Indian Economy, 1757-1900. *Social Scientist* (1975): 23-53.
- Raj, K. N. Employment and Unemployment in the Indian Economy: Problems of Classification, Measurement, and Policy. *Economic Development and Cultural Change* 7, no. 3, Part 1 (1959): 258-278.
- James, K. S. Glorifying Malthus: Current debate on 'demographic dividend' in India. *Economic and Political Weekly* (2008): 63-69.
- Drèze, Jean, and Reetika Khera. Recent Social Security Initiatives in India. (2016).
- The State and Development Planning in India. (1989). *Economic and Political Weekly*, 24(33), 1877-1884. (2015).
- Patnaik, P. From the planning commission to the NITI Aayog. *Economic and Political Weekly*, 50(4), 10-12. (2015).

MODULE II - PRIMARY SECTOR (15 Hours)

Review of agricultural growth – land reforms – agricultural research and green revolution – review price and other policies relating to agriculture; policy initiatives needed in relation to agriculture and rural sector – non-farm activities, diversification, retailing and exports, farm laws. Land ownership and development. Investment in agriculture and irrigation, micro finance–water policy -other strategies. Impact of liberalization and WTO on the agricultural sector. Major agreements in agricultural sector.

SELF STUDY:

- *Thorner, Alice. Semi-feudalism or capitalism? Contemporary debate on classes and modes of production in India. Economic and Political Weekly (1982): 1961-1968.-I,II and III*
- *Patnaik, Utsa. The agrarian question and development of capitalism in India., Economic and Political Weekly (1986): 781-79.*
- *Basole, Amit, and Deepankar Basu. Relations of production and modes of surplus extraction in India: Part I-agriculture. Economic and Political Weekly (2011): 41-58.*
- *Chand, Ramesh, PA Lakshmi Prasanna, and Aruna Singh. Farm size and productivity: Understanding the strengths of smallholders and improving their livelihoods, Economic and Political Weekly (2011): 5-11.*

MODULE III - SECONDARY SECTOR (10 Hours)

Industrial Policy – 1948, Evolution of controls, obstacles to fast growth, 1956 and 1991 new economic policy - A critical review. Growth and pattern of industrialization- productivity in Industrial sector, Public Sector enterprises and their performance- maharatna, navratna, miniratna, Privatization and disinvestment debate and Policy. Role of MSME. Infrastructure, reforms- restructuring, pricing and regulation, promoting investment in infrastructure, public – private partnership. Public versus private sector in infrastructure.

SELF-STUDY:

- *Bharadwaj, Krishna. Analytics of Agriculture: Industry Relation, Economic and Political Weekly." (1987).*
- *Nagaraj, Rayaprolu. "Industrial Policy and Performance since 1980: Which way now?." Economic and Political Weekly (2003): 3707-3715*
- *Kumar, Nagesh. "Liberalisation, foreign direct investment flows and development: Indian experience in the 1990s." Economic and Political Weekly (2005): 1459-1469*

MODULE IV-SERVICE SECTOR (10 Hours)

Role, pattern and growth of service sector. Social sector-Education, Health- policies, social security. Modern :IT & ITES. Retail marketing Traditional : insurance, Hospitality. Tourism, Retail

SELF STUDY:

- *Joshi, Seema., Tertiary sector-driven growth in India: impact on employment and poverty, Economic and Political Weekly (2004): 4175-4178*

- *Bhattacharya, B. B., and Arup Mitra, Excess Growth of Tertiary Sector in Indian Economy: Issues and Implications, Economic and Political Weekly (1990): 2445-2450.*
- *Guruswamy, Mohan, Kamal Sharma, Jeevan Prakash Mohanty, and Thomas J. Korah, ,FDI in India's Retail Sector: More Bad than Good?, Economic and Political Weekly (2005): 619-623.*
- *Besley, Timothy, and Robin Burgess, Can Labor Regulation Hinder Economic Performance? Evidence from India, The Quarterly Journal of Economics, vol. 119, no. 1, 2004, pp. 91–134.*

MODULE V-MACRO ECONOMIC POLICY AND EXTERNAL ENVIRONMENT (10 Hours)

Savings and capital formation- growth trends. Monetary and fiscal policy management. External Sector- Trade pattern and Policy, Globalization-Opening up of the Indian Economy-Balance of Payments, Export-Import Policy-International Economic Institutions-IMF and World Bank-WTO -Regional Economic Co-operation ,FDI, Exchange Rate Management, Investment Climate -Competition Policy.

SELF STUDY:

- *Virmani, Arvind. "India's Economic Growth History: Fluctuations, Trends, Break Points and Phases." Indian Economic Review (2006): 81-103*
- *Ashok Kotwal, Bharat Ramaswami and Wilima Wadhwa, Economic Liberalization and Indian Economic Growth: What's the Evidence? Journal of Economic Literature, Vol. 49, No. 4 ,(December 2011), pp. 1152-1199*
- *Bishwanath Goldar, Determinants of Import Intensity of India's Manufactured Exports Under the New Policy Regime, Indian Economic Review, Vol. 48, No. 1, Special Issue: Perspectives on Economic Development and Policy (Jan - June 2013), pp. 221-237.*
- *S. L. Rao, Towards a National Competition Policy for India, Economic and Political Weekly, Vol. 33, No. 9 (Feb. 28 - Mar. 6, 1998), pp. M31-M36*
- *Mukhopadhyay, Sudhin Kumar. "Growth of Indian Economy, 1950-51 to 1959-60: Contribution of Employment and Productivity." Economic and Political Weekly (1966): 665-669.*
- *Rao, MJ Manohar, Archana P. Samant, and Nina L. Asher. "Indian Macro-Economic Data Base in a Consistency Accounting Framework (1950-51 to 1997-98): I: Identifying Sectoral and Economy wide Budget Constraints." Economic and Political Weekly (1999): 2243-2262.*

REFERENCE BOOKS:

1. Academic foundation Economic Development of India –Monthly update
2. Basu Kaushik and Annemie Maertens (2012) The New Oxford Companion to Economics in India, Vol 1 and 2, Oxford
3. Balakrishnan P (2010) Economic Growth in India – History and Prospect, Oxford University Press
4. Balakrishnan P (2015) Economic Growth and its Distribution in India, Orient Blackswan
5. Dutt and Sundharam (2008) Indian economy, Sultan Chand publishers
6. Planning commission : Economic surveys, State Human Development Reports
7. Uma Kapila (2012) Indian Economy since Independence, Edited by, 23 ed, Academic Foundation.
8. Lectures on Indian Economy– Aravind Subramaniam-<http://www.iitd.ac.in/CEAIITD/index.html>

Note: In order to have an understanding about the dynamic causations of the development of ideas, discussions on the political, cultural and historical backgrounds and readings of the period and thinker's biographical outlines is recommended. Reading on economic history of nations, and on Nobel laureates is an additional area of reading to enrich the knowledge of the subject.

Course Outcomes: At the end of the Course, the Student will

CO1	Have acquired knowledge of development of the discipline of the Indian Economy
CO2	Have an awareness of Contemporary Indian Issues
CO3	Have an understanding of application of economic concepts to Indian Economics

Semester	III
Paper Code	EC 9421
Paper Title	BASIC ECONOMETRICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To introduce students to the techniques of econometrics for the first time
- To deepen and broaden the students' knowledge and understanding of material needed for empirical quantitative analysis.

MODULE I - BIVARIATE REGRESSION ANALYSIS-I (10 Hours)

Nature and meaning of econometrics-methodology of econometrics-Linear Regression Model The meaning of Regression– The two variable models-The population Regression function and sample regression function-The nature of stochastic error term-Linearity in Variables and Linearity in parameters- -Regression through the origin-Method of Ordinary Least Squares(OLS)

MODULE II - BIVARIATE REGRESSION ANALYSIS-II (10 Hours)

Concepts and Derivation of R square and Adjusted R square Variance and Standard errors of OLS-The properties of OLS estimators. Hypothesis testing- Test of Significance approach and Confidence level approach-Reporting the results of Regression.

MODULE III - MULTIPLE REGRESSION ANALYSIS (15 Hours)

Estimation and Hypothesis testing-Estimation of the parameters-Goodness of Fitness-Introduction to Specification Bias-Testing the structural stability of the regression model-Comparing the two regression models-Functional Forms of the regression function.

MODULE IV - RELAXATION OF ASSUMPTIONS OF CLRM (15 Hours)

Problems of Multicollinearity, Autocorrelation, Heteroscedasticity- Detection Consequences and Remedial measures-Problems of specification errors-Model selection criteria and test-The attributes of a good model-Types of specification errors.

MODULE V - REGRESSION WITH THE QUALITATIVE VARIABLES (10 Hours)

Dummy variable technique-Testing the structural stability of the regression model, interaction effects, seasonal analysis, Piece wise linear regression, uses of dummy variables-regression with the dummy dependent variables.

SELF STUDY: problem solving for all modules

REFERENCE BOOKS:

1. Damodar Gujarati and Sangeetha (2007) Basic Econometrics, Tata McgrawHill, 4th
2. Dougherty, C. (2011) Introduction to Econometrics, OUP, 4th Edition.
3. Studenmund, A. H (2017) Using Econometrics: A Practical Guide, Pearson, 7th Edition
4. Maddala G.S (1992) Introduction to Econometrics, Macmillan.
5. Stock and Watson (2004) Introduction to Econometrics, Pearson Education.
6. Wooldridge, J. (2009) Introductory Econometrics: A Modern Approach, South Western Cengage Learning 5th Edition

Course Outcomes: At the end of the Course, the Student

CO1	Would have acquired basic knowledge of Econometrics
CO2	will be able to understand basic econometric approach to analysis
CO3	is skilled to understand and design basic econometric data analysis

Semester	III
Paper Code	EC 9521
Paper Title	FINANCIAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To provide students with the basic knowledge of micro and macro aspects of financial economics
- To understand the working and importance of the financial sector to the economy

MODULE I - RISK AND UNCERTAINTY (10 Hours)

Introduction -Decision making under risk: risk versus uncertainty; expected values; Problems with expected values – The St. Petersburg paradox and Bernoulli's hypothesis Attitude towards risks- Risk averter, risk lover, risk neutral. Von-Neumann-Morgenstern method of constructing utility index. Friedman -Savage hypothesis. Markowitz hypothesis. Prospect theory.

SELF STUDY:

- *Stiglitz, J. E. (1999). Interest rates, risk, and imperfect markets: puzzles and policies. Oxford Review of Economic Policy, 15(2), 59-76.*
- *Warner, Jerold B. "Bankruptcy Costs: Some Evidence." The Journal of Finance, vol. 32, no. 2, 1977, pp. 337-347.*

MODULE II – PRINCIPLES OF VALUATION IN FINANCIAL ECONOMICS (10 Hours)

Basic Principles of Valuation: Time Value of Money. Present Value, Valuation of Bonds and Equity, Term Structure of Interest rates, Project evaluation: Payback, Discounted Payback, NPV and IRR. Risk and Return: Concept of Portfolio Risk, CAPM and APT.

SELF STUDY:

- *Varian, H. (1993). A Portfolio of Nobel Laureates: Markowitz, Miller and Sharpe. The Journal of Economic Perspectives, 7(1), 159-169.*

MODULE III - CAPITAL STRUCTURE THEORIES (10 Hours)

Concept of Leverage, Modigliani Theorem, MM theorem under tax and information asymmetry, Dividend Policy and Firm valuation.

SELF STUDY:

- Kishor C. Samal. (1997). *Emerging Equity Market in India: Role of Foreign Institutional Investors. Economic and Political Weekly*, 32(42), 2729-2732.

MODULE IV – MONEY MARKET AND CAPITAL MARKET (20 Hours)

Money Market: Structure, Instruments-Treasury Bills, Commercial Paper, Certificate of Deposit and other Money Market instruments.

Capital Market: Debt Market: Government Securities Market, Corporate Debt Market, Equity Markets: Primary Market, Methods of raising Equity, Secondary Market, Functions of Stock Exchanges, Dematerialization. Currency and Derivative markets.

SELF STUDY:

- Rangarajan, C. (1971). *Government Securities Market in a Mixed Economy: A Study of India. Economic and Political Weekly*, 6(11), 620-632

MODULE V - FINANCIAL INSTITUTIONS AND SERVICES (10 Hours)

Functions of Financial Institutions. Commercial Banks, Insurance Companies: Life Insurance and General Insurance; Other Non-Banking Finance Companies: Mutual Funds, Regulation of Financial Markets. Securitisation, Financial Crisis 2008-09 and Lessons, Basel norms.

SELF STUDY:

- Sen, S., & Soumya Kanti Ghosh. (2005). *Basel Norms, Indian Banking Sector and Impact on Credit to SMEs and the Poor. Economic and Political Weekly*, 40(12), 1167-1180. Retrieved from <http://www.jstor.org/stable/4416365>
- Mandira Sarma. (2007). *Understanding Basel Norms. Economic and Political Weekly*, 42(33), 3364-3367. Retrieved from <http://www.jstor.org/stable/4419912>

REFERENCE BOOKS:

1. Guruswamy Dr. S. (2nd Edition), *Financial Markets and Institutions*, Tata McGraw Hill.
2. Fabozzi, Modigliani (2008), *Capital Markets: Institutions and Instruments*, Prentice Hall.
3. Khan M.Y. (2010), *Indian Financial System*, Tata McGraw Hill
4. Mark Grinblatt and Sheridan Titman (2012) *Financial. Markets and corporate Strategy*, Mcgraw Hill
5. O' Brien Thomas J. (2006), *International financial economics: corporate decisions in global markets*, Oxford University Press.
6. Pandey I. M (2011) *Financial Management*, 10th Edition, Vikas Publication.
7. Richard Brealey, Stewart Myers, and Franklin Allen (2007) *Principles of Corporate Finance*, 9th Edition, The Mcgraw Hill
8. Saunders Anthony, Cornett Marcia (2007), *Financial Markets and Institutions: A Risk Management Approach*, Tata McGraw Hills
9. Shapiro A.C. (1999), *Multinational Financial Management*, Wiley Publications

Course Outcomes: At the end of the Course, the Student

CO 1	Understand and apply the basic theory, tools, and terminology of Finance;
CO 2	Formalise real world situations by using models and techniques suggested by the theory;
CO 3	(solve numerically typical problems related to asset pricing and risk management

Semester	IV
Paper Code	EC 0121
Paper Title	ADVANCED ECONOMETRICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To provide students to the techniques of advanced econometrics
- To provide foundation for empirical research using advanced econometric techniques.

MODULE I - INTRODUCTION TO MAXIMUM LIKELIHOOD ESTIMATION AND LIMITED DEPENDENT VARIABLE MODEL (10 Hours)

Introduction to nonlinear estimation. General approach of method of MLE. Dummy dependent variable – Logit, Probit and Tobit.

MODULE II - DYNAMIC ECONOMETRIC MODELS (15 Hours)

Auto regressive and distributed lag models-Method of Least Square- Koyack Transformation Model- Partial adjustment model, Adaptive expectation model. Almon distributive lag model.

MODULE III - SIMULTANEOUS EQUATION MODELS (15 Hours)

Introduction and Examples, The simultaneous equation bias and inconsistency of OLS estimators-concept of predetermined and exogenous variable; The identification problems, Rules of identification-Order and Rank condition-Methods of estimating the simultaneous equations-Recursive methods and OLS-Instrumental Variables, 2SLS, and ML methods-Applications. Exogeneity and Causality- concept of Granger non-causality; test of endogeneity and exogeneity.

MODULE IV - TIME SERIES ANALYSIS (10 Hours)

The phenomenon of spurious regression and concept of non stationary time series; example of non stationary process - random walk model with and without drift, Mean Variance and Covariance, Testing for Structural Break, Detecting Stationary- Concept of ACF and PACF, Unit root test-Dicky Fuller and ADF test of Non stationary. Methods to correct non stationarity- trends stationary process and difference stationary process.

MODULE V - TIME SERIES FORECASTING (10 Hours)

Forecasting Meaning - Basic concepts-ARMA, ARIMA, Box-Jenkins Methodology Implication and Limitations. Co-integrated time series Test-Engle Granger test. A short introduction to panel data analysis.

SELF STUDY: problem solving for all modules

REFERENCE BOOKS:

1. Studenmund, A. H (2017) Using Econometrics: A Practical Guide, Pearson, 7th Edition
2. Koutsoyiannis, A.(1977), Theory Of Econometrics, Macmillan Press, London
3. Amemiya, T. (1985), Advanced Econometrics, Harward University Press, London
4. Kerry Peterson: An Introduction To Applied Econometrics-A Time Series Approach, MacMillan Press Ltd., London
0. Madala, G S. and S. Lahiri, Introduction to econometrics Willey.
0. Damodar Gujrathi And Sangetha : Basic Econometrics, Mcgraw Hill, International Student ed
0. Dougherty, C (2011): Introduction to econometrics, OUP. 4th Edition
0. Walters Enders (2008) : Applied Econometric Time Series, Wiley Student Edition

Note: Computer Applications for these concepts will be taught in various statistical packages like R and SPSS, Econometric problems will be given by faculty person for each module

Course Outcomes: At the end of the Course, the Student

CO 1	Would have acquired knowledge of major Econometrics techniques
CO 2	will be able to understand advanced econometric approach to analysis
CO 3	is skilled to understand and design advanced econometric data analysis

Semester	IV
Paper Code	EC 0221
Paper Title	ENVIRONMENTAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to demonstrate broad knowledge of the development and necessity of environmental economics.
- To provide an ethical perspective to the study of environmental valuation.
- To enable the students to apply economic tools to environmental issues.

MODULE I - INTRODUCTION TO ENVIRONMENTAL ECONOMICS (15 Hours)

Nature, scope, and history of Environmental economics, Economy – Environment-Ecology inter-linkages. Material balance model. Efficiency and competitive Markets, Property rights Market failure- public goods and externalities, Coase Theorem. Pricing public goods and public bad Pigovian fees - single polluter and multiple polluters.

SELF STUDY:

- *Thomas K. Rudel, J. Timmons Roberts, JoAnn Carmin, Political Economy of the Environment, Annual Review of Sociology, Vol. 37 (2011), pp. 221-238*

- *Robert S. Main, Simple Pigovian Taxes Vs. Emission Fees To Control Negative Externalities: A Pedagogical Note, The American Economist, Vol. 55, No. 2 (Fall 2010), pp. 104-110*
- *Kenneth S. Kamlet, William A. Gross, Ronald A. Munson, Ansley J. Coale, Environment: "Goods" and "Bads", Science, New Series, Vol. 171, No. 3966 (Jan. 8, 1971), pp. 15-16*

MODULE II - RESOURCE ECONOMICS AND SUSTAINABLE DEVELOPMENT (10 Hours)

Uncertainty, irreversibility, inter-temporal efficiency, inter-generational equity. Quality of environment – air, water, soil, depletion of renewable and non-renewable resources. Environmental justice: displacement, gender issues, poverty. Environment- development Debate. Sustainable Development. Limits to growth. Tragedy of Commons. Environmental Kuznets Curve. Environmentally corrected GDP.

SELF STUDY:

- *Bob Jickling, Studying Sustainable Development: Problems and Possibilities, Canadian Journal of Education, Vol. 19, No. 3 (Summer, 1994), pp. 231-240.*
- *Andrea Ross, Modern Interpretations of Sustainable Development, Journal of Law and Society, Vol. 36, No. 1, Economic Globalization and Ecological Localization: Socio-legal Perspectives (Mar., 2009), pp. 32-54*

MODULE III - VALUATION OF ENVIRONMENT (15 Hours)

Valuation of Environmental Benefits-Economic value of the environment- Environmental demand theory Methods for valuing the environment- Cost Benefit Analysis, Revealed Preference Methods-The Hedonic pricing method and Travel cost method. Stated Preferences Methods-Contingent Valuation- limitations.

SELF STUDY:

- *Henrik Svedsäter, Economic Valuation of the Environment: How Citizens Make Sense of Contingent Valuation Questions, Land Economics, Vol. 79, No. 1 (Feb., 2003), pp. 122-135*
- *Dale B. Thompson, Valuing The Environment: Courts' Struggles With Natural Resource Damages, Environmental Law, Vol. 32, No. 1 (Winter 2002), Pp. 57-8*

MODULE IV - REGULATION OF ENVIRONMENT (10 Hours)

Regulation instruments –command and control. Incentives in environmental regulations, fees and permits. Asymmetric information, monitoring emissions and enforcement. Rationale for market solutions. Environmental Impact Assessment. Indian laws to protect environment.

SELF STUDY:

- *David R. Penna, Regulation of the Environment in Traditional Society as a Basis for the Right to A Satisfactory Environment, Africa Today, Vol. 40, No. 1, Botswana: Achievements and Challenges (1st Qtr., 1993), pp. 82-92*
- *Johannes Urpelainen, Regulation under Economic Globalization, International Studies Quarterly, Vol. 54, No. 4 (December 2010), pp. 1099-1121*

MODULE V- INTERNATIONAL AND INTERREGIONAL COMPETITION AND ENVIRONMENT (10 Hours)

Income effect and demand for environmental quality, jurisdictional competition, international trade and environment, global bads, trans-boundary pollution, international conventions.

SELF STUDY:

- *Carlo Perroni, Randall M. Wigle, International Trade and Environmental Quality: How Important Are the Linkages? The Canadian Journal of Economics / Revue canadienne d'Economie, Vol. 27, No. 3 (Aug., 1994), pp. 551-567.*
- *Pablo Gutman, Trade Liberalisation, Rural Poverty, and the Environment: Global Discussions and Local Cases, Development in Practice, Vol. 18, No. 6 (Nov., 2008), pp. 789-800*

REFERENCE BOOKS:

1. Bhattacharya N, Rabindra (2001) Environmental Economics- An Indian Perspective. Oxford University Press, Delhi.
2. Chopra C. (2009) Handbook of Environmental Economics in India, Oxford India.
3. Gopal K. Kadekodi (2004) Common Property Resource Management: Reflections on Theory and the Indian Experience, Oxford University Press.
4. Kadekodi G K (Ed) (2004). Environmental Economics in Practice. Oxford University Press
5. Kolstad Charles D. (2006), Environmental Economics" 1Ed, Oxford Publication.
6. Nick Hanley, Jason F. Shogren, Ben White (1997) Environmental Economics: In Theory and Practice, Macmillan.
7. Ram Prasad Sengupta (2001) Ecology and Economics, Oxford University Press.
8. Sankar Ulaganathan (2001) Environmental Economics, Oxford University Press

Course Outcomes: At the end of the Course, the Student will

CO1	Have acquired knowledge of development of the discipline of Environmental Economics.
CO2	Have developed a thorough understanding of the rationale and methods of regulating the market towards sustainability.
CO3	Have developed the ability to critically analyse the economic tools applied to environmental issues.

CO4	Be able to appreciate the urgency presented by this intergenerational global crisis.
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Semester	IV
Paper Code	ECDE 0321
Paper Title	HUMAN RESOURCE ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To equip learners with skills and knowledge for the application of the theories of micro and macroeconomics to the field of labor economics.
- To examine the management perspective of human resources development.

MODULE 1-DEMAND AND SUPPLY OF LABOUR (20 Hours)

An overview of labour economics. Theory of individual supply of labour, backward supply curve of labour. Demand for labour- in a perfectly competitive market, imperfect market, short run and long run demand for labour, market demand for labour, determinants of labour demand and labour supply, elasticity of labour demand. Theories of wage determination- in perfect and imperfect product and factor markets, fringe benefits-deferred payments. Wage structure, wage differentials -hedonic theory of wages. Theories of labour market discrimination-women and labour market. Labour unions and collective bargaining, role of union in wage determination.

SELF STUDY: Impact - Indian situation.

[John Bennett, *Informal Production and Labour Market Segmentation*, *Journal of Institutional and Theoretical Economics*, Vol. 167, No. 4 \(December 2011\), pp. 686-707](#)

[J. J. McCall, *Economics of Information and Job Search*, *The Quarterly Journal of Economics*, Vol. 84, No. 1 \(Feb., 1970\), pp. 113-126](#)

MODULE II THEORY OF HUMAN CAPITAL (15 Hours)

Labour quality- Human capital theory, perfect and imperfect markets, Components of human capital formation and their effects in labour markets. Human capital and the rate of return: The General Earnings Function: Mincer and Becker's approach to the determination of wage and income distribution. Worker immobility, migration as an investment in human capital.

SELF STUDY: Worker's mobility-rural-urban, national and international.

[Theodore W. Schultz, *Investment in Human Capital*, *The American Economic Review*, Vol. 51, No. 1 \(Mar., 1961\), pp. 1-17](#)

[James T. Fawcett, *Networks, Linkages, and Migration Systems*, *The International Migration Review*, Vol. 23, No. 3, Special Silver Anniversary Issue: *International Migration an Assessment for the 90's* \(Autumn, 1989\), pp. 671-680](#)

MODULE III -EMPLOYMENT AND UNEMPLOYMENT (10Hours)

Employment and unemployment, nature and extent, unemployment rate, employment in the formal and informal sector; Nature of child labour, agricultural and industrial labour. Meaning and importance of manpower planning, - informalisation and feminisation, rationalization of labour, problem of social security. Trends in Indian labour markets, Govt and labour –Second National Commission of Labour.

SELF STUDY:

[David Greenaway, Douglas Nelson, *The Assessment: Globalization And Labour-Market Adjustment*, *Oxford Review Of Economic Policy*, vol. 16, no. 3, *Globalization And Labour Markets* \(Autumn 2000\), pp. 1-11](#)

MODULE IV INDUSTRIAL RELATIONS (5 Hours)

Industrial relations, industrial dispute, Causes of industrial disputes, Tripartism, important labour legislation in India. International labour standards.

SELF STUDY:

[E. M. Hugh-Jones, *The State and Industrial Order*, *The Quarterly Journal of Economics*, Vol. 53, No. 2 \(Feb., 1939\), pp. 194-212](#)

[S. N. Pandey, *Role of IR Manager in Changing Industrial Scenario*, *Indian Journal of Industrial Relations*, Vol. 34, No. 4 \(Apr., 1999\), pp. 482-491](#)

MODULE V -HUMAN RESOURCES MANAGEMENT (10 Hours)

Human Resource Development: Concept of HRD, Goals of HRD, Management- nature and scope, Processes- Planning Organisation, Staffing -Selection, recruitment, selection, training, placement, Directing and Controlling; The Role of a Manager in an Organisation. Leadership- Leadership Styles. Performance Appraisal – Potential appraisal and development – Feedback and Performance

Counselling – Career Planning – Training and Development – Rewards – Employee Welfare, Communication: Steps in the Communication Process, Communication Channels, Oral versus Written Communication, Verbal versus non-verbal Communication- upward, downward and lateral communication.

READING LIST

1. Arthur D. Butler (1972), Labour Economics and Institutions, American Publishing Co. Pvt. Ltd., New Delhi.
2. Bruce E. Kaufman and Julie L. Hotchkiss (1999). The Economics of Labor Markets, vth edition. Fort Worth: TX: Dryden Press.
3. Bohlander and Snell (2007) Human Resource Management, Thomsun
4. Cahuc, P. and A. Zilberberg: Labour Economics, Prentice Hall of India.
5. McConnell, S.L. Brue (1995, 2008) Contemporary Labor Economics, McGraw-Hill Publishing Company.
6. Marshall Ray F, Vernon M., Briggs, J. and Allan G. King (1984). Labour Economics, Richard D. Irwin Inc. Homewood, Illinois.

Course Outcomes: At the end of the Course, the Student will

CO1	Have developed a sound theoretical knowledge of different concepts of Labour Economics, theories of Human Capital and Human Resource Management.
CO2	Have acquired a holistic knowledge about the heterogeneity present in the context of Indian labour market.
CO3	Analyse critically and formulate independent and well-considered conclusions about economic issues and policies.

Semester	IV
Paper Code	ECDE 0725
Paper Title	ECONOMICS OF EDUCATION AND HEALTH
Number of teaching hours per week	4
Total number of teaching hours per semester	60
Number of credits	4

COURSE OBJECTIVES:

- **To provide students with the basic knowledge of economics of education and health economics**
- **To understand the working and importance of the health and education economics for the economy**

Module I (15 hours)

Topics in Economics of Education: Introduction to Economics of Education -The Market for Education; Empirical Tools of Education Economics

Concept of Human Capital; Models of Education-Production and Investment in Education, Human Capital Model, Mincer model; Signaling model; Returns to Education Investment

Self Study

Woessmann, L. (2016). The economic case for education. *Education Economics*, 24(1), 3–32.
<https://doi.org/10.1080/09645292.2015.1059801>

Psacharopoulos, G., & Patrinos, H. A. (2018). Returns to investment in education: A decennial review of the global literature. *Education Economics*, 26(5), 445–458.
<https://doi.org/10.1080/09645292.2018.1484426>

Becker, G.S. (1962). "Investment in Human Capital: A Theoretical Analysis," *Journal of Political Economy* 70, pp. 9-49

Module II (15 hours)

Policies of Education: Education Production Function; Input, Output, and Total Resource Policies; School Choice; Teacher Labor Markets; Education in developing countries - importance and issues; Educational policies

Self Study

Hanushek, E. A. (2013). Economic growth in developing countries: The role of human capital. *Economics of Education Review*, 37, 204–212. <https://doi.org/10.1016/j.econedurev.2013.04.005>

Duflo E. (2001) "Schooling and labor market consequences of school construction in Indonesia : Evidence from an unusual policy experiment", *American Economic Review*, vol. 91, September

Kingdon, G. G. (2007). The progress of school education in India. *Oxford Review of Economic Policy*, 23(2), 168–195. <https://doi.org/10.1093/oxrep/grm015>

Module III (10 hours)

Introduction to health economics: the healthcare market, Economic Evaluation of Health Care; Cost-Benefit Analysis and Cost-Effectiveness Analysis

Self-Study:

Angus Deaton. 2013. *The Great Escape*, Princeton University Press. Chapter 1.

Module IV (20 hours)

Supply and Demand of Health and Medical Care

The supply of health; The production of health; The supply side of healthcare; labor market for physicians; barriers to entry; - Demand for Health and Medical care, price sensitivity, socio economic disparities and health, Introduction to health insurance

Self-Study:

Randall, E.P. & McGuire, T.G. (1993) Supply-side and Demand-side cost sharing in Health Care. *Journal of Economic Perspectives*, 7(4), 135-151.

Grossman, Michael. 1972. On the Concept of Health Capital and the Demand for Health. *Journal of Political Economy* 80 (2): 223–255.

Pauly, M. (1986). Taxation, Health Insurance, and Market Failure in the Medical Economy. *Journal of Economic Literature*, 24(2), 638-665.

Reference Books:

1. Michael Lovenheim & Sarah Turner (2017) “Economics of Education”, Worth Publishers
2. Angus Deaton. 2013. *The Great Escape*, Princeton University Press
3. Sherman Folland, Allen C. Goodman, Miron Stano: *The Economics of Health and Health Care*" (6th edition), Pearson International
4. Jay Bhattacharya, Timothy Hyde, Peter Tu. *Health Economics*. Palgrave MacMillan.
5. Baru, R.V. (1998): *Private Health Care in India: Social Characteristics and Trends*, Sage, ND

CO1	Knowledge of the economics issues in Health such as expenditure, healthcare systems and outcomes; Access and quality related issues in the Economics of Education
CO2	Have an understanding of the different frameworks in Health Education and Education economics

EC0D1 DISSERTATION

Semester	II
Paper Code	EC 0D1
Paper Title	DISSERTATION
Number of teaching hours per week	8
Total number of teaching hours per semester	120
Number of credits	8

COURSE OBJECTIVES

The purpose of writing a dissertation is to enable students to develop research skills and to apply the knowledge and discipline related skills gained during the course of the study to a specific problem. It gives an opportunity to engage with literature on an appropriate subject, and to develop a deeper understanding of the theories, discourses, methods, analytical approaches and policy issues. All students are exposed to primary data collection and analysis and analyze secondary data relating to their topic of research using statistical and econometric tools.

EVALUATION:

The distribution of marks:

Proposal seminar - 20 marks

Work in progress seminar - 20 marks

Presentation and viva-voce -50 marks

Final synopsis -extended abstract- 10 marks

The dissertation will be followed by a viva-voce

Dissertation -100 marks (50 internal and 50 external)

DISSERTATION GUIDELINES:

STAGE I - PROPOSAL SEMINAR (20 Marks)

Student should have selected a broad subject area by the end of the III semester. A fairly detailed research proposal should be ready for discussion by the first week of the IV semester. This proposal will be presented to an audience of faculty and students. Upon approval, a dissertation supervisor will be allotted to provide academic guidance and feedback on progress.

Preparation of research proposal: two major steps:

Identify area of Interest for Research, with a brief explanation of your rationale.

Developing Statement of the Research Problem,

Discussion with guide

Review of Literature:

- a. Subject background
- b. Literature Review , Theoretical Background & Empirical Literature Survey
- c. Identification of research issues and research gap
- d. Objectives of the Study
- e. Hypothesis/ Hypotheses
- f. Need and value of the Study

Developing research Design:

- a. Conceptual and Operational Definitions of Variables
- b. Scope of the Study
- c. Limitation of the Study
- d. Tentative chapter scheme

Research Methodology:

- a. Type of Research
- b. Sources of Data
- c. Data Collection Instruments
- d. Sampling Design – Sample Description, Size, Technique
- e. With guidance from the supervisor the student will proceed to research

STAGE II - FIELDWORK/ DATA COLLECTION

Analysis of primary and secondary data

A mid course seminar to assess work in progress will be presented to an audience of faculty and students and suggestions received may be viewed critically in terms of relevance , feasibility and required changes may be incorporated.

Work in Progress Seminar (20 Marks)

STAGE III - Analysis and Interpretation of Results, Discussion with guide

STAGE IV - Writing Chapter. Discussion with guide

STAGE V - Final Draft Soft Copy Submission to the Guide: (incl. Bibliography & Annexure)

STAGE VI - Submission of final, hard-bound Dissertation, soft copy (100 Marks) along with an essay of 3000 words in the form of a research paper (30 Marks) to the H.O.D/ COE

STAGE VII - FINAL SEMINAR (30 Marks)

Students will submit a final synopsis/essay of a maximum of 3000 words at the end of the course. Final dissertation work will be presented before submission in mid March. Deadlines which will be announced during the semester have to be strictly adhered to.

DISSERTATION WRITING: BROAD GUIDELINES

Executive Summary /Research abstract

Chapter I – Introduction

- a) Statement of the Problem
- b) Brief Review of Literature
- c) Identification of Research Area/issues
- d) Identification of Research Gap
- e) Objectives of the Study
- f) Hypothesis/ Hypotheses
- g) Need and value of the Study
- h) Conceptual and Operational Definitions of Variables
- i) Scope of the Study
- j) Research Methodology
 - a. Type of Research – Exploratory, Descriptive (incl. Case Study), Causal
 - b. Source of Data – Primary and /or Secondary
 - c. Data Collection Instruments ,Sampling Design, Data Collection, Fieldwork
 - d. Data Processing & Plan of Analysis incl. Hypothesis(es) Testing
 - k) Limitations of the Study
 - l) Chapter Scheme (an Overview of the Chapters)

Chapter II - Review of Literature

Theoretical Background & Empirical Studies Literature Survey in detail

Chapter III - Background Chapter

Chapter IV - Analysis and Interpretation of Results

Chapter V - Summary of Findings, Conclusions and policy Suggestions Bibliography

Annexure (Questionnaire, Complex Tables)

Minor change in the format is accepted with Guide's permission.

Note : As per the suggestions from the Board of Studies : 1 hour work-load for a maximum of 3 student's thesis guidance.

Course Outcomes: At the end of the Course, the Student

CO1	Able to conduct literature review on research topic
CO2	Able to plan and conduct data collection and analysis
CO3	develop research skills and to apply the knowledge and discipline related skills

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